

Dreamaker.io
Video Analysis Made Simple

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By
Paola Vidulich

Processwork Institute
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Note: Certain parts of this thesis have been removed to protect trade secrets and intellectual property.

Contact paola@dreamaker.io for further information.

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*Finally, when I am on the margin of society, I will be deprived of the greatest
power of all: the power to say what is real, and what is not.*

Joe Goodbread (Goodbread J. , 2011, p. 8)

The film starts, the film ends,

Nothing is said in between.

Just sudden moments from someone else's story,

Will it ever be the same again?

Leftfield (Ft. Toni Halliday) (Leftfield, 1995)

Between thought and expression

There lies a lifetime.

Lou Reed (Reed, 1969)

Abstract

Dreamaker.io - Video Analysis. Made Simple. is a combined-methods project with the primary output being the development of *Dreamaker.io*, a video and audio analysis software application. This paper contextualizes the software application and my excitement about the application. The paper shows how the simplicity and multifunctional nature of *Dreamaker.io* enriches the study, training, and research of Processwork. It additionally demonstrates that the process of video analysis using the application enhances the analyst's awareness and trains cognitive skills specific to Processwork.

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Introduction

Dreamaker.io is a video and audio analysis software application developed and designed specifically for students, teachers, and researchers in the fields of counseling, psychotherapy, group facilitation, and similar. Initial releases of the application were specific to Processwork. The application (or *app*) is accessible through an internet browser using the URL <https://app.dreamaker.io>.

Processwork as a paradigm strives to closely and accurately follow the intricate and complex compendium of human behavior, breaking it down into perceptible and barely perceptible signals. Interventions are based on these signals and follow-through is anchored on positive and negative feedback signals. This adherence to signals makes Processwork particularly adept at the codifying and digitization of signals, interventions, and sessions.

To train as a Processworker is to train in the fine art and skill of signal awareness and tracking. The Processworker's awareness spans the senses and traverses both the known and unknown realms of the psyche. Because this kind of perception requires an intimate and personal relationship with skills and signals, the development of an acute self-knowledge is critical. It has not been unheard of for Processwork students to take up to ten years to achieve the highest honor of recognition, that of a Processwork Diplomat. *Chapter 2* will elaborate on Processwork and the connection between skills, signals, and self-knowledge.

Dreamaker.io was inspired by my use of video analysis software as an elite athlete, and by specialized training to enhance my visual awareness as a goalkeeper in field hockey. A hockey ball can travel at up to eighty miles per hour, and both ball and stick have killed and maimed players. The ability of a goalkeeper to react under pressure, move quickly, and make rapid decisions is critical. In my lifetime, my hunger to move more quickly, see more, and function

under pressure has perhaps only been equaled by my desire to feel, touch, experience, and map the intricate footprints and finger dances of the gods. *Dreamaker.io* is the firestarter integrating these aspects of myself.

Why *Dreamaker.io*

Dreammaker is a term used by Arnold Mindell, founder of the Processwork paradigm, to describe the ultimate source of reality and awareness - the invisible power and intelligence behind everything. In his book *The Dreammaker's Apprentice* (Mindell A. , 2001), he states, "In this way we can each know, in our own way, the thoughts of God and the meaning of dreams – the Dreammaker." (back cover)

Rather than distant and unknowable, it is within each person's reach to gain glimpses of the Dreammaker and view our dreams and our lives from the perspective of the Dreammaker.

The *.io* domain refers to Indian Ocean, in the same way that *.uk* domains refer to United Kingdom, *.au* domains refer to Australia.

The use of the *.io* domain in website addresses has become a trend among contemporary technology companies because *io*, or input/output, is a fundamental of information systems:

In computing, input/output or I/O (or, informally, *io* or *IO*) is the communication between an information processing system, such as a computer, and the outside world, possibly a human or another information processing system. Inputs are the signals or data received by the system and outputs are the signals or data sent from it. *(Wikipedia, n.d.)*

One does not need to stretch one's imagination far to extend this idea of *i/o* to human interactions and the aforementioned primacy of signals and signal awareness in Processwork. *Sender* and *receiver* could both just as easily be humankind.

Framed differently, *Dreamaker.io* can support us to make our dreams of becoming great therapists possible through **i**nteractive **o**bservation.

Organization of this Paper

This paper consists of nine chapters. *Chapter 1* is a review of literature which introduces the relevant fields, thinkers, theories, and previous research which have inspired *Dreamaker.io* and the present study. *Chapter 2* introduces Processwork and the role video study has played in the founding and formation of Processwork. *Chapter 3* delineates the shortcomings and challenges of video analysis in the fields of counselor training and supervision. *Chapter 4* introduces the software application *Dreamaker.io* and research for the present study. *Chapter 5* summarizes results and findings. *Chapter 6* discusses the usefulness of *Dreamaker.io* and how it enriches the study, training, and research of Processwork. *Chapters 6, 7 and 8* address concerns, highlight contributions to other fields, and suggest areas for further research.

Terms, Definitions, Symbols

A complete glossary of terms and definitions can be found at the end of this paper in the section *Glossary*. The Glossary contains headings for *Technology*, *Processwork*, *Dreamaker.io*, and *Other*, the latter covering terms not covered under the three former headings.

Video, audio, media

Unless specifically noted, the use of the term *media* refers to both video and audio, while *video* refers to video alone, and *audio* to audio.

Traditional video study, traditional video analysis

In the context of this essay, traditional video analysis refers to using either video tape, DVD, or digital recordings with standard video-playing software like Media Player or QuickTime.

Psychotherapy, therapy, and counseling

The terms *psychotherapy*, *therapy* and *counseling* are used interchangeably to refer to the same process of working with a trained professional to receive support on issues and disturbances. In this paper, the trained professional is referred to as a psychotherapist, therapist, or counselor.

Dreamaker.io, the present study

In the context of this paper, *Dreamaker.io* refers to the video analysis software application *Dreamaker.io*. *Present study* refers to study detailed in this contextual essay.

Dreamaker.io features

Features of *Dreamaker.io* will be capitalized to distinguish them from the regular use of the identified word.

App, application, software application

Dreamaker.io is referred to as *app*, *application* or *software application*.

Pronouns

To protect the identity of respondents, the pronouns *they*, *their*, and *themselves* are used to refer to individual respondents.

Chapter 1: Literature Review

Research Question

Can a Processwork-specific video analysis application be developed and, if so, will it be useful?

For the purpose of the present study, *useful* is defined as:

useful

[yoos-fuh l]

adjective

1. being of use or service; serving some purpose; advantageous, helpful, or of good effect
2. of practical use, as for doing work; producing material results; supplying common needs

<http://www.dictionary.com/browse/useful>

3. able to be used for a practical purpose or in several ways.

<https://en.oxforddictionaries.com/definition/useful>

Synonyms

profitable, efficacious, effective, multipurpose, helpful, utilizable, expedient,

reusable

<http://www.synonym.com/synonyms/useful>

Introduction

The purpose of this chapter is to introduce the relevant fields, thinkers, theories, as well as previous research which has inspired *Dreamaker.io* and the present study. Alongside research in the fields of psychotherapy, the study draws on two diverse areas of research to demonstrate how the *Dreamaker.io* application benefits the Processworker: visual performance in sports, and insights gained from neuroscience.

In the first section of this chapter, the field of visual performance training in sports is introduced. Specifically, I describe Dr. Sherylle Calder's work with elite athletes and her use of the *EyeGym* software to introduce programmatic interventions in training elite athletes' visual systems.

The second chapter introduces the concept of neuroplasticity. Specifically, it highlights key principles of neuroscience and the use of software to train core brain assets.

Subsequent sections shift into the fields of counseling and psychotherapy, focusing on the growing use of video in these fields.

Visual Awareness Training Among Elite Athletes

According to Rivien (Rivien & Gabor, 1981), the functioning of the average person's visual system is not optimal. Visual skills and functioning can, however, be trained. Among elite athletes, programmatic interventions specifically designed to enhance visual skills, also known as visual performance or visual intelligence training, has been investigated (Coffey & Reichow, 1990; Sherylle, 2005; Love, Kluka, & Young, 2006; Kluka & Love, 2006) and shown to improve sports performance (Kluka D. A., Love, Hammack, & Wesson, 1996; Calder & Kluka, 2009).

Dr. Sherylle Calder, a pioneer in visual performance training, has worked with elite athletes and sports people across the globe. Her accolades include winning world cups with the South African and English Rugby teams (the only person to win back-to-back world cups). Her clients have included leading names and teams from around the globe in cricket, golf, tennis, motor racing, field hockey, the English Premiere League, the American NFL, eSports, an Olympic sailing team, aerial ski teams, and the Australian AFL. Calder developed a software program called *EyeThinkSport* to improve athletes' visual abilities and decision making. Research demonstrated that "The efficacy of the EyeThinkSport visual training software

programme led to significant improvements in the performance of athletes in ... almost all visual skills” (Calder & Kluka, 2009, p. 44) and led to the development of *EyeGym*, Calder’s current visual intelligence training software.

Neuroscience and Cognitive Training

Advances in neuroscience since the late 1960’s have demonstrated that the brain can and does change over the entire lifetime of an individual (Doidge, 2007; Merzenich, 2013; Costandi, 2016). Programmatic training interventions, including with computer software applications, can be used to induce this change (Merzenich, 2013; Doidge, 2007).

The brain’s ability to change is referred to as *neuroplasticity*.

Neuroplasticity is an umbrella term referring to the many ways in which the nervous system, including the brain, can change. Regarding the brain specifically, it refers to the brain’s ability to reorganize itself, both physically and functionally, forming and reorganizing synaptic connections with each different activity it performs.

There is a growing body of evidence that neuroplasticity is foundational to both learning in the healthy brain and relearning in the damaged brain. (Kleim & Jones, 2008)

Although the science of neuroplasticity is beyond the scope of this paper (the reader is directed to References in this section for further reading), Kleim & Jones (Kleim & Jones, 2008) summarize ten principles of neuroplasticity with regards to maintaining optimal brain functionality, as follows:

1. **Use It or Lose It:** Failure to drive specific brain functions can lead to functional degradation.
2. **Use It and Improve It:** Training that drives a specific brain function can lead to an enhancement of that function.

3. **Specificity:** The nature of the training experience dictates the nature of the plasticity.
4. **Repetition Matters:** Induction of plasticity requires sufficient repetition.
5. **Intensity Matters:** Induction of plasticity requires sufficient training intensity.
6. **Time Matters:** Different forms of plasticity occur at different times during training.
7. **Salience Matters:** The training experience must be sufficiently salient to induce plasticity.
8. **Age Matters:** Training-induced plasticity occurs more readily in younger brains.
9. **Transference:** Plasticity in response to one training experience can enhance the acquisition of similar behaviors.
10. **Interference:** Plasticity in response to one experience can interfere with the acquisition of other behaviors.

Several studies have demonstrated that programmatic training interventions using computer software specifically designed to take advantage of the principles of neuroplasticity have a positive impact on cognitive skills and performance (Kleim & Jones, 2008; Edwards, et al., 2017; Merzenich, 2013; Doidge, 2007), even decreasing the risk of dementia (Edwards, et al., 2017).

Cognitive skills are the core mechanisms the brain uses to process stimuli from external and internal sources. A quick search on the web will reveal a variety of definitions and categories of these skills or abilities. Broadly speaking, cognitive skills include, but are not limited to, perception, attention, decision making, language skills, motor skills, emotional skills, memory, spatial processing, processing speed.

Cognitive skills are varyingly referred to and defined as cognitive abilities, brain abilities or brain assets.

Michael Merzenich, who lead an international team of neuroscientists in the design of the brain-training software *BrainHQ*, lists “core brain assets that almost everyone can benefit from working to improve on” (Merzenich, 2013, p. 213):

1. **Alertness and Focus:** Always a direct target of computer based brain training, an increase in the level of alertness and focus during brain training is essential to long term plastic change (Doidge, 2007).
2. **Positive Mood:** The release of the chemical dopamine is a key agent of joy and change in your brain. “Almost all of our brain training exercises target the improvement of positive mood.” (Merzenich, 2013, p. 214)
3. **Learning and Remembering** are strengthened by improved levels of alertness, exercising control over attention and a positive mood.
4. **Accuracy** or, more specifically, *representational accuracy*, refers to the ability to correctly interpret and remember details and has a direct impact on the quality of what we remember: “issues of accuracy are prerequisite for cognitive training in almost any program that can effectively help you grow your brain power” (p. 215).
5. **Brain Speed** impacts our ability to get things right with accuracy and reliability. “Speed is critically dependent on the sharpness of the brain’s responses to all those little details” (pp. 215-216). Accuracy at speed is an indication that the brain is ready to advance to the next level of learning.
6. **Rapid Sequencing and Prediction** refers to the ability to clearly distinguish between rapidly successive events while keeping them separate and in order. “Just as in a Google search, you can go a lot faster across your neurological landscape when your brain accurately guesses what it should look up or what should happen next!” (p. 216)

7. **Suppression of Noise and Distraction** is the ability to reduce the influence of internal and external noises and distractions when focusing on a task.
8. **Fluency** is enhanced by speed and accuracy, and can be compared to fluency in languages.
9. **Navigating in Time and Space** is the ability to correctly construct, reconstruct, manipulate, and record information in terms of time and space.
10. **People Skills** are the ability to understand and relate to others. “Few things can pay off more richly in training than the growth or recovery of your powers and understanding in social cognition and social control” (p. 217).
11. **Flexible Intelligence** is the collective improvement and application of the above assets, and the ability to apply them adaptively in the real world.

Software applications *EyeGym* and *BrainHQ* contain different exercises which increase with difficulty as the user succeeds. An enormous amount of design and research has gone into crafting the exercises, measuring responses, and weaving different exercises together. For the purposes of this paper, I give a very basic description of what exercises: the user watches (or listens) for visual (or auditory) cues and symbols and responds to them with the click of a button; the software evaluates the response for accuracy and gives the user feedback. The interested reader is directed to the relevant software applications for further review.

Video in Psychotherapy and Clinical Supervision

Video study in psychotherapy training dates back to the 1960's (Haggerty & Hilsenroth, 2011), and spans several areas of application including research, teaching, training, clinical supervision, and psychotherapeutic intervention (Lineha, 2015; McCullough, 2003).

A couple of the more novel uses of video include:

- Re-establishing personal boundaries between client and therapist: The therapist, writes Maria Luca in her book *Sexual Attraction in Therapy: Clinical Perspectives on Moving Beyond the Taboo*, can re-establish disturbed personal boundaries with the client by offering to video record sessions for review in supervision (Luca, 2014).
- Deterring client perpetrated violence against counselors: This is achieved by establishing a clinical environment which includes video surveillance (McPhaul, London, Murrett, Flannery, & Rosen, 2008).

Students of Processwork programs and other counseling modalities are required to complete practicum and internship trainings based on the knowing that the application of skills cannot be taught by theory alone. Clinical supervision of these internships and practicums play a vital and pivotal role in the training and development of these counselors.

Supervision has emerged as a driving force behind the recent adoption and adaptation of technology in the psychotherapeutic field. For an in-depth review of the current state, see *Using Technology to Enhance Clinical Supervision* (Renfro-Michel & Rousmaniere, 2016). The remaining sections of this chapter summarize the use of video (and to a lesser extent audio) in supervision.

Clinical Supervision via Videoconference

Geographical separation (including separate countries) of supervisors and supervisees has the potential of discouraging or even preventing supervisees from receiving face-to-face supervision. Issues which may influence the efficacy of the practicum and supervision include

extent of the distance between locations, travel time, expense, and safety issues when traveling to a supervisory session (Schank, 1998; Wood, Miller, & Hargrove).

Videoconferencing is providing a suitable solution to overcome these challenges, with the following added benefits:

- Enabling access to demographically and culturally diverse supervision groups and supervisors (Cohn & Hastings, 2013; Janoff & Schoenholtz-Read, 1999)
- Enabling access to supervisors with applicable/unique expertise (Janoff & Schoenholtz-Read, 1999)
- Allowing for the relocation of supervisee or supervisor before completion of an internship, maintaining the continuity of the relationship (Cohn & Hastings, 2013)
- Enabling immediate supervision during crises

Video in Clinical Supervision

A review of literature (Alpert, 1996; Bernard & Goodyear, 2014; Ellis, 2010; Haggerty & Hilsenroth, 2011; Renfro-Michel & Rousmaniere, 2016) on the use of video in supervision highlights its increasingly valued use as a more accurate means of supervision. Video richly and accurately records extensive information from sessions including affective content; trainee's skills, actions, and interventions; and client status. Advantages for supervisor, supervisee, and client can be summarized as:

- provides a means to bring about changes in supervisee's self-perception
- provides a means to bring about increased self-awareness in the supervisee
- enables supervisors to more accurately and objectively evaluate and supervise
- enables supervisors to more accurately judge the status of clients

- increases the accuracy and quality of supervision
- provides a means of storing and sharing information
- reduce legal risk to supervisor and/or organization through direct observation (APA Board of Educational Affairs, 2014)

Furthermore, combining the use of video in supervision and careful attention to the student's developmental level can enhance student growth and improve client care (Rachel L. Huhra, 2008).

The ways in which video has been used in supervision include:

- observing counseling sessions via live video feed
- reviewing entire counseling sessions
- reviewing highlights or challenging situations within sessions
- engaging in structured microanalysis of counselor and client interactions (McCullough, 2003; Mindell A. , 1988)

A Growing Requirement for Video Recording

Several counseling and accreditation bodies in the United States now strongly recommend the use of video in supervision, underlining the increasing acceptance of the positive outcomes of direct observation (either live or through video/audio recordings) in supervision.

The *Council for Accreditation of Counseling & Related Educational Programs* (CACREP), which accredits counseling programs in the United States, requires the learning environments for all entry-level and doctoral programs to include “technologies and other observational capabilities as well as procedures for maintaining privacy and confidentiality” (Council for Accreditation of Counseling and Related Educational Programs, 2016, p. SECTION 1).

It also requires that supervision of all entry-level practicums and internships include video/audio recordings and/or live supervision of students’ interactions with clients (Council for Accreditation of Counseling and Related Educational Programs, 2016).

The *American Counseling Association’s (ACA) 2014 Code of Ethics* (American Counseling Association, 2014) references to audio/video recording of counseling sessions are limited to gaining the client’s permission and addressing issues of confidentiality and security.

A found member of ACA is the *Association for Counselor Education and Supervision* (ACES). Composed of individuals engaged in the professional preparation of counselors and the ongoing supervision of post-degree counselors, ACES directly addresses the use of video and audio recordings in their *Best Practices in Clinical Supervision* (Association for Counselor Education and Supervision, 2011). The *Best Practices* stipulate that the supervisor’s feedback be based on either live or audio/video recorded direct observation of the counseling session, as well as the supervisee’s self-report of sessions. The safety and security postures of technology used in

distance supervision should be compliant with HIPAA (*Health Insurance Portability and Accountability Act of 1996*) guidelines.

The APA's *Board of Educational Affairs* (BEA) also directly addresses the use of video recordings in supervision. Their *Guidelines for Clinical Supervision in Health Service Psychology* (APA Board of Educational Affairs, 2014) also guides supervisors to use either live observation or audio/video recordings of sessions whenever possible to enhance supervisee and client outcomes. The *Guidelines* also address the need for technology to maintain confidentiality and security.

Readers are recommended to explore the standards and guidelines relevant to their discipline and location of practice for contextually relevant information regarding requirements for supervision.

Chapter 2: Video Analysis and Processwork

Processwork, also referred to as process-oriented psychology, can be defined in a number of ways. Born out of Jungian psychology and with roots in Taoism and quantum physics, it can be included in the branches of depth and transpersonal psychology.

In his book *The Dreambody Toolkit* (Goodbread J. , 1997), Joe Goodbread describes psychotherapy as ‘the art and science of helping people change’. He differentiates Processwork from regular psychotherapy in the following way:

Process-oriented psychotherapy is more than just psychotherapy; it is a methodological approach to observing the complex and subtle interactions of perception and behavior in human beings in a manner which makes the results of that observation directly accessible to those people being observed. [...] This sort of observation requires a degree of accuracy not usually found in psychotherapy. (p. 30)

Whether this level of acute observation gave birth to Processwork, or Processwork gave birth to the need for this level of acute observation, is debatable. What is clear, though, is that the use of video study played an important, if not fundamental, role in Processwork’s development.

The use of video study in Processwork has been well-documented in Dr. Arnold Mindell’s *City Shadows: Psychological Interventions in Psychiatry* (Mindell A. , 1988), Amy Mindell’s *Metaskills: The Spiritual Art of Therapy* (Mindell Amy , 1994), and Joe Goodbread’s *The Dreambody Toolkit* (Goodbread J. , 1997), among others.

In the mid 1980’s, Processwork founder Dr. Arnold Mindell, together with colleague Joe Goodbread, worked with a mental health agency in Switzerland. Mindell video recorded sessions

and interventions with patients “to improve my understanding of the client’s behavior and to help the team in their work” (Mindell A. , 1988, p. 40).

Rigorous study of these videos informed much of the current Processwork approach to working with psychiatric patients in extreme and altered states. In *City Shadows*, Mindell documents these findings, illustrating them with cases studies, patient descriptions, and interventions. Mindell highlights the critical role video study played in the work:

I realize now in retrospect, after having spent hundreds of hours studying and transcribing the case material, that I, too, learned a lot about where I needed to learn more. There were times I wasted energy conflicting with instead of following the client. Frequently things happened so quickly that I was not able to understand the process structure until after having studied the tapes. (p. 42)

It is because things happen so quickly that developing the sort of observation Goodbread spoke of in the above differentiation of Processwork takes time and practice. To elaborate on this further I will give a brief introduction to the Processwork concepts of *signals* and *channels*.

Catching signals, being aware of channels

Paul Watzlawick et al., in their book *Pragmatics of Human Communication* (Watzlawick, Beavin Bavelas, & Jackson, 1967), denote that human beings ‘cannot not communicate’ (p. 32), and communication conveys not only content, but also ‘imposes behavior’ (p. 32). That is, every communication has ‘content and relationship’ (p. 35).

The communication referred to is what Processwork calls *signals*. “Intended and unintended communication consists of numerous ‘signals,’ or pieces of information. Signals may be easily perceptible [to the senses] or hard to detect.” (Diamond & Spark Jones, 2004, p. 24)

Signals occur (that is, they are *conveyed*) in multiple *channels* and can be grouped accordingly. Most channels relate to our senses, and some expand beyond our senses. They are grouped as follows:

1. Auditory channel

auditory - paralinguistic speech elements

verbal – linguistic speech elements

hearing, listening, the experience of being heard

2. Visual channel

looking, seeing, the experience of being seen

visual elements of imagination

3. Relationship channel

of or relating to people

of or relating to oneself

4. Movement or kinesthetic channel

of or relating to movement

5. Proprioceptive channel

internal body feelings and emotions

6. World or synchronistic

of or relating to broader contextual events in city, country, world

meaningful coincidence

7. Coupled Channel

when a signal or experience occurs in more than one channel

8. Coupled Channel

when an experience occurs in more than one channel

9. Olfactory Channel (a less referenced channel)

smell, aroma

Signals and channels are the objects of the finely tuned and acute observation to which Goodbread refers.

Signals, however, occur in microseconds, and this is where video study has come in handy. Repeating from Mindell's quote above, "Frequently things happened so quickly that I was not able to understand the process structure until after having studied the tapes." (Mindell A. , City Shadows, 1988, p. 42)

Signals are also tricky and can switch channels, requiring a certain amount of flexibility and dexterity to observe and track them.

If you are quick enough to observe a channel switch, flexible enough to work with visualization, proprioception, audition, kinesthesia and with parapsychological events on the street which grab your attention, then you'll be able to follow your own and other people's process, and be aware of which direction you are headed in this life. (*Mindell A. , 1989, p. 47*)

Signal analysis and process structure

Rather than viewing and labelling channels and signals as pieces of information or static states, the imperative is to observe their relationship to each other, how they flow, their patterns, the *process* and the *structure* of the process.

...change comes about through the patterns already implicit in the process. Since the patterns are already implicit in the client's behavior, dreams, physical symptoms and relationship problems, the more observant the therapist, the less he needs to do. Not only the client's end state, but also the means for approaching it are implicit in the process pattern. (Goodbread J. , 1997, p. 28)

The basic process paradigm is that signals and information from the client-therapist pair contain their own structure and implicit evolution, that is, the solutions to the problems at hand. The method was to wait to develop a strategy until the structure had become apparent. (*Mindell A. , 1988, p. 42*)

Signal analysis: learning from and about the client

Video study allows the therapist to deeply study a client “without the intensity of the moment” (Mindell A. , 1988, p. 122), shedding light on signals which may or may not have been missed. Portions of the video can be replayed to gain insight into the nature of the signal including sentence structure, tone, volume, velocity, body language, movement, and facial expressions. The relationship between signals, and signals and context, can be studied. Video study can also shed light and significance on the timing of repeated signals.

On the video tape of the interview with Herr E., the authority can be seen in his continual moving forward and the vacationer is present when he sits backward. This dual process occurs about every sixty seconds. The authority sits forward, calculates aggressively with a red face and tries, usually with insufficient logic, to make his point. (*Mindell A. , 1988, p. 63*)

Client signal-analysis aside, there is much that can be learnt from the client themselves. As Mindell illustrates in *City Shadows*, all this information can be used to *flip* a client – a technique whereby a therapist plays a role the client inhabits to try flip the client out of that role and into another.

Video study can also be used to understand the client’s perspective and experience, and to appreciate critiques they may have of the therapist. Mindell writes:

After reviewing the tapes, I think Herr C. is correct to say that I did not understand him. He has helped me change the way I work with heroin addicts. I understand now that getting off heroin is difficult because what it is like to be on heroin is not sufficiently defined and understood. You cannot work with a state unless you know what it is.

(Mindell A. , 1988, p. 169)

He later adds, “My recommendation is that we video tape all interactions with unusual clients in extreme states in order to learn from them how to communicate nonverbally.”

(Mindell A. , 1988, pp. 226-227)

The therapist’s awareness

In Processwork, dynamics in a session occur on multiple levels. Issues and disturbances arise on one or more of the *individual*, *relational*, *social*, and *systemic* levels, defined as follows:

- *Individual or intra-psychic*: of or belonging to the individual alone, i.e., the personal loss of a parent
- *Relational or inter-psychic*: of or belonging to each person involved and the relationship between them, i.e., experiencing and witnessing abuse
- *Social*: of or relating to historic and/or cultural issues of a group, i.e., gender and racial dynamics

- *Systemic*: of or relating to organizationally, institutionally, or legally embedded issues, i.e., gender divisions in housecleaning chores, or the rights of women and people of color to vote

Processwork additionally identifies three levels of experience in which signals occur:

consensus reality, *dreamland*, and *essence*, defined as follows:

- *Consensus reality* refers to signals which are generally detectable to the naked eye and includes “the everyday world of time and space that is generally agreed upon as real [and] is perceived through every day awareness” (Diamond & Spark Jones, 2004, p. 13).
- *Dreamland* refers to “The world of dreams, projections, emotions, fantasies, and the like” (Diamond & Spark Jones, 2004, p. 13). It includes various figures, feelings, roles, things, or people that are spoken about but are not directly present or represented.
- *Essence level* refers to the non-dualistic, non-local, sentient level of experience connecting all of us and giving rise to everything else. Fleeting signals or *flirts*, barely visible to the naked eye, if at all, take place here.

To notice, observe, and interact with signals on all these levels requires a Processwork therapist’s awareness to be multi-levelled. Awareness of individual, relational, social, and systemic dynamics requires personal experience and/or social and political exposure and education. To separate their own individual issues from their clients’ requires significant self-knowledge, self-awareness and personal work. Becoming aware of signals in the dreamland and essence levels generally requires significant training and enhanced perceptual awareness.

The therapist’s self-awareness

A fundamental requirement of the trainee Processworker is the development of self-awareness and the ability to facilitate one’s inner process. This is underlined by the required

practical *Innerwork Exam* during which, in front of their examiner, the student presents a personal ‘problem’ and then works on this ‘problem’, metacommunicating their work and process as they go through it. The forty-five-minute exam concludes with a discussion regarding lessons learnt, insights gained, a breakdown of the process structure (see Glossary), and questions and answers regarding interventions applied.

The path and content of innerwork (see Glossary) or self-development differs from trainee to trainee. For some, it involves becoming aware of one’s rank and status. For others, it could take the form of expanding their awareness to notice different communication styles. It is rarely ever only one thing. Innerwork is a critical, ongoing focus throughout the training regardless of whether the student’s final intention is to work with individuals, relationships, or groups.

The process model is at least as important as a model of the therapist’s process as of the client’s. In order for the therapist to be open to the total range of processes which his clients may present, he must first be open to all the aspects of his own process. (*Goodbread J. , 1997, p. 59*)

Video study of innerwork processes can be of benefit to developing inner awareness. Seeing and studying one’s signals from the outside, one is able to see what was marginalized from within, enabling growth by working with and bringing these marginal aspects into awareness.

When working with individuals or groups, watching oneself on video is invaluable in not only reviewing interventions, but also gaining an outside perspective of one’s behavior and reflecting on feelings which the therapist may not have been aware of at the time. The below excerpt from Arnold Mindell’s book *Deep Democracy* (Mindell A. , *The Deep Democracy of*

Open Forums, 2002) illustrates this. Mindell is reviewing a video recording of an open forum he is facilitating.

While watching myself on film, I was shocked to see how I dealt with that mayor. I acted politely, but it was clear that I was hiding my real feelings. The content of my words pointed out how the mayor was inadvertently racist in his remarks, but I noticed that in my behavior, I was not just upset about what he was doing to others; I secretly felt superior to him. Then I remembered the feeling I had when I had spoken to the mayor. I had thought, "He's the mayor of the city and I feel better and more insightful than he." I was happy that I had pointed out hurtful behavior. However, I was upset with myself because I had treated him as if he were an icon, not a human being, and because I secretly felt superior. I was happy to notice that the mayor apparently did not seem to notice my behavior! (*Mindell A. , 2002, p. Kindle Location 1521*)

Several other quotes from Mindell further illustrate this:

She brought up problems in myself I first had to deal with before I was even able to understand the video tape. (*Mindell A. , 1988, p. 44*)

In transcribing the tape, I notice that I missed her logical manner, her matter-of-fact attitude. She is telling a sad story without being overtly sad. I did not notice this consciously, but began unconsciously to take over the sadness and fight the matter-of-fact attitude. (*Mindell A. , 1988, p. 137*)

When working with people with whom I have trouble communicating, I always refer to my video tape recording. I often make decisions only after having

studied the video in order to discover which information I have not allowed myself to pick up and why I did not pick it up. If the client becomes increasingly unhappy during the session or afterwards, or if my communication to the client does not receive a favorable response, I assume that I have to change. (*Mindell A. , 1988, p. 44*)

Metaskills

In her book *Metaskills: The Spiritual Art of Therapy*, Amy Mindell describes living at Esalen Institute in California in 1989, where she and her husband, Dr. Arnold Mindell, had the opportunity to study videos of many prominent therapists ‘in action’, including Fritz Perls and Dick Price. Although both identified as Gestalt therapists, “the way they practiced Gestalt Therapy in these sessions was radically different ... Perls had a confrontational and directive style while Price ... was more passive, open and gentle in his interactions with clients.” (Mindell Amy, 1994, p. 25)

The impression this made on Amy Mindell was strong and gave birth to the concept now known as *metaskills*.

Amy noticed that therapists all had “feeling attitudes” (p. 15) which “permeate and shape all the therapist’s apparent techniques” (p. 15). “Conceptually, I raise these essential, underlying feelings of the therapist to ‘skills’ that must be and can be studied and cultivated. I call these new skills ‘metaskills’.” (p. 15)

Metaskills have become an important component of the Processwork paradigm. They arose out of watching an archive of video recordings. Only the richness of video could allow for the viewing and comparative study of the styles of many therapists and “their particular nuances and the way their unique personalities mingled with their therapeutic skills” (p. 25).

Contemporary use of video in Processwork

Video continues to be used in Processwork, though perhaps differently and to a different extent than at its inception. This section explores these areas of contemporary use and their shortcomings.

At the Processwork Institute (PWI), video is frequently made use of in the Master of Arts and Certificate programs. Most ‘work in the center’ (where faculty or a student work with another student on an issue the student is experiencing, applying Processwork interventions) and group processes during these programs are video recorded and shared either via external hard drive or the learning management system (LMS). Additionally, two of the final exams for these programs utilize video studies of clients.

For the exams, students spend a considerable amount of time preparing the segments of video and the case to show the examiner. This preparation and subsequent review of video in the exam has been thwarted by challenges of replaying and reviewing sections with often separate, handwritten notes.

Videos of residencies - during which Masters and Diplomate level cohorts gather for 12-20 days of in-person study - were seldom used in teaching, and their home accessibility through the LMS was unwieldy. Of the students interviewed for the present study, some barely or never reviewed these videos for one or more of the following reasons:

1. They were not required to.
2. The processes of review and analysis were too cumbersome.
3. They did not know how to study the videos.
4. They had no perceived benefit in it.

5. Internal criticism arose while watching themselves, which in some cases made the process too challenging. One particular student had never managed to complete watching a single video of themself.

All sessions of the 2017 Worldwork Seminar in Greece were recorded, and all participants were required to complete permission forms regarding use of the videos for research and study in IAPOP certified programs. Sessions of prior Worldwork seminars have also been recorded.

A number of projects, research papers, Master of Arts final projects, and doctorate theses on Processwork include different aspects of video and video or audio study. References include but are not limited to Audergon & Audergon, 1994; Rose, 1995; Hauser, 2004; Rose, 2000; Schuitevoerder, 2000; Xaba, 2011; Mulligan, 2011; Holder, 2012; Bernatt, 2014; and Palazzolo, 2015.

Chapter 3: Shortcomings of Traditional Video Analysis

This chapter briefly outlines the shortcomings of traditional video analysis and how these shortcomings create difficulties in using video for study and supervision.

Introduction

My personal experience and the results of my questioning other students and teachers on their use of video analysis indicate that the uptake of video analysis has been limited primarily by the cumbersome nature of the process. This has resulted in students and faculty alike not using, or limiting their use of, video and audio analysis.

Two secondary elements holding back students from utilizing video analysis are 1) a lack of knowledge on how to approach, structure, and make the study relevant, and 2) the negative inner voices and self-perceptions which arise when watching themselves.

While these secondary elements will be addressed in subsequent chapters, this chapter summarizes the hardware and software shortcomings making video analysis challenging. It also elaborates on issues relating to managing analysis, data security, client confidentiality, and sharing analyses.

Media Formats

Video and audio are recorded in a variety of different formats, depending on the recording device and settings, and not all formats are natively supported on all devices. This makes sharing videos and transferring them from one device to another difficult and prohibitive. A more tech-savvy user may know about alternative software to view the video, or be able to transcode (convert) the media into an acceptable format, but the latter solution may require the acquiring or purchasing of software and can be a time-consuming task. Use of VHS, through which much of the early Processwork video study was conducted, may have been simpler but

still required technical know-how for transferring the recordings from the video camera cassette onto a VHS. Audio formats are less prone to these challenges due to the historic popularity of digital music.

Media Playback

Analyzing media requires replaying segments repeatedly, scanning backwards and forwards, jumping to different locations in the media, and playing it at variable speeds (slowing down and even speeding up). As noted above, not all media playback software is created equally. More often than not, different media players are used for audio and video. Not all applications are capable of all of the necessary features. In the days of VHS, some of these tasks would have been cumbersome if not impossible.

Recording and Reviewing Analysis

The process of video analysis, especially if analysis is to be used later or shared with others, requires not only taking notes of events in the video, but also taking note of the timestamp in the video of when the event occurred. The process here is to pause the video, take a note of the time, possibly replay the piece a few times, then adjust the time. To review later, one needs to take note of where in the video one currently is (if one wants to return there), then scan back to the desired event time, then back again to the starting place. The task is time-consuming and awkward if you want to be exact and avoid repeatedly watching irrelevant parts of the video.

Managing Analysis

Notes of analysis may be kept in a notebook or software like Microsoft Word. Whether on paper or in a Word document, the data is just that: data. It is up to the analyst to derive any additional insight from the data. For example, how many times did a specific signal happen? How much of the data is analysis of the client and how much of the therapist? Getting a snapshot

of the analysis is also challenging. For example, to capture an overview of all signals in the movement channel, or all edges, would be nearly impossible.

A more tech-savvy user might store the data in a spreadsheet application such as Microsoft Excel to extrapolate additional analysis. This may, however, add additional layers of work, require tech know-how, and, again, take time.

Another, and perhaps more obvious, issue regarding the managing of analyzed data is its storage in relationship to media. Journals may be stored in drawers or file cabinets and media on a video tape, in a folder, or on a hard drive. It's not hard to stretch ones' imagination to see how organized a person must be to ensure the ability to find the analysis when reviewing the video, or vice-versa.

Data Confidentiality, Security and Sharing Analysis

Woven throughout the above challenges is the ongoing requirement to maintain the confidentiality and security of analysis and media, including the storage, transport, or transmission (i.e., sharing) thereof.

The increasing ease with which audio and video can be recorded, stored, and shared opens the media to increasing risks of being lost, stolen (physically or through hacking), or accidentally shared with the wrong person.

Recording can be done on cameras, smart phones, tablets, and audio recorders. Storage devices include USB keys, external hard drives, SD cards, laptops, cameras, smart phones, and tablets. All these devices are highly susceptible to being misplaced, lost, and stolen. Gartner predicts that a laptop alone is stolen every fifty-three seconds (Mah, 2015). All of the above devices can also be used to transport or share media. Sharing can also be done through email,

multimedia messaging applications such as *Whatsapp* and *Skype*, and file transfer software such as *WeTransfer* or *Google Drive*.

Whenever and wherever client sessions are stored, transported, and shared, the data should be encrypted and password-protected to ensure confidentiality should something untoward happen. Computers, laptops, and phones should additionally all have anti-virus software installed and regularly maintained, requiring additional diligence and costs. While the use of anti-virus software is commonplace, encryption is seldom utilized by persons untrained in technology.

Ensuring the protection and security of medical records is the subject of HIPAA, the *Health Insurance Portability and Accountability Act of 1996*. HIPAA is United States legislation providing data privacy and security provisions for safeguarding personal health information. With regards to psychotherapy, HIPAA treats media recordings of sessions with the same level of security precaution as psychotherapy notes (Renfro-Michel & Rousmaniere, 2016). If and when third party applications like email, messaging, or file sharing applications are used, these should be HIPAA compliant and Business Associate Agreements (BAA) should be signed between the user and the provider of these services. Unfortunately, very few services meet HIPAA compliance and are available for the signing of BAA's.

Keeping media and analysis safely protected requires action and responsibility by all parties who have access to it. As the above suggests, ensuring the confidentiality and security of recorded sessions and associated analysis requires diligence, technical know-how, and the implementation of physical as well as technological strategies. For the lay user and student, this can be cumbersome and either completely prohibit the use of media analysis or, possibly worse, encourage the use of it without safeguarding and protecting content. Since many Processwork

schools attract students and faculty in separate locations, the secure storage and sharing of recorded media and analysis is highly relevant.

Dedicated Recording Solutions

One way of overcoming some of these challenges has been through the implementation of dedicated video recording and streaming systems. These systems include counseling rooms with built in microphones and video camera, central video servers where recorded media is stored, and on-location facilities to review the recordings.

The costs of acquiring, installing, and maintaining this technology is vast, requiring clinics which implement them to have regular income with dedicated technology staff.

Summary

The overall cumbersome nature of trying to record, watch, analyze, and review analysis has resulted in video study rarely being used, if at all. Differences in media formats make viewing, sharing, and storing recorded sessions difficult. Video analysis requires unique playback features, a task for which current players are clumsy at best. These challenges are further impacted by the ominous yet seldom-addressed issues of privacy and security and their impact on client confidentiality. While dedicated recording solutions could be a solution for at least recording sessions, they are generally cost-prohibitive.

A video analysis application and platform specifically designed with confidentiality and security in mind, and which includes a collaborative aspect, could overcome these barriers and free trainees, researchers, supervisors, supervisees, and teachers to do what they came to do: focus on the content and analysis of their recordings.

In the next chapter I discuss the method and design of my study to achieve this aim.

Chapter 4: Methodology and Design

Introduction

The original intent for my final project was a creative writing piece integrating an eight-year period of my life, 2008-2016. I left South Africa in 2008 in search of my passion: namely, to get out of the worlds of IT (information technology) and advertising and plug into something more essential, more *me*. The journey from South Africa traversed over thirty countries, countless ‘work roles,’ and countless experiences. Ultimately, it drew me to Processwork.

The intention of the creative writing project was to weave the experiences, the journey, the lessons, and the insights together. The final output would be a memoir or fantasy fiction piece. My intention was to bring the lessons and journey together and, in so doing, let *them* reveal what was to be. The creative process would inform the output and, finally, the contextual essay.

It was during this process of weaving, writing, and reflecting that *Dreamaker.io* was conceived. I initially gave myself a month to develop an iPhone app to do the trick. Having never coded for an iPhone, the learning was steep. After a month, I refocused my energy on studying and writing.

However, the idea of *Dreamaker.io* was relentless. I was studying videos for exams and watching recordings of clients, of myself telling my dreams, and of ‘mock’ exam intensives with peers. I found it wild that there was no tool to support the video analysis process. During my time as an elite athlete playing field hockey for South Africa, video analysis was used to study our opponents, our game, and ourselves. Surely something must exist for therapists?! But I couldn’t find anything.

Stubbornly, I refused to go through the painstaking task of traditional video analysis and transcription. For transcription, I figured out a way to do it privately through *YouTube* (while maintaining client confidentiality). For the video analysis, I customized sports analysis software. Though not ideal, the result was remarkable, an incredible proof of concept. The process of analysis became much more efficient and the tool was effective in analyzing the video, sorting through the analysis, and adding meta-data. It became my first prototype. I used it for exams which required video study. The process was simple, the product was reliable, the feedback from those I shared it with was great! However, even more fascinating was the impact that the process of analysis by using the prototype was having on me.

For example, while preparing for my extreme states exam using the prototype, I noticed how ‘switched on’ I felt, like I was totally on the ball, my awareness was preened, and I was more awake and more alert to signals. This side-effect was remarkable. I started doing video analysis of the client before seeing them so that I could bring this heightened state of awareness into our sessions.

The experience took me back to my sporting days again. I had the privilege of training with the renowned visual performance coach Dr. Sherylle Calder. When I was playing in the position of goalkeeper, visual intelligence was critical for reaction and response times, split-second decision making, peripheral vision, depth perception, the ability to judge and determine the curvature of a ball in flight, to read opponents, and to read the game.

It was the late 1990's and Dr. Calder's *EyeGym* software had not yet been developed. We instead trained with a variety of aids – reactions balls, glasses which temporarily blocked our vision, and others. One of these aids involved standing up close to a large board. The board was wide—spanning both arms' length—and embedded with little LED lights. We would wait for little lights to flicker on and off all over it, reacting to each flash with the push of a button. It trained both our peripheral vision and reaction time.



Figure 1 Reaction ball. The uneven surface results in an unpredictable bounce – aiding improvement of reaction times and hand-eye coordination.

Using the video analysis prototype, I could see and feel the similarities: watching the video, looking for a signal, reacting with the click of a button. It was as if the process of video analysis was enhancing my ability to see and recognize signals.

The analysis of the videos also gave me invaluable insight into the client and myself. The client was incredibly fluid, rapidly flowing and jumping from one thing into the next with broad brush strokes which now and again crossed or repeated paths. In contrast, I noticed how rigid and slow I was. I started seeing the interplay between the client's and my own signals, how connected yet disconnected we were. I noticed patterns I'd previously only had a vague sense of or completely missed. I felt like I was getting a glimpse of the dream maker, the intelligent organizing principle behind not only the client's process, but *our* process and our sessions.

The process of analyzing the video using the prototype was not only helping me study the client, it was also giving me invaluable insight into process structure and helping me learn how to cluster signals and map a process. The process of video analysis was a practice in the cognitive skill of viewing a process from a metaposition.

It became increasingly clear that this method of video study was the ultimate output, the ultimate integration, of not only an eight-year sojourn, but a lifetime. I recognized the incorporation of my sporting experience, my technology background, my experiences with design in the advertising world, my work with user adoption in the sustainability world, my passion for Processwork, and my insatiable desire to seek, to uncover, to walk and live and dance and illuminate the footprints of the dream maker: *Dreamaker.io* would be my final project.

Methodology

The development of *Dreamaker.io* and the present study combines several methodological approaches.

Heuristic

In his book *Heuristic Research*, Clark Moustaka refers to heuristic research as “a process of internal searching through which one discovers the nature and meaning of experience and develops methods and procedures for further investigation and analysis.” (Moustakas, 1990, p. 9) The inception and subsequent development of *Dreamaker.io* and the present study were inspired by my experiences with video analysis, the impact the process of analyzing video had on my cognitive skills, and the affects or feelings different elements of the application evoked in me.

Creative

The project is creative in nature in that a seed idea was followed through to creation of a new product. The product, *Dreamaker.io*, resolves an old problem – the cumbersome and time-

consuming process of video analysis – in a new way. It has required imagination and thinking outside the box. It has been designed with intentionality to improve the human experience, evoking a “head, heart, and hands” response from the user.

Qualitative

The ongoing integration of feedback from testers, students, supervisors, and the public places the project in the domain of being qualitative.

Educational

Dreamaker.io is an education tool which aims to enrich the studying, training, and research of Processwork. It is already being used by students, supervisors and researchers alike.

Approach: Designing and Developing Dreamaker.io

The Introduction to this chapter described the approach leading up to the development and use of a prototype for the final *Dreamaker.io* application.

Although the results and feedback from the prototype were exceptional, it was not well suited for the purposes of analyzing client-therapist sessions because it lacked the collaborative aspects. It also revealed user experience (UX) glitches. Thus began the process of researching, designing, and developing *Dreamaker.io*.

Research

I researched and played with a few other video apps to gather information on what worked and what didn't work. This gave me inspiration for the challenges being faced. Research was extended to applications that did not necessarily use video but instead had a strong collaborative focus – apps like *Slack*¹ and Google's *G Suite*².

¹ *Slack* is a cloud-based set of team collaboration tools and services - <https://slack.com>

² *G Suite* is a set of cloud computing, productivity and collaboration tools, software and products developed by Google. It includes, *Gmail*, *Drive*, *Docs*, among others - <https://gsuite.google.com>

Wireframe

I developed the initial wireframe (see *Glossary*) of the app in early December 2016 and shared it with my prospective business partner, Nathaniel Holder. The wireframe served as a framework for beginning development and was enough to inspire Nathaniel to join me, but we still had to tackle another aspect of research: technology.

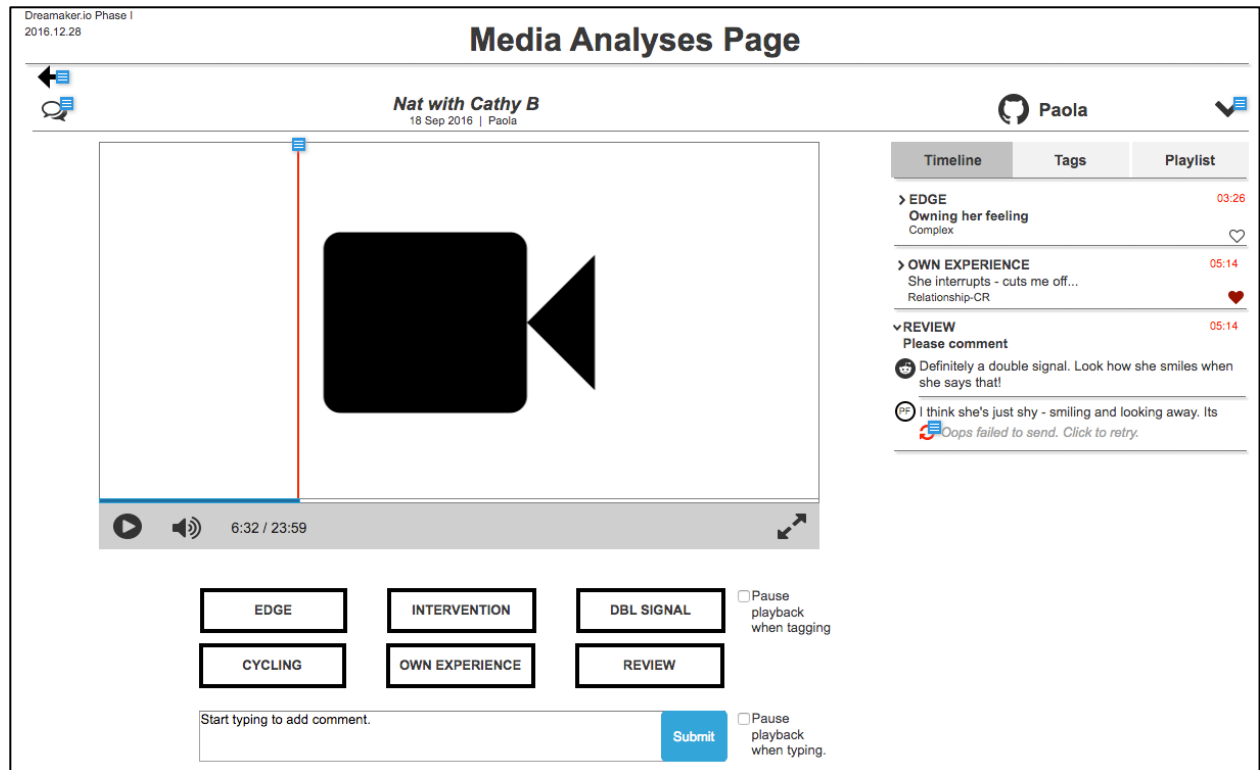


Figure 2 The initial wireframe used to conceptualize Dreamaker.io.

Technology

Technology had come a long way since 2008 when I was last intimately involved with it. I knew that the technology choices made at the outset would impact the potential success of the application. They would also be inextricable from the app itself long-term, so a substantial amount of time was devoted here. Key criteria which drove the decision-making were security and the ability to implement the design features I had in mind. Second to these were cost, scalability, and whether or not Nathaniel and I could work with the technology. In the end, I

selected Amazon Web Services (AWS) for their cloud computing services, and a reactive ecology of JavaScript libraries for user interface.

I chose AWS over competitors because of its industry-proven ability to scale while maintaining an exceptional security posture. AWS services are HIPAA compliant and *Dreamaker.io* as a business entity could sign a HIPAA BAA with AWS, enabling users of *Dreamaker.io* to sign BAA's.

[Removed trade secrets]

Online and Browser

Due to the collaborative aspect, I made the decision to build the app as a web browser app, accessible through most modern browsers. This would also circumvent the challenges of building different apps for Windows, Mac, and Android.

Media Formats

Particular thought was given to the uploading of media, ensuring users did not need to concern themselves with the format of their video and audio files; the application takes care of this for users.

Dreamaker.io accepts most modern video and audio formats. Uploading of media can be done with the traditional 'Select your file' mechanism, or via drag and drop. The app then transcodes the data into a standard format which can be played back across browsers and devices from within *Dreamaker.io*. Sessions can additionally be recorded on a smartphone or tablet and be uploaded directly to *Dreamaker.io* from the device, removing the additional step of transferring the media first to a laptop or computer. This also makes recording of sessions simpler and less expensive – a video camera need not be purchased.

Media Playback

The *Dreamaker.io* media player includes controls specifically useful for the analysis of video and audio.

[Removed trade secrets]

Finally, the *Dreamaker.io* media player has a similar look and feel to widely used video players like YouTube, minimizing the user's learning curve.

[Removed trade secrets]



Figure 3 Working on the app during my final offsite residency in Yachats, Oregon.

Design

Dreamaker.io was designed to be simple. Thought went into every step of user engagement – from signing up, to uploading videos, to the actual analysis of videos.

Key here was a simple, intuitive app that even the most techno-phobic user could enjoy. I hoped that if the app worked well and was intuitive, the process of analysis would feel easy. The app would become a supportive background player rather than an inhibiting factor. I wanted users to experience the absolute delight of how good technology has become and how well it can serve.

Colors

[Removed trade secrets]

User Engagement and Tone

[Removed trade secrets]

Analysis Page and Tools

All analysis takes place on one page, the Analysis Page (See Figure 4).

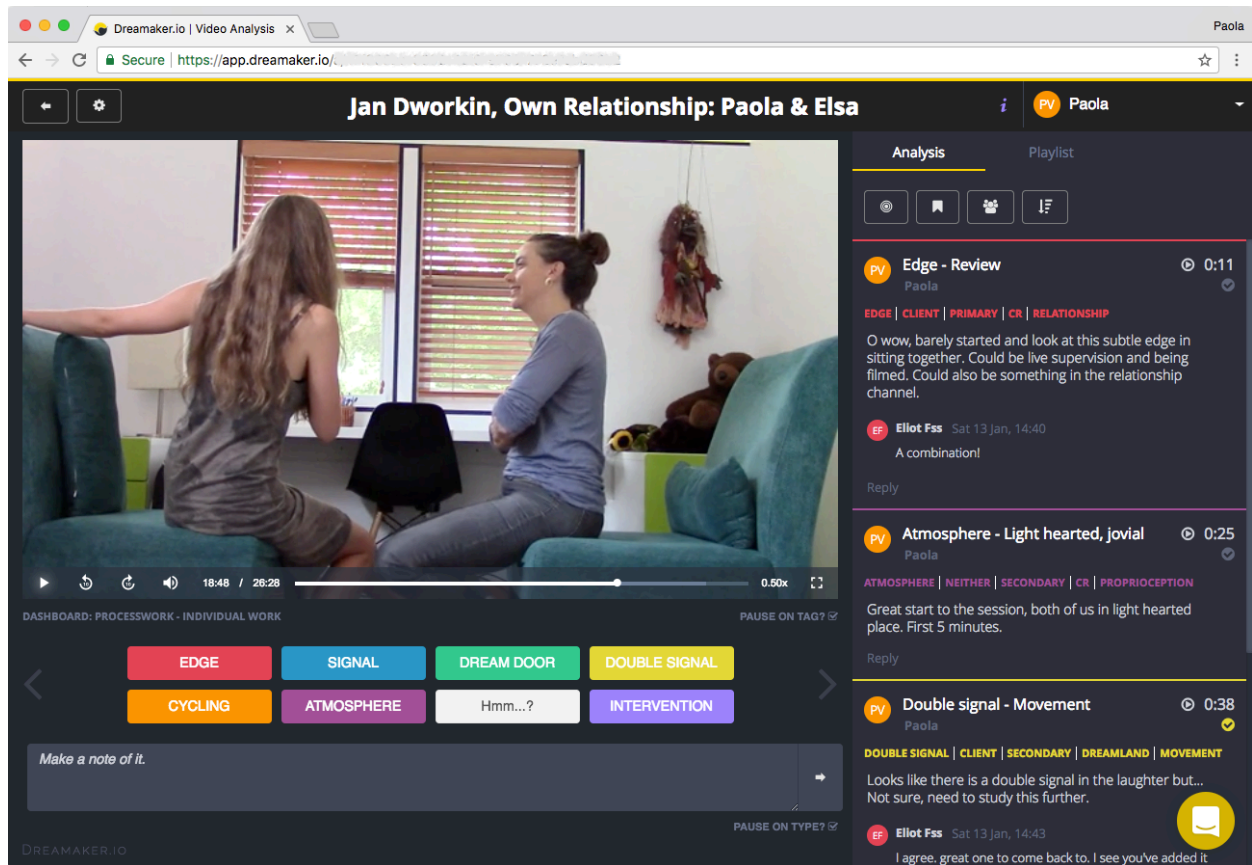


Figure 4 The Dreamaker.io Analysis Page, showing layout, colors and analysis tools.

The Analysis Page includes several analysis tools: *Dashboards*, *Tags*, *Markers*, *Tags*, and *Filters*.

Dashboards and Tags

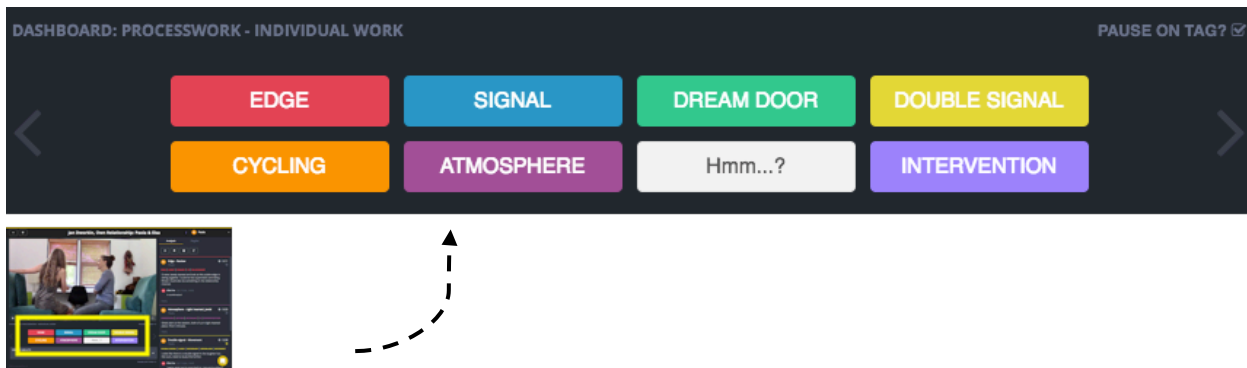


Figure 5 Dashboard with Dashboard Tags

The initial process of analyzing media involves indexing key moments or events. The user can watch or listen to the media and click on a button when a significant event occurs.

- The buttons are called *Dashboard Tags* or *Tags*.
- Buttons are grouped together to form *Dashboards*.
- The process of analyzing a video using the Tags is called *Tagging*.
- Tagging events in the video creates an editable list of *Event Tags*.

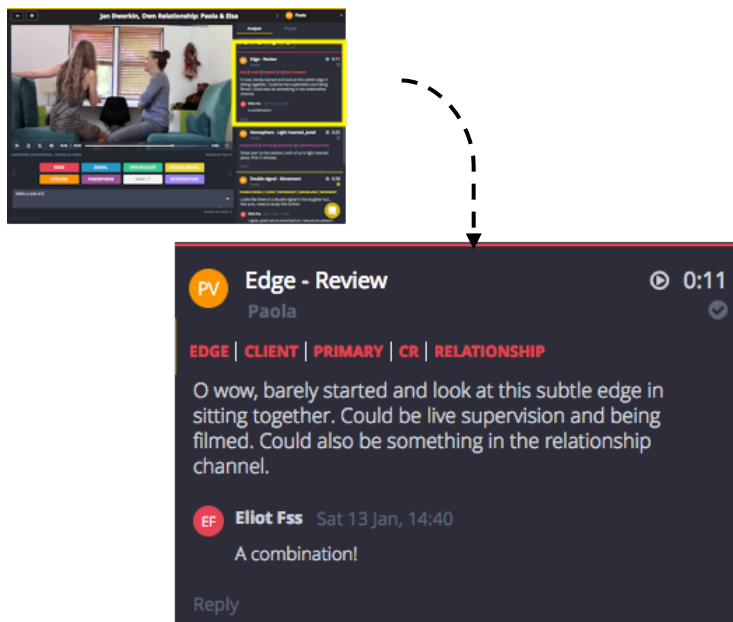


Figure 6 Event Tags are listed down the right side of the Analysis Page. Highlighted in this image is a single Event Tag of type “Edge”.

[Removed trade secrets]

Markers

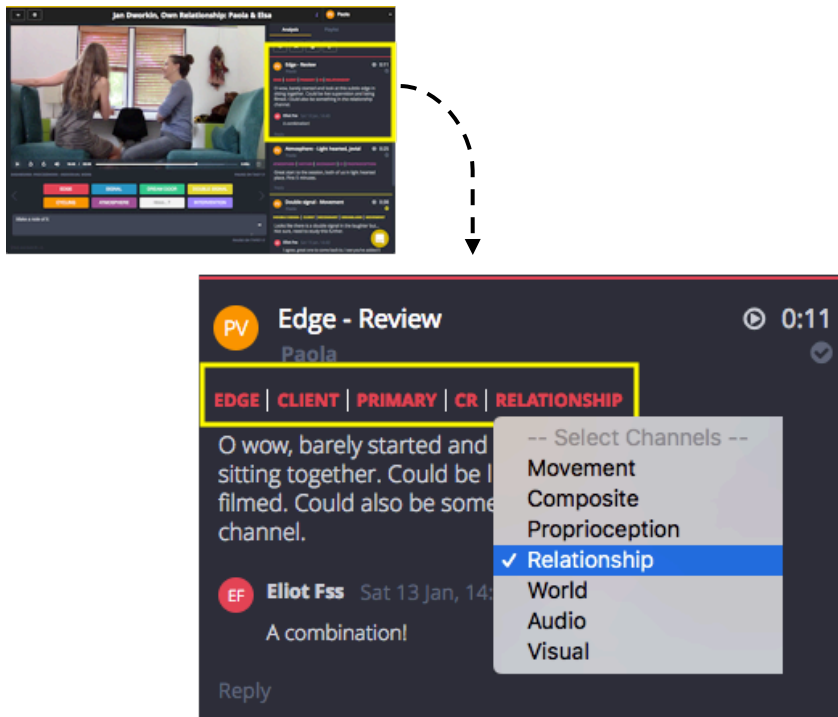


Figure 7 Markers in the Event Tag are highlighted in yellow. Selectable options are shown.

Each Event Tag can be further categorized using *Markers*. A Marker contains a title with a dropdown list of selectable options. Only a single option can be selected.

Examples of Markers include:

- **Client/Therapist** with options Client, Therapist, Both, Neither
- **Channel** with options Visual, Auditory, Movement, Proprioceptive, World/Synchronistic, Relationship, Composite

[Removed trade secrets]

CRUDability and Flexibility

Although initial releases of the app contained a fixed and un-editable set of Dashboards and Markers, their foundations were designed to be editable – to be **Created**, **Read** (i.e., visible to the user), **Udated**, and **Deleted** (CRUD). To cater to a global user base and the range of areas in which Processwork can be applied, and to enable more specific or refined analysis, I made these tools more flexible. Users can create, add, edit, or delete both Dashboards and Markers. Analysis tools can essentially be localized to any language, including incorporating language-appropriate fonts. *Dreamaker.io* can therefore also be used for other psychotherapeutic paradigms, as well as fields outside of psychology.

[Removed trade secrets]

Playlist

An analysis project can contain upwards of 50-100 Event Tags depending on length and number of collaborators. The *Playlist* feature allows a user to shortlist key Event Tags in a separate list on the *Playlist Tab*.

[Removed trade secrets]

Filters

Event Tags *Filters* allow the user to filter the displayed list of Event Tags.

[Removed trade secrets]

The below image shows the Filters.

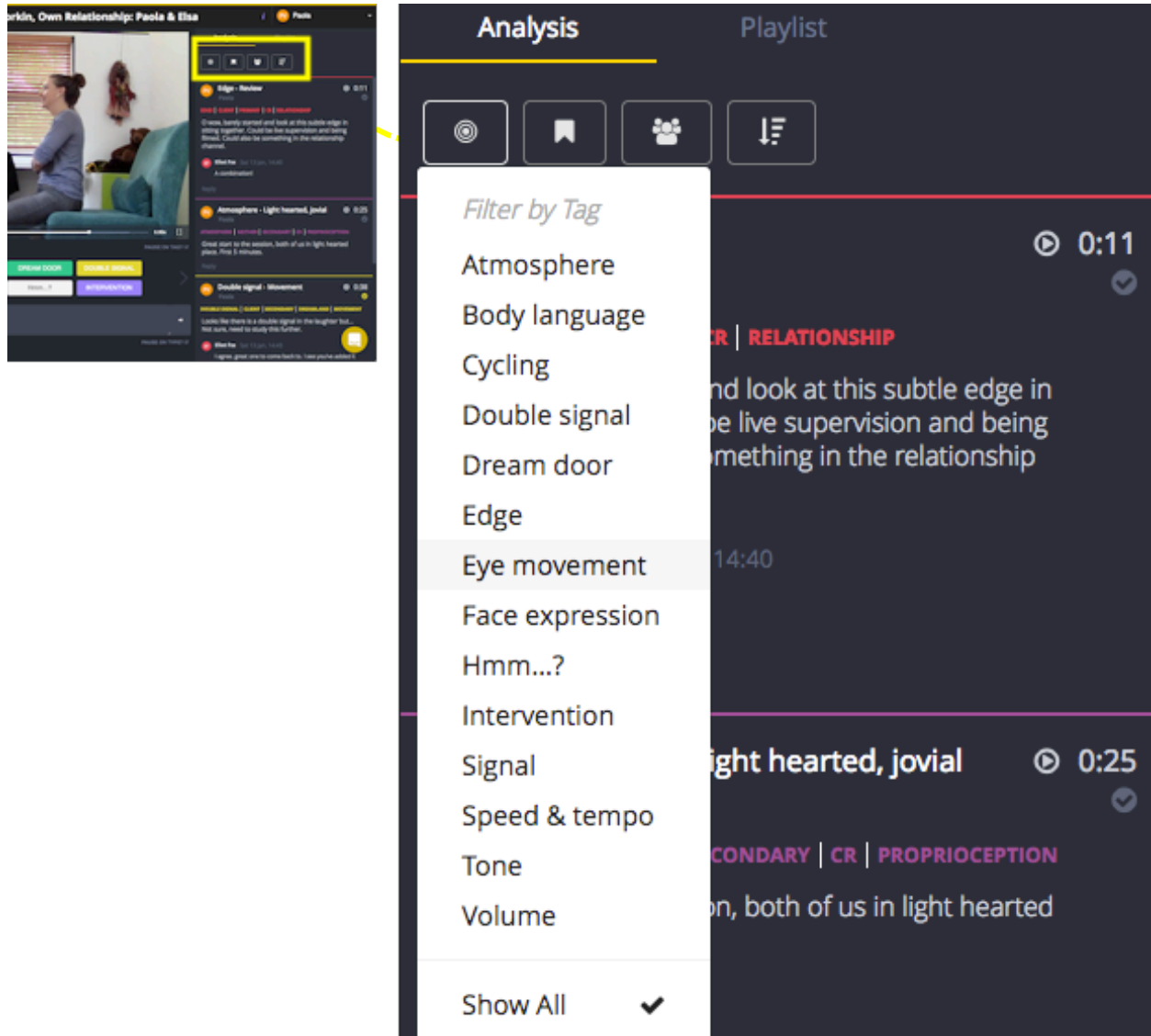


Figure 8 Filters include Filtering by Tag, Marker, or Collaborator. Lists can be ordered.

Event Tags

The list of Event Tags appears in the *Analysis Tab* in chronological order.

[Removed trade secrets]

The media timestamp (*timecode*) at which point the user clicks the tag is automatically recorded. To replay the tagged event later, the user clicks on this timecode.

[Removed trade secrets]

Notes Feature

The *Notes* feature is an input box which can be used to add free-form notes and comments to the analysis project.

[Removed trade secrets]

Collaborative Features

The collaborative features of *Dreamaker.io* enable the sharing of media safely and securely via the cloud platform.

Sharing a video and its associated analysis with peers and supervisors is as simple as selecting the video, clicking on the *Collaborate* menu item, typing in their email address, and clicking ‘*Invite.*’ When the collaborator accesses the app, the video shared with them will appear on their Landing Page.

Analysis Projects which include collaborators are called *Collaborative Analysis Projects.*

[Removed trade secrets]

Managing Analysis and Analysis Projects

Each analysis project is associated with its specific media file. When the media file is opened, the associated analysis and analysis tools are opened and viewable with it.

[Removed trade secrets]

Security and Confidentiality

Dreamaker.io was built with HIPAA compliance in mind. A security specialist was engaged to help direct our security stance and ensure we were aligning towards HIPAA compliance from the outset.

The media analysis in *Dreamaker.io* is arguably safer than it would be on an individual device due to our intentional use of end-to-end encryption, strict user permissions, strong password requirements, and other measures. End-to-end encryption ensures the media and analysis is encrypted when stored in the cloud and encrypted when transported from the cloud to the user's browser. Should users need to sign a BAA with *Dreamaker.io*, the application is now also BAA ready.

[Removed trade secrets]

Testing and Feedback

The application went through several different rounds of user feedback and testing. This section summarizes these.

Final project and Worldwork seminar presentation

The first public viewing of *Dreamaker.io* was the presentation of the application as my Final Project for the Master of Arts in Processwork program. The application was still in its development phase but I was able to showcase its look, feel, and core functionality.

For the presentation, I walked the crowd through the workflow of using the app from being invited to collaborate in a video analysis project, to signing up, to actually analyzing a video. The feedback from the crowd was incredible with cheers, “wows,” and a dynamic Q&A session. People loved the clean interface, loved the coloring and style, loved the ease of use and simplicity, and loved that the analysis tools were dedicated to Processwork.

This first public viewing, to a crowd of forty Processworkers and others, was a clear sign that the application’s design hit the mark and that its potential was beyond usefulness alone.

After a radical refactor of the underlying code, completion of outstanding features, and minor modifications to the look and feel, I offered a second presentation at the Processwork Worldwork seminar in Greece in April 2017. The feedback from this international group was similarly positive. Although the application was not yet publicly launched, people were lining up to use it.

Study committee, advisor, and faculty feedback

The feedback from faculty regarding the use and usefulness of the app was essential to its development. At various points in the design and development process, I shared the prototypes

and the final application with Processwork faculty members who gave detailed feedback. My three-person study committee, and of course my supervisor, were among those to give feedback.

Testing and soft launch

A final round of rigorous closed group testing and feedback gathering was held before the initial soft launch (see [Glossary](#)) of *Dreamaker.io*. This first round of testing was held in-person at the Processwork Institute. Ten people responded to an announcement on the local Processwork community listserv, and they became the first people - other than myself and Nathaniel - to sign up for and use the application. This testing process also helped flush out bugs in the application.

Two subsequent rounds of testing were conducted with a closed group of users remotely located in the United Kingdom, Poland, Australia, and Portland, Oregon. The main focus of this round of testing was to refine functionality and reduce glitches in the application.

Ongoing feedback

User feedback has been an ongoing instigator of change, development, and feature refinement. Here my mottos are to *'follow the feedback to the gold'* and *'follow the customer to the wisdom.'* The latter came from my years working in the sustainability movement where the motto of *'follow the children to the wisdom'* creates a direction of development which in its nature is sustainable; ensuring our children's wellbeing ensures the wellbeing of future generations and the planet.

Because of the innovative nature of the app, users' needs have been critical to the ongoing path of development. I have continued to refine existing features and prioritize undeveloped features based on user feedback. The app contains an in-app messenger where feedback and questions can be sent and responded to immediately, allowing me to integrate the feedback rapidly. Email has also served as a channel of communication for feedback.

Two current cohorts of the Processwork Institute Master of Arts and Diplomate programs are using the app for video sharing and analysis. I have directly solicited feedback from these students via email as well as through in-person interviews. See *Appendix 2* for a list of feedback questions.

Email was also a main channel for additional supervisor and faculty feedback.

The International Association of Process Oriented Psychology (IAPOP), the association co-organizing the Worldwork Seminar in Greece, used *Dreamaker.io* to securely and privately share video footage of the seminar with the individuals leading the Worldwork Research Teams. The leads then collaboratively shared the videos, again securely and privately, with the members of each research team, enabling each team to engage in their own separate collaborative video research projects using the same video footage. I solicited feedback from these teams in person, over Skype, and via email.

The results and findings of this feedback are discussed in *Chapter 3: Results and Findings*.

DREAMAKER.IO: VIDEO ANALYSIS MADE SIMPLE



Figure 9 The moment Dreamaker.io was deployed as live app for the first time (against a gorgeous Mac backdrop for celebratory effect! ;-)

Chapter 5: Results and Findings

Can a Processwork-specific video analysis application be developed and, if so, will it be useful? This is the question that has driven the present study. My conclusion from my process of developing the application and field-testing it with Processworkers is a resounding “yes.”

While I was never in doubt that a video analysis application could be developed for use in the study, training, and research of psychotherapy as a broad discipline, I have been delighted at its specific applicability to Processwork. Processwork is in the business of noticing and working with perceivable, and barely perceivable, communication signals as defined by Watzlawick and co (1967). This makes Processwork particularly well-suited to digital codifying. *Dreamaker.io* was initially designed and developed as a Processwork-specific application by taking advantage of the signal-based foundations of Processwork.

Signals, types of signals, channels, and levels of reality can all be effectively captured and studied through *Dreamaker.io*'s functionality. Where the application falls short is its capacity to Tag those signals which are barely—or not at all—perceptible, such as the therapist's experience of a sudden vision. The application does, however, allow the therapist to add an Event Tag when these signals occur in the course of study, marking them as Therapist and adding an appropriate note. The flexibility of the Notes feature and customizability of Dashboard tags caters to this.

Dreamaker.io as a video analysis software application has three key areas of usefulness: *ease of use*, *usefulness of features*, and *usefulness in area of application*. The latter I refer to below as *applied usefulness*. This chapter discusses these three areas in relation to both my own personal use of the app and to feedback received from a sample of sixteen users.

The sample included three researchers, two faculty, three supervisors, and eight students. Feedback was received through the in-app messenger, email and live interviews. Of the sixteen users included in this sample, 12 responded to the list of feedback questions in *Appendix 2*.

The chapter concludes with a synthesis of the overall usefulness of *Dreamaker.io*.

Ease of Use

Overwhelming feedback was that the application was “very easy to use” with a manageable learning curve. A minority of users experienced confusion between Tags and Markers. These shortcomings could be addressed by adding Help Files and Training Videos.

Users submitted specific, positive comments in the following areas:

- *Navigation*: easy; intuitive; easy to replay sections, slow down playback, and return to certain moments
- *Look and Feel*: a great feeling, beautiful display, clean interface
- *Layout*: the Dashboard beneath the video with the notes on the side; having all videos stored and accessible from one place; simplifies viewing and analyzing video

The simplicity and ease of use also led to more efficiency in analyzing videos saving busy supervisors, faculty, and researchers valuable time. One researcher claimed the time taken to analyze videos was halved by using *Dreamaker.io*.

Participants gave consistent (and unexpected) feedback regarding how much fun the app was to use. Students were excited about uploading and analyzing videos, and the element of fun helped a number of students overcome edges to watching themselves on video.

Usefulness of Features

- Analysis Page:
 - Having a central place to watch, pause, think about things, and add notes
 - Having notes and analysis located with video
- Media player:
 - Ability to play, stop, pause with ease, and take notes
 - Ability to skip forwards/backwards ten seconds was particularly appreciated
 - Ability to vary speed toggle: slowing down made it easier to see signals
 - Ability to vary speed toggle: speeding up made it easier to view edges in contextual movement when working with groups
 - Ability to watch specific parts of the video incrementally and repeatedly by combining the use of these buttons
- Notes Feature:
 - Ability to type and listen at the same time and pause/un-pause while typing
 - Ability to add notes which fall outside of the categories of the Dashboard Tags
 - Ability to Tag events which the analyzer is uncertain about
 - Ability to re-categorize Notes later as Tags
- Dashboards and Dashboard Tags:
 - Ability to pause/un-pause while tagging
 - Enabled a structured approach to video analysis
 - Enabled users to focus their analyses on areas of interest, i.e., creating and using a Dashboard which focuses on feedback alone

- Expanded users' area of focus, i.e., one user realized, through the presence of the default Dashboard Tag 'Double Signal', that they'd never focused on double signals
- Slowed down the process of analysis, which created more time to think and reflect
- Event Tags:
 - Ease of returning to and replaying any event
 - Ease of adding notes to specific events, when they occur or later
 - Solicited explicit naming and articulation of the event
 - Ability to edit the Event Tag's title
- Markers:
 - Prompted users to expand their thinking about multiple aspects of a single event, such as primary or secondary, channels, etc.
 - Enabled the study to be focused on the client or therapist
 - (In some cases the application was being used for a form of self-study wherein the therapist was the analyst; this study was achieved using the Client/Therapist Marker and Filter.)
 - Enabled renaming or adding of Markers for specific use cases – Facilitator/Group
- Color-coded Tags and Filters:
 - Enabled users to draw further insight and see how signals cycled, patterns emerged, and signals fluctuated
- Collaboration:
 - Ability to share with peers, supervisors
 - Ability to engage in collaborative research

- Ability to streamline collection of multiple researchers' analyses
- Ability to upload a single video to create multiple, separate, collaborative analysis projects from that video
- Security
 - Feeling safe that analysis and videos are private and confidential

Applied Usefulness

Early adopters and users of *Dreamaker.io* are using it in several areas, including:

- Students and supervisors in the Spanish Processwork and Processwork UK schools are using it for supervision, especially where they are unable to do in-person supervision.
- Researches located around the globe are using it for collaborative research projects of the Worldwork seminar. The *Export Analysis* feature will enable lead researchers to compare the video analysis with external data.
- The Processwork Institute (PWI) is using *Dreamaker.io* to securely and privately share residency videos among cohorts in their Master of Arts and Advanced Certificate programs. Each video is being shared as a collaborative project, enabling students to engage in peer learning.
- PWI faculty and students are using the application for distance study assignments to analyze and write up work with individuals and couples. Students are required to share and review their videos with non-local peers.
- Conflict facilitators are using it to study group processes and analyze the group, facilitators, and interventions.

- Students are using it to track their personal development and patterns by analyzing videos of their facilitation recorded over the three-year period of their training.
- Students and teachers are using it to compare and review live supervision notes and audio recordings with video recordings of the session.
- Students are using it to record personal therapy sessions to study their own nature and how their Processwork therapist applies interventions.
 - The latter deepens the usefulness of the actual session by replaying peak moments in the session; the impact of the moment is enhanced and an opportunity is created for the states and lessons learnt to be further integrated.

Within these broad areas, the content of what users are studying includes:

- **Themselves** (self study) – Students are:
 - Seeing their strengths and weakness
 - Noticing their ability to recall details of session
 - Finding out about what they're missing
 - Seeing which interventions they were actually applying, and where
 - Affirming their choice of interventions
 - Affirming their ability to facilitate
 - Being able to watch themselves without their inner critic being ominously present
 - Gaining self-acceptance of their style
 - Gaining self-confidence in their abilities
 - Noticing their own metaskills
 - Noticing ongoing patterns in how they impact their co-facilitator when engaged in team-based group facilitation

- Noticing how they are impacted by their clients
- **Clients** – Therapists studying clients are:
 - Noticing the feeling space of the client
 - Noticing the nature of the client’s signals – their edges, patterns in edges
 - Noticing when, and studying why, the therapist missed signals
 - Improving work with and outcomes for their clients
- **Groups** – Group facilitators are:
 - Noticing how the group interacts and learning the nature of those interactions
 - Noticing how comments create hotspots (see *Glossary*) and influence the direction of the process
 - Noticing patterns in the group’s dynamics
- **The student** – Supervisors are:
 - Identifying precisely when and where students are misinterpreting the process and signals through the content of students’ comments in Event Tags and the timecodes of tags
- **Interventions, Skills Acquisition, Styles** – Diverse users:
 - Practicing labelling and naming signals and interventions
 - Improving their ability to analyze fine details of how an intervention is applied – language used, metaskills applied
 - Tailoring analysis tools to focus on:
 - areas of interest
 - areas which the user wants to strengthen
 - skills which are marginalized

- Studying styles of different supervisors
- Starting to see patterns and how signals in the first five or ten minutes of the session proliferate throughout the session
- Starting to see the process structure and dreaming process between client and therapist or group and facilitator
- **Studying signals** – Diverse users are:
 - Noticing how signals manifest, appear, and behave
 - Improving their ability to differentiate signals, levels, inner experiences, and outer experiences in the process structure

Beyond applied usefulness, users reported that the sophistication of the app gave them a structured approach to analysis, encouraged them to think structurally about the process they were analyzing, and enticed deeper thinking and articulation of each event tagged.

Overall, these areas of study are having an impact on facilitators' live work with clients as well as in their everyday lives. Examples include:

- Improved ability to discern nature of feedback, and signals in channels, with clients studied
- Improved ability to see signals in everyday life (signals which they'd previously been unable to see)
- Enhanced self-awareness and reflection in everyday interactions in cases where self-study was the focus

Conclusions

I received both solicited and unsolicited feedback from *Dreamaker.io* users, and I have included both in my report. Users who provided feedback included students, faculty, supervisors, researchers of Processwork, and people inside and outside of formal programs. The feedback indicates that *Dreamaker.io* is effective in supporting media analysis and that the application makes the process of media analysis simpler, less time consuming, and fun. It encourages students to do video analysis, helps them overcome edges to watching themselves on video, and empowers them to customize their analysis for their needs and interests. Findings also indicate that the process of video analysis benefits the development of skills and awareness. As one student said, “The precision level is radically different [to traditional video analysis] in a good way ... The tool allows me to be in dialogue with myself as I am watching the videos because I can stop at any point and go back, and write all these things down. It takes my own engagement with my work to a completely different level.” (personal interview)

Faculty and supervisors also enjoyed the application. For Dawn Menken, a senior faculty member among the early founders and practitioners of Processwork, using *Dreamaker.io* “totally revolutionized my relationship to video study in a positive way!” (personal communication)

Dreamaker.io's effectiveness is enhanced by the ability to share videos and analysis securely and privately, within and across the global Processwork community, for peer review, peer learning, and in collaborative research projects.

These findings suggest that *Dreamaker.io* is multifunctional in its usefulness. That is, its usefulness extends beyond indexing key events in sessions and into enriching the study, training, and research of Processwork. These findings are discussed further in *Chapter 6: Discussion*.

Teaching is not difficult, listening is not difficult either, but what is truly difficult is to become conscious of what you have in yourself and be able to use it as your own.

<http://www.rubingscience.org/zen/cat1.html>

Chapter 6: Discussion

Video and audio study has played a crucial role in the founding, development, and research of Processwork. It has been used in clinical settings, open forums, group processes, the teaching and research of Processwork, and peer sessions. Processwork has also derived insight from other paradigms through video study of their processes.

The impact video study has had on understanding and learning from clients is well-documented, and the benefits for the Processworker are undeniable. This discussion focuses on synthesizing various aspects of *Dreamaker.io* to show how its simplicity and multifunctional nature extend its usefulness towards enriching the study, training, and research of Processwork. It will further demonstrate that the process of video and audio analysis using *Dreamaker.io* enhances users' awareness and trains cognitive skills specific to Processwork.

Video Analysis Made Simple and Fun

Dreamaker.io dramatically simplifies the process of audio and video analysis, allowing the analyzer to immediately focus on the task at hand rather than getting bogged down in technical and operational issues.

The complexity of handling media formats is done by the app and hidden from the user, creating a seamless experience. The user simply uploads their file and clicks on it to begin analysis.

Analyzed data is automatically saved and co-located with the media in an intuitive and clean layout. The analysis automatically opens when the user opens the associated video. If the user is only interested in watching the video, or does not want to preview the analysis, they can watch the video in full screen mode.

The media player's analysis-specific controls make it simple to repeatedly and incrementally watch, or skip past, segments of the video and to vary playback speed. These controls are advantageous even for simply using the player to watch or listen to recorded sessions.

Because timecodes are automatically recorded with the Tagging of each event, one click of a button replaces the multifaceted task of taking note of timecodes and returning to events.

Although recording video or audio sessions always requires the client's permission, *Dreamaker.io*'s permission-based access, and automatic encryption of media and analysis, makes it arguably safer than storing and sharing this data on electronic devices or as notes in journals or files. This ability to encrypt analysis from video study is particularly revolutionary for protecting sensitive client data. Knowing this level of security is in place to protect client, therapist, and supervisor enables a sense of confidence, relief, safety, and ease.

Multifunctional

Dreamaker.io can be used to study both audio and video. It is being used by seminar organizers, researchers, supervisors, supervisees, schools, faculty and students of Processwork, in formal programs, and outside of formal programs. It is being used in the following areas:

- Studying the client, the therapist, and the self
- Studying and reviewing interventions, skills and signals
- Acquiring skills
- Storing and sharing media and analysis securely and confidentially
- Engaging in peer learning
- Deepening peak moments experienced in personal therapy sessions

The following subsections elaborate on four additional areas in which *Dreamaker.io* is being used with specific regard to Processwork: *Collaboration*, *Research*, *Supervision* and *Archiving and Replicability*.

Collaboration

The cloud-based collaborative aspect of *Dreamaker.io* is particularly useful to the global Processwork community in which students, faculty, and supervisors are often located in different regions, states, and countries. This enables online and distance classes and peer learning, collaborative research, and streamlines the process of collating and comparing analysis from multiple researchers.

The Worldwork Research Teams' use of videos to conduct separate and independent research projects with separate, independent, globally based research teams was enabled by *Dreamaker.io*. This indicates the potential for creation of rich and deep resource libraries which could be contributed to and accessed by centers of Processwork around the world.

Research

Because Processwork is signal-based, codifying analysis in a database opens new potentials for research, as indicated by the simple implementation of Filters. Combined with the collaborative features and the possibility for peer reviewed analysis, potential exists for new and ongoing development and study of Processwork.

Supervision

As noted in the literature review, using video of recorded sessions in supervision benefits the supervisee, client, and supervisor. Using *Dreamaker.io* in supervision adds further benefits, including the following:

- Provides an efficient method of preparing media for, and reviewing media in, supervision (The Playlist feature can be used to shortlist and quickly access highlights.)
- Offers the ability to add supervision notes directly into the application at key moments
- Creates convenience for supervisors in accessing videos when needed, rather than in-person (via videoconferencing or face-to-face)
- Provides a secured method of storing and sharing media confidentially in supervision clinics (Recordings can be immediately uploaded into *Dreamaker.io* and never leave the clinic.)
- Offers supervisors the opportunity to review event and time-based supervisee notes, giving insight into supervisee's interpretation of events
- Offers supervisors, supervision clinics, and supervisees an easy way to readily become HIPAA compliant
- Allows for comparative study of supervisor styles

The current use of *Dreamaker.io* in supervision indicates further potential for overcoming the limits of geographical separation between supervisee and supervisor, enabling the sharing of recorded sessions with:

- Demographically and culturally diverse supervisors
- Supervisors who have unique expertise
- Supervisors or supervisees who have relocated

Archiving and Replicability

Moment-by-moment analysis of recorded media using *Dreamaker.io* has the potential to add to the richness of archived media by recording how analysts think, increasing analysts' ability to note and review their analysis tools, and improving their understanding of how they draw conclusions.

The easy reference of archives, made possible by *Dreamaker.io*, increases the possibility of exploring new theories due to the increased amount of accessible data.

Enriching the Study, Training, and Research of Processwork

As one student claimed “*Dreamaker.io* is incomparably more useful than [traditional] video study. The level of precision is radically different, in a good way” (personal comment). *Dreamaker.io* encourages students to look for and notice signals. Tags, Markers & Notes enable detailed articulation and labeling of events, which encourages students to think about process structure. Tagging enables time and event-based precision. Overall, the app offers a structured approach to media analysis.

Dreamaker.io additionally empowers the analyst through its customizability, supports the analyst's process through its flexibility, and evokes deepened insight. The latter three benefits are discussed below.

Empowering the analyst: customizability

Students are engaged and empowered in their learning through the customizability of the analysis tools, which they can edit in response to interests and curiosities. They can expand their Dashboards - and awareness and skills repertoire - to include previously marginalized areas.

Lead researchers use the customizability to focus studies and control the analysis tools their researcher teams are using.

Supporting the analyst's process: flexibility

Dreamaker.io supports the flow of the analyst and analysis process. The app's layout, ease of use, and customizability allow for an intuitive and user-centered experience, increasing the potential to follow spontaneous thought and insight, connect signals, see patterns, and check out and verify hypotheses.

Whereas Dashboards add structure, the Notes feature was used where the Dashboards were insufficient, allowing users to type freeform thoughts and ideas as they arose. Because Notes share an equivalence with Tags, they can be categorized in the same way using Markers and/or re-categorized as Tags later.

These features achieve this app's flexibility and its unique goal of supporting a deeply-democratic (see *Glossary*), process-oriented approach to analysis.

Enhancing analysis: deepening insight

In the heuristic, self-guided atmosphere of Processwork study, *Dreamaker.io* encourages students to go across personal edges to seeing and studying themselves on video. This opens them to profound personal insight regarding the nature of their skills, interventions, and edges.

Aside from the encouragement to do video study, the color-coded Event Tags and Filters feature create a simple way to quickly draw metadata from multiple aspects of analysis by:

- Offering insight into the patterns emerging in groups, individuals, therapists, and even the video analyst
- Elucidating marginalization and bias towards certain signals, channels, and interventions
- Focusing the study, i.e., using the *Client/Therapist* Filter to focus on the client, or *Collaborator* Filter to focus a single collaborator's analysis

Enriching the analyst, enriching the processworker

Users of Dreamker.io experienced enhancement in their ability to see signals and patterns. Neuroscience findings indicate that this enhancement could be the result of exercising core brain assets and cognitive processes in the following ways:

- *Alertness and Focus:* Users reacted to signals in videos by clicking on appropriate Tags and using other analysis tools, Event Tags, adding notes, replaying and reviewing moments, all of which kept the user constantly engaged and required alertness and focused concentration. This trained the brain asset of *Alertness and Focus* and exercised the cognitive process of attention.
- *Positive Mood:* *Dreamaker.io* users reported that the app and using it for analysis was fun and felt good; they enjoyed the freedom to follow their interests and curiosities. This applies to the asset of a *Positive Mood*. (The release of the chemical dopamine is a key agent of joy and change in your brain.)
- *Learning and Remembering:* The analysis tools in the app helped users recall and practice recognizing and naming signals, skills, and interventions, all of which exercise memory-based cognitive processes. Learning and Remembering is strengthened with improved alertness, exercising control over attention, and a positive mood.
- *Accuracy:* Being able to self-review, peer review, and be supervised on recorded sessions and their analysis supported therapists to become more accurate with their interpretation of signals and applied interventions. Accuracy is the brain asset of being able to correctly interpret and remember details; reviewing exercises accuracy,

though not with the same immediacy as visual performance and brain training software applications.

Borrowing from visual performance training, neuroscience and cognitive science, the core cognitive skills needed as a Processworker can be defined as: recognition, tracking, scanning, reaction time, and response. These are defined as follows:

1. Recognition is the ability to see a signal for what it is.

In visual performance, recognition is the ability to see events early and recall them quickly and accurately. Recognition improves the athlete's judgement and therefore their responses. Recognition is the cognitive ability to recover stored information and compare it to presented information. Applied to the therapeutic or facilitation setting, the Processworker's ability to recognize signals in all channels, early and with accuracy, improves their ability to respond discerningly.

2. Tracking is the ability to maintain a multi-channel awareness of the entire process amidst the ongoing shifts in the signals.

From a visual performance and cognitive science perspective, tracking is defined as the ability to maintain visual awareness on a moving object or auditory awareness on a changing sound. For example, the ball in tennis or a guitar riff in a musical composition. Applied to Processwork, tracking is the Processworker's ability to maintain a multi-channel awareness of a signal or cluster of signals: signals occur in multiple channels and levels and they switch channels and levels throughout the course of a process. Signals also cycle and transform. A facilitator can more easily follow the process by cultivating the ability to track signals through all channels (visual, auditory, proprioceptive, kinesthetic, world and relationship). Signals can be clustered, and patterns can be

observed, enabling the Processworker to see the structure of the process and potentially even predict its flow. This meta-awareness improves the Processworker's ability to make informed responses at the appropriate time.

3. *Scanning is the ability to actively shift awareness between channels and levels and to notice signals, while simultaneously remaining engaged with the client and aware of the content of the session.*

In cognitive science, visual scanning is the ability to efficiently and actively look for relevant information in your environment. Applied to the multi-channeled and multi-leveled environment of the Processworker, scanning is the ability to gather relevant sensory grounded information in each channel and on each level, without getting distracted by irrelevant or less important signals. Coupled with tracking and recognition, scanning enables the flexibility to perceive, and fluidity to adapt to, changes in signals and the environment.

4. *Reaction time refers to the amount of time that passes between a signal taking place and the Processworker responding to it.*

Reaction time is a function of

- Perception: perceiving the signal,
- Recognition: seeing the signal for what it is, and
- Response: deciding what to do with the response; can include motor skills if the response is an intervention.

The Processworker gains more time to make decisions and respond appropriately by improving their reaction time, and therefore improving the efficacy of responses.

Dreamaker.io users reported that their ability to recognize, name, and differentiate signals improved during and after using the app. Use of the app allowed previously undifferentiated signals to be individually clarified and recognized. As noted above, reviewing video and analysis created a feedback loop for accuracy.

Because signals occur in multiple channels and on multiple levels, it can be surmised that the app improved users' capacity to scan because it improved their ability to recognize signals.

Dreamaker.io's analysis tools – Tags, Markers, and Notes - support the Processworker to track signals. Users reported that using the app helped shed light on patterns and process structure. Because the process of analysis exercises the core brain assets of alertness and focus, and learning and remembering, it can be surmised that the cognitive skill of tracking is also practiced during analysis, and therefore potentially improved.

Reactions are improved through practice. Using *Dreamaker.io*, when a signal is perceived, the user responds with a decision and motor skill – clicking an appropriate Tag – which also practices their recognition – selecting the Tag to click and adding further categorization with Markers. Adding notes adds further information to what was perceived and the stored memories for future recognition. *Dreamaker.io* enables the Processworker to study and practice at will, overcoming the restriction of practicing only on location with a live client.

Practice has additional benefits. Removed from the pressures of in-person sessions, the Processworker has more time and spaciousness, when using *Dreamaker.io* for video analysis, to scan all channels and levels. They can slow down video to study the fine details of how signals manifest, behave, and unfold. Pausing the video to ask questions, to reflect on what has happened, and to take notes, is akin to tracking a process in slow motion. This process of

unpressurized video analysis exercises the Processworker's ability to react to and recognize signals, and to scan channels and levels, while tracking the process.

Conclusion

Dreamaker.io is a highly effective and useful application for analyzing audio and video. Its usability is enhanced by the simplicity and multifunctional nature of its features. The software enriches the study, training, and research of Processwork, offering added benefits to students, trainers, supervisors, and researchers of Processwork. In these fast-paced contemporary times, it offers the global Processwork community the opportunity to easily return to the founding activities of the paradigm: deeply investigating the mystery and interconnected nature of signals, and revealing the dream maker behind them. On a very consensual level of reality, the application enables a method of structural analysis which can be influenced by the analyst's intuitive process and enhance their intuitive capacity.

Chapter 7: Evaluation and Addressing Concerns

They took the credit for your second symphony

Rewritten by machine and new technology

And now I understand the problems you can see.

Video Killed the Radio Star, Buggles

Training and Supervision

Practicing video analysis will never replace training with a live client. I cannot emphasize this strongly enough. While this paper has a focus on the use and benefit of video study to the practitioner, video study is not meant as a replacement for the practicum training. Training with live clients, engaging in live supervision, and presenting cases verbally each have their own merits and develop skills not addressed in this paper. My recommendation is a combination of live, video, and verbal case presentation.

Readers are advised to explore the standards and guidelines relevant to their discipline and location of practice for contextually relevant information regarding recommendations for supervision.

Neuroscience

A 2014 joint statement from researchers in the field of neuroscience objected to claims that software can reduce or reverse cognitive decline (Max Planck Institute for Human Development and Stanford Center on Longevity, 2014). Response from other researchers in the field made counter arguments (Cognitive Training Data, n.d.), (Henry Mahncke, n.d.). Due to the

content of this paper and subsequent scientific findings, this controversy was excluded from the Literature Review.

Findings and Results

Owing to the newness of the app, the representative sample of users and user feedback was limited in size, and limited in scope to practitioners of Processwork.

Concerns

I have two primary concerns about the app.

The first is the disparity of internet connection speeds available to users. A slow internet connection could limit the ability to upload video effectively and efficiently.

The second is that, because of its nature, *Dreamaker.io* inherently focuses learning on the auditory and visual channels. This focus on auditory and visual channels may disrupt the student's awareness of, for example, the proprioceptive channel. With further research, potential disruptions such as this can be uncovered.

Chapter 8: Contribution to other Fields

Dreamaker.io as a video and audio analysis software application was designed with the broader psychotherapeutic and group facilitation fields in mind. The customizability and flexibility of the analysis tools opens the application for use in fields and paradigms outside of Processwork and psychology, for example post production video editing and animal training.

Students, researchers, and teachers in the general field of therapy will benefit from the simple, secure way of analyzing media and from the ability to collaborate and share analysis with supervisors. The potential for online and web-based supervision will be enhanced.

Chapter 9: Suggestions for further research

The areas of the present study related to the enhanced impact on cognitive skills and awareness are based on user feedback. Conducting mixed methods, qualitative, and quantitative research on this hypothesis would be superb.

With regards to the usefulness of *Dreamaker.io*, an aspect of usefulness not specifically covered in this paper is that of its impact on the students' developmental process and progress as therapists; I recommend further research into whether the use of *Dreamaker.io*, with its unique and specific analysis tools, speed up and deepen the learning curve of the student. Research in this area will serve to understand the efficacy if the application is use in Processwork and other modalities.

Glossary

Technology Terms

app Short for application. In the context of the present study it refers to an application that runs on any device. For example, a mobile phone, laptop, computer, or tablet.

device In contemporary computing, *devices* include computers, laptops, smart phones and tables – that is, any general purpose device which accepts software.

domain name A domain name is an identification string that defines a realm of administrative autonomy, authority or control within the Internet. (Wikipedia, 2017) Examples of domain names include *.com*, *.eu*, *.net*, *.org* (Wikipedia, 2017)

.io [domain name] The *.io* domain name refers to Indian Ocean, in the same way that *.uk* domain names refer to United Kingdom and *.au* domains refer to Australia.

native refers to software natively supported on a device.

prototype A prototype is an early sample, model, or release of a product built to test a concept or process or to act as a thing to be replicated or learned from. It is a term used in a variety of contexts, including semantics, design, electronics, and software programming (Wikipedia, n.d.).

soft launch refers to the release of a new product or service to a limited audience, prior to being launched to the general public. This may involve by-invite-only signup, or limiting the public's awareness of the product with selective marketing campaigns.

transcode, transcoding is the process of converting data – in this case, video or audio files – from one format into another. In the case of *Dreamaker.io*, users can upload their media in any format (*.mp4*, *.mov*, *.3gp*, etc.) and the app *transcodes* it into a format which can be viewed

across browsers and is suitable for jumping to different locations in the video without having to wait a long time for that part of the media to load.

user experience / UX User experience (UX) focuses on having a deep understanding of users, what they need, what they value, their abilities, and also their limitations. It also takes into account the business goals and objectives of the group managing the project. UX best practices promote improving the quality of the user's interaction with and perceptions of your product and any related services (U.S. Department of Health & Human Services, n.d.).

webapp / web app An application that runs through an internet browser. Unlike traditional computer applications like Microsoft Word, *webapps* do not require downloading or installing. Instead, they are accessible via a URL through an internet browser such Google Chrome, Safari, Firefox, Edge, etc. Well known webapps include Google's GSuite of products – Google Docs, Google Sheets, etc.

wireframe A model or rough design displaying the functional elements of a website, web page, or application, typically used for planning, designing and developing.

URL A *Uniform Resource Locator* (URL), colloquially termed a web address (Wikipedia, n.d.).

Dreamaker.io Terms

analysis project refers to the video and audio files uploaded. Each video or audio file uploaded creates a unique *analysis project*.

collaborative analysis project refers to an *analysis project* which has more than one analyst working on it. That is, the project owner has invited collaborators to the project.

collaborators are the people – peers, supervisors, students – a user can invite to collaborate on their projects. Collaborators can be invited to more than one project.

Event Tag refers to an event in a media file which has been *tagged*.

Dashboards Analysis *Dashboards* are the sets of tags used for analyzing audio and video projects. Each project can have its own unique set of Dashboards, enabling the fine tuning of analysis per project and the creation of custom Dashboards for unique projects.

Dashboard Tag see *Tag*

Marker *Markers* are used to further categorize Event Tags in an analysis project. Unlike the tags which create the Event Tag, Markers are generally relevant to each tag. One or more Markers can be added to each analysis projects, and can be added or removed from projects at will without losing the associated data analysis.

Markers have editable titles and unlimited options. For example, the Marker *Client/Therapist* could include the options *Client, Therapist, Both, or Neither*. Every event will have one of these options. Another example is *Channel*, which could have the options *Visual, Auditory, Movement, Proprioceptive, World/Synchronistic, Relationship, or Composite*. Again, each event is likely to have one of these options.

Playlist The Playlist is a shortlist of Event Tags.

Tags are the buttons that make up a Dashboard. Each *Tag* has an editable title and color and can be used in multiple Dashboards and projects. Examples of Tags include *Edge, Escalation, Accusation, and Intervention*. Generally, an event will have applicable Tags, though broader Tags like *Signal* can be used as a catch-all for event which don't fit in other Tags.

tagging While analyzing a video, the process of clicking on a Tag when an event occurs is called *tagging*. *Tagging* events in the video creates an editable list of Event Tags.

Processwork Terms

channel is a sensory, motor, or relational means through which perception, experience, or communication of experience occurs.

consensus reality is one of three realms identified by Arnold Mindell, the other two being *dreamland* and *essence*. “The everyday world of time and space that is generally agreed upon as real is perceived through every day awareness,” (Diamond & Spark Jones, 2004, p. 13) like facts, issue, history, conscious problems and ideas and diversity of people.

cycling is when a signal or group of signals recur during a session. Signals cycle and often escalate when they remain unaddressed.

deep democracy Deep democracy is awareness of the diversity of people, roles, and feelings, and a guesthouse attitude toward whatever comes to the door of one's attention (Mindell A. , 2002, pp. 24-25). In practice, deep democracy is a proactive process of including all this diversity and the diversity of the levels of reality.

1st (first) attention is the awareness used to perceive consensus reality (Diamond & Spark Jones, 2004, p. 23).

2nd (second) attention perceives the unintended, often irrational experiences that are ignored by the first attention (Diamond & Spark Jones, 2004, p. 23).

dreambody is a unifying field giving expression to dreams and body symptoms alike. Arnold Mindell describes dreambody as:

A description of the experience we have of our bodies, occurring when we relate images to body feelings and symptoms. The dreambody is usually experienced as a disturbance to the real body and first comes to awareness in the form of symptoms. (Mindell A. , 1989, pp. Kindle Locations 1646-1647)

dreaming process refers to a dream-like, unifying field that gives expression to conflicts, moods, complexes, relationship disturbances, body symptoms and dreams alike.

dreamland refers to the world of dreams, projections, emotions, fantasies, and the like (Diamond & Spark Jones, 2004, p. 13). Includes various figures, feelings, roles, things or people that are spoken about but not directly present or represented.

feedback provides information about a person's process [in response to an intervention], pointing to the next stepping stone in the process of accessing the dreaming experience (Diamond & Spark Jones, 2004, p. 26). *Feedback* is value neutral – i.e., feedback is neither 'wrong' nor 'right', but rather indicative of how effective an intervention has been.

flirts, flickering signals refer to signals which barely cross the threshold of perception (Diamond & Spark Jones, 2004, p. 24); can be noticed fleetingly, but do not persist long enough or strongly enough to be objects of focus (Diamond & Spark Jones, 2004, p. 24).

edge is the limit of the known and the unknown identity as well as a point of contact with unknown experiences or identities (Diamond & Spark Jones, 2004, p. 20). The concepts of *primary* and *secondary* process and the *edge* offer a conceptual framework for tracking experience and organizing perceptual information (Diamond & Spark Jones, 2004, p. 20).

essence level is the non-dualistic, non-local, sentient level of experience connecting all of us and which gives rise to everything else.

extreme state refers to the relativity of 'psychotic' states of consciousness. "[Mindell] saw extreme states in a value neutral way, as alternative states of experience rather than as fixed, pathological conditions." (Diamond & Spark Jones, 2004, p. 9)

group process is a way for groups to work on their identity, internal conflicts, disturbances, and overall development (Diamond & Spark Jones, 2004, p. 11).

innerwork refer to self-therapy (Diamond & Spark Jones, 2004, p. 7).

meta communicator refers to the self-reflective capacity to notice, organize, and report on one's experiences (Diamond & Spark Jones, 2004, p. 28).

metaskills, meta skills are feeling attitudes or skills which "permeate and shape all the therapist's apparent techniques" (Mindell A. , 1994, p. 15). They can be studied and cultivated.

open forum refers to group meetings which "are structured, person-to-person or cyberspace, space, democratic meetings, in which everyone feels represented. Furthermore, they are facilitated in a deeply democratic manner, which means the deepest feelings and dreams can also be expressed." (Mindell A. , The Deep Democracy of Open Forums, 2002, pp. (Kindle Locations 97-98))

primary process refers to those experiences that are better known and closer to a person's sense of identity (Diamond & Spark Jones, 2004, p. 20); conveys intended communication through language and deliberate postures (Diamond & Spark Jones, 2004, p. 23).

Processwork, process work, (also known as process oriented psychology) is "An awareness discipline with applications across a variety of domains (Diamond & Spark Jones, 2004, p. 15). These domains include working with individuals, relationships and groups and includes coma work, body work, dream work and work with psychiatric patients. "Process-oriented psychotherapy is more than just psychotherapy; it is a methodological approach to observing the complex and subtle interactions of perception and behavior in human beings in a manner which makes the results of that observation directly accessible to those people being observed. This sort of observation requires a degree of accuracy not usually found in psychotherapy." (Goodbread J. , 1997, p. 30)

process refers to the flow of signals in channels over short periods of time, and the changing experiences of identities throughout a lifetime (Mindell A. , 1989, pp. Kindle Locations 1659-1661); the change in what we observe, the flow of signals and the messages they carry (Mindell & Mindell, pp. 9-10).

process structure is a self-generating, fluid framework that enables a facilitator to unfold a process by identifying its various emergent parts, particularly those that serve as “dream doors,” or ways of engaging with and going deeply into a dreaming process (Diamond & Spark Jones, 2004, p. 39).

Processworker refers to a practitioner of Processwork who has been certified by the *International Association of Process Oriented Psychology* (IAPOP), also referred to as a Processwork Diplomat.

process oriented psychology see *Processwork*

secondary process refers to those experiences that are further from one’s sense of identity (Diamond & Spark Jones, 2004, p. 20); conveys unintended communication nonverbally in body postures, gestures, and movements – in speech patterns that hold implicit meaning and in paralanguage (including tone of voice, rhythm, volume) (Diamond & Spark Jones, 2004, p. 23).

teleological is the idea that dreams and other events or disturbances such as body symptoms, accidents, synchronicities, and coincidences all have meaning and purpose.

tracking refers to the following of signals and process as they move, shift, and change channels and levels during a Processwork session.

signal, signals refers to “intended and unintended communication [which] consists of numerous ‘signals,’ or pieces of information. Signals may be easily perceptible [to the senses] or hard to detect.” (Diamond & Spark Jones, 2004, p. 24)

Other Terms

HIPAA Health Insurance Portability Act of 1996 is United States legislation that provides data privacy and security provisions for safeguarding medical information. HIPAA mandates industry-wide standards for electronic healthcare information and requires the protection and confidential handling of protected health information.

neuroplasticity is an umbrella term referring to the many ways in which the nervous system, including the brain, can change. Regarding the brain specifically, it refers to the brain's ability reorganize itself, both physically and functionally, forming and reorganizing synaptic connections with each different activity it performs. This ability of the brain to change itself continues throughout life.

Appendix 1: Informed Consent

Before video or audio recording client sessions, the client's permission must be obtained in writing.

With growing computer literacy and concerns around computer hacks and viruses, it is vital to communicate with the client details of how recordings will be made, transported, uploaded, or shared with the supervisor (and if in group supervision, other supervisees). These details should be shared both in writing and verbal communications during the informed consent process with clients (Renfro-Michel & Rousmaniere, 2016).

This detailed communication is vital to the client being able to make informed decisions and give informed consent (client autonomy). Sharing these details and the steps being taken to protect the recording of the client's information are important in developing their trust in the counselor and the counseling process (beneficence), and to preventing harm (non-maleficence) should the client's personal information be breached.

For example, a client may give consent to being video recorded and these sessions be shared face-to-face with the supervisor alone, but allow for audio recordings only to be shared in an online group supervision. In both cases, the client may consent to videos being uploaded to a HIPAA-compliant, cloud based video analysis platform.

Appendix 2: Feedback Questions

Twelve users were asked to make comments regarding their use of Dreamaker.io in the following areas. Feedback was received through the in-app messenger, email and live interviews. The initial sample included students only. The questionnaire was later extended and adapted for researchers and supervisors. See *Chapter 5* for results.

1. Areas being used for (Worldwork research, supervision, self-study, individuals, relationships, etc)
2. Ease of Use
3. Usefulness in analyzing video/audio
4. Impact on learning about client / group / facilitators / supervisee
5. Impact on understanding the group
6. Impact on analyzing session, process structure, etc.
7. Impact on learning about self
8. Usefulness for supervision
9. Usefulness in working with remote students/faculty
10. Impact on everyday life, if any
11. Impact on work with live clients, if any
12. Anything else you'd like to share, good or bad :)

Appendix 3: Informed Dreams

Personal Myth

In Processwork, one's personal myth is derived from the earliest childhood dreams and/or memories. The myth indicates key energies or patterns which will be encountered through-out the course of one's life.

In my earliest childhood memory, I am sitting with my mother while she shows a friend a photo album. The photos are sepia stained, old Polaroids. She points out a photo of a baby in pram and she says it's me. Although five years old at the time, I feel wrenched out of a dream, pulled into 'reality'. I am suddenly and stunningly brought into awareness that *that is me*, that I am an *I*, a person, as if prior to that moment I had no awareness self at all.

The key energies and duality of metaphorically being in dreamland, awake to that reality but asleep to consensus reality, and being in consensus reality, awake to that reality but asleep to different realities, are poignantly symbolized by the commonly used Chinese Taijitu³, the modern "yin-yang symbol".

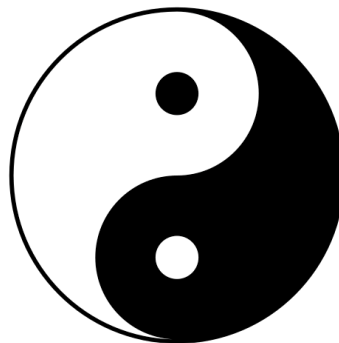


Figure 10 Modern "yin-yang symbol"

³ A taijitu is a symbol or diagram in Chinese philosophy representing Taiji ("great pole" or "supreme ultimate") representing both its monist (wuji) and its dualist (yin and yang) aspects.

Choosing an Final Project Advisor

In the dream I am peering through a television or screen – as if I am *inside* the television peering out – at a session taking place in the office of Ingrid Rose, a faculty member at PWI. The screen is on the carpeted and floor and Ingrid kneels down in front of the TV and peers back through the screen at me.

The dream cemented my choice of Ingrid Rose as final project advisor. We later worked on the dream together, in her office, with a role play: I lay down on the carpet and pretended to peer through the TV. Ingrid in turn knelt down close by and peered back at me, face-to-face. What unfolded was a process of being intimately seen and acknowledged, enhanced by our shared identity as South Africans.

At the time of working on the dream my final project was going to be a creative writing piece. Little did I realize the significance of the dream – that my final project would evolve into an app which enables students, therapists and supervisors to intimately study themselves, their clients, and their shared field. At the same time, creating the app and completing the present study has enabled me to feel intimately seen by the processwork community.

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Each ones of these films show a reality like ours, but not ours. You learn an awful lot watching these films. Some of us are just the same, rotten or kind in one reality, rotten or kind in the next. But most people are different depending on whether they have food in their belly or they're hungry, safe or scared.

The Man in the High Castle/Hawthorne Abendsen