DESIGNING THE ENHANCED STUDENT EXPERIENCE IN DESIGN INSTITUTIONS

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1. INTRODUCTION-

The education mission of college and university is multifaceted – on the instructional side, the design program aims to deliver rich, broad range formal foundational, aesthetic and analytical knowledge and skills – while ensuring that student success rate is at its highest. Apart from the conventional measure of student success, measured by formative and summative assessments, there is now a great deal of focus on student's mental well-being and on the psychological attributes. A recent study by Beiter *et al.*, correlated stress, anxiety, and depression with academic performance and showed that the pressure to succeed and post-graduation were the main concerns of students during their academic years. (Beiter, et al, 2015)

Design cohort shares these commonalities, and on top, students experience creativity, originality, problem-solving and artistic challenges. The current pedagogical approach in design schools results in high pressure on the students. Students are constantly worried about submissions, concept generation, time-management, and, are all the time questioning their self-worth, causing the student undergoing stress, depression, and burn-outs. During this the creativity is phased out, and, blandness enters in both their mind and in their creative output. This becomes a question of their well-being vs. work performance. All-nighters are a common practice, caused by procrastination and creative blocks.

Universities offer academic support in the form of student success centers so students can become confident and independent learners. The center spaces provide a friendly, inviting space to study, learn and collaborate. Typical examples of such resources are the math center and writing center, which help students with math homework and writing resources. The challenges faced by design students differ from those conventional subjects of study. The field of design requires creativity which can stem from many stimuli in the surrounding world. Creativity lacks specific form and structure – it is indefinable – hence challenging to solve and address.

The aim of this paper is to research and identify challenges faced by design students during their academic term along with their psychological state as it relates to the design/learning process, and, to offer a platform for attaining sustainable and enriched student experience in the design field. The methodology uses current and modified theoretical and methodological research and work analysis to understand and build supporting design a system that enhances the student academic experience. The

new approach discussed here focusses on multiple aspects of user-encountered problems and how with Participatory & Service design-solutions can be obtained. The paper is structured as follows: in section (2) we describe our data-collection method to generate a list of pain points identified by students as the opportunity areas of improvement in their design education; in section (3) we describe an application named “design therapy” which is the proposed solution to help students have a better, positive and healthier student experience, followed by summary in section 4.

2. METHODOLOGY AND APPROACH

The present work uses three different methodologies to collect data on students experience during their learning years at the university. The first dataset spans many generations of designers, ranging from design students educated in the 1970s till present. The primary focus of this study was to gain insight into the evolution of the learning experience at the university. The second method was game based creative visual survey to obtain information about student’s problem-solving design process. This survey provided data to identify common problem areas, creative and psychological obstacles where intervention might be focused during the design process. The third approach looks into the “why” – and focused on identifying the reasons behind the common problem areas detected from the second method. Personal interviews were conducted which resulted in some common themes – namely – time management, experimental studies, personal well-being, education in-line with current trends and technology and financial security.

The research conducted, as described above, resulted in an app designed for students to provide “therapeutic” support pathways named “design therapy”.

2.1. SUBJECT PERSONAL INTERVIEWS

People in the design education field were interviewed ranging from students to professors. The questions were designed to gather data on generational differences in style, content, …. In the area of design education. The interview questions were based on:

1) Demographics
2) Classroom structure
3) Resources
4) Size of the classroom
5) Curriculum

The interview had 25 questions.

Participant’s answers were transcribed and coded to understand the similarities and differences between shifts in the design education and students educational experiences ranging from the 1970s to present. The data showed that design education, a few decades ago, was mainly a communal study – students from various design disciplines (furniture design, industrial design, product design, art) were confined in a common creative space which resulted in a frequent exchange of ideas and inspired creativity from fellow students. The current education model is highly specialized and project oriented and lacks exposure from other unrelated design areas. Due to lack of technology in the earlier days, the design process was more

“hands-on” as compared to current technology-based society which tends to be forgiving to the design flaws and allows massive throughput of design solutions to choose from.

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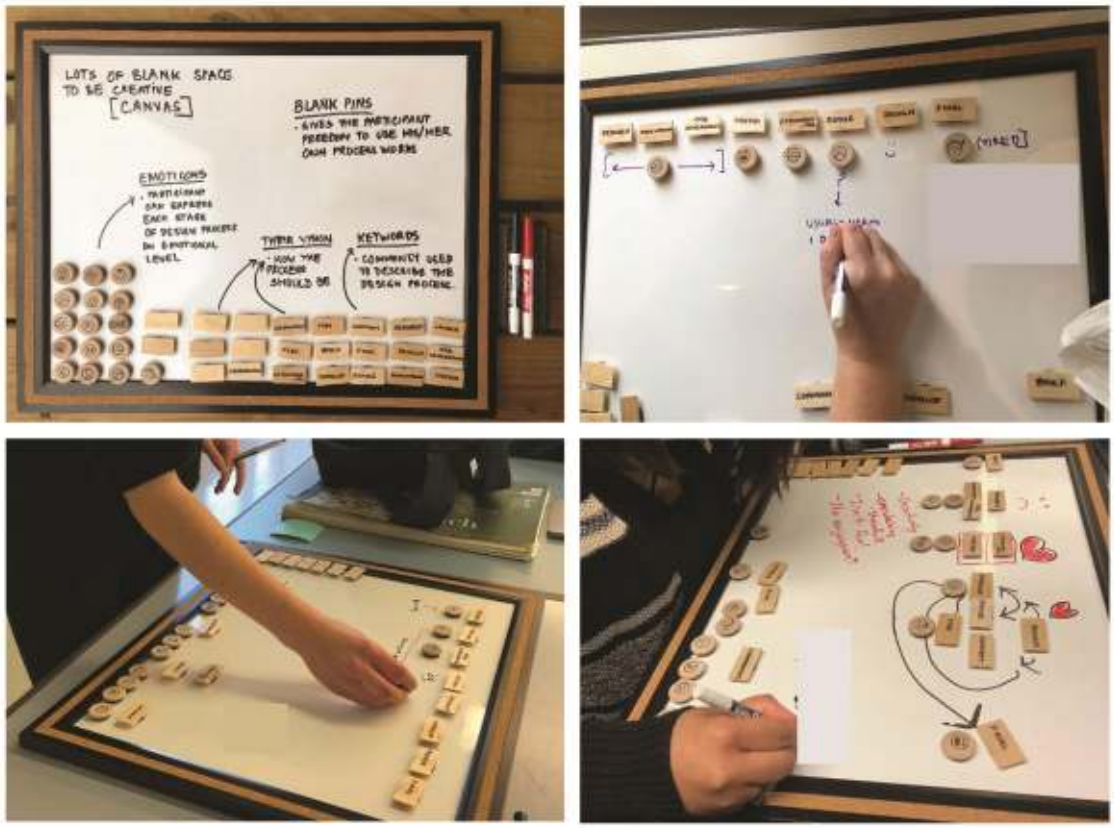

Figure 1: Student process journey-multi layered approach

2.2. MULTI-LAYERED STUDENT PROCESS JOURNEY

To gain insight into the journey students go through in a design process, we adopted “User Journey Map” method of Kumar to generate a “game-board” style visual user response tool. We first generate a list of all the activities throughout the design process, Namely, sketch, revise, develop, final, design, research, launch, play, brief, fun, workshop (in no particular order); as shown in Figure 1. (Kumar, 2013) Students were asked to arrange activities as nodes in a timeline/flowchart style depicting their design process. Figure 1, shows sample activities timeline of three different subjects. For example, one student arranged the activities as follows: Research -> Benchmarking -> Idea generation -> Sketch -> Experimental -> Revise -> Design -> Final.

After the completion of nodes on design process timeline, the students were asked to use a set of emoji to identify “pain points” and depict their mental state at appropriate node points in the process.

The emojis used for identifying the “pain points” covered a broad emotional range, from smiling/happy, sad, angry, etc. as shown in Figure 2 (left panel). The placement of emoji on the design journey node points by individual subjects is shown in Figure 2 (right panel). The names of students have been

redacted to protect their privacy. The circled emojis in Figure 2 indicate the common node “pain points” experienced by students during their design process journey. The data showed that the universally perceived “pain points” for the students were (a) Research (b) Idea Generation (c) Revise/Iterate, and, (d) Develop – as shown by color-coded circles in the right panel of Figure 2. This approach thus helped identify opportunity areas in the design process journey where help and support are desirable

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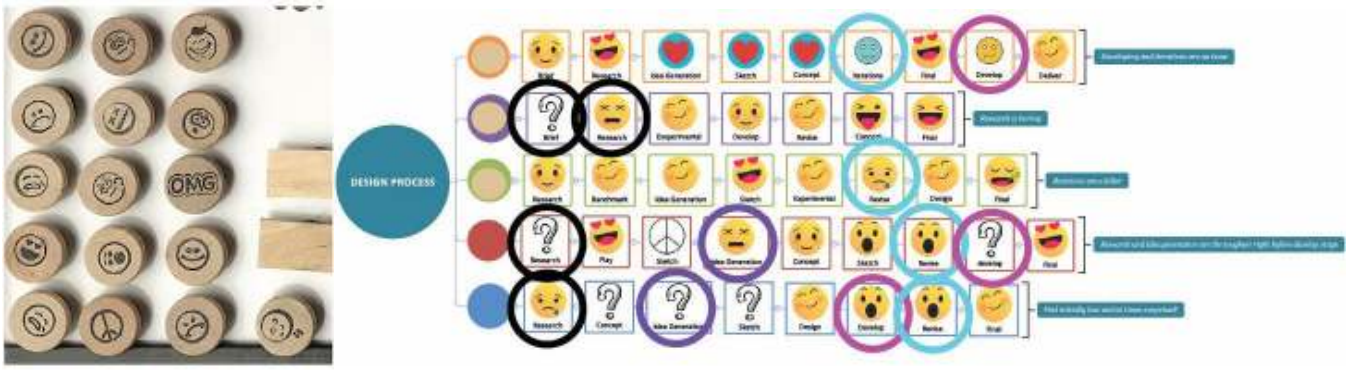

Figure 2: Emoji’s taking over the emotional aspect of the solution answers

2.3. FINAL STUDENT INTERVIEW AND MULTI PROBLEM SOLUTIONS DIAGRAMING

After identifying the pain points of the design process, final interviews were conducted to identify the pain points in students academic program, for example, a student might be unhappy with how course is being taught, or students might find certain topics irrelevant, or, too much work is being assigned and there may be unreasonable expectations. Interview consisted of the following questions-

1) Listing all the things they thought were hindering their student experience
2) What could be done to solve the above-created list- point by point

The data collected by this interview questionnaire was overlapped with multiple student answers to gauge the most common overlapping points. The main points were grouped into six main categories. Each category contained three solutions/requirements/needs/issues that were stated by the students, as shown in Figure 3. The groups were:

1) Time management
2) Hands on experience
3) Wellbeing
4) Maker/thinker
5) Exposure
6) Finance/freelance

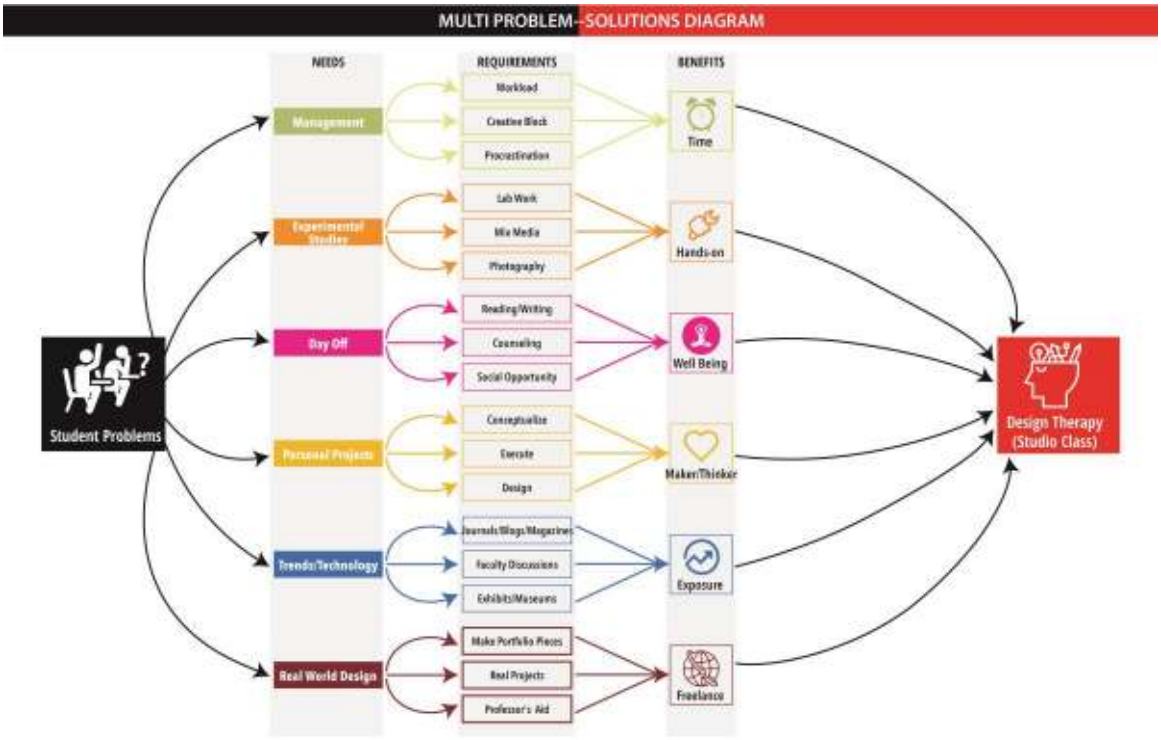

Figure 3: Multi problem networking solutions

3. RESULTS: MULTI PROBLEM NETWORKING APPLICATION

To offer students enhanced learning experience and to address the pain points identified for the design process and in their academic experience an application titled' design therapy' was designed. Screenshots of some possible scenarios are shown in Figure 4. Students interact with the app, starting from what the need is, making a series of selections, to get to a solutions option of their choice.

A possible scenario is depicted in Figure 3. Supposedly the student is working on a design project and has a creative block due to intense stress and anxiety. The user logs into the application, where prompts help the user to select the topic of the current pain point. Upon initial selection, the user is guided through multiple possible solutions whereby each selection made by the user with the help of the networking, narrows down on the solution of the particular issue. For the current scenario, a meeting with the professor to discuss their creative block is deemed optimal. The navigational flowchart of the app happens as follows:

Login>
How can I help you?
Prompts-

1) I am feeling…
2) I need help with
3) Categories

Selection- I need help with- prompts

1) Time management
2) Experimental studies
3) Wellbeing
4) Creative block
5) Catching up with trends
6) Projects

Selection- Creative Block-Prompts

1) Unplug and read
2) Engage in faculty discussions?
3) Try social opportunities?
4) Talk with your peers?
5) Go to events and exhibits
6) Try the lab?

Selection- Engage in faculty discussions- Prompts

Who would you like to talk to

1) Prof Roller
2) Prof Trauth
3) Dr. Rebola
4) Prof Wizinsky
5) Prof Vogel
6) Prof Seward
7) Prof Michaud

Selection-Dr. Rebola-Prompts

When would you like to schedule meeting with Dr. Rebola?

Enter time

Meeting set!!

A video of the above in action is available as Design Therapy application video at https://youtu.be/GJhcMi4pdbk

The proposed solution, an App, is an easy and effective way to identify the pain point and navigate to the solutions in a simple and effective manner. In cases where there are multiple problems to deal with, intense networking is used to resolve the issue. Visual diagrams can get confusing for the user to follow through, however, Applications results in systematic and step-by-step solution outcomes. They are neither as abstract as the words that we use in our language system nor as real as a photograph or a scale model that we use to represent something realistically. Application design is an effective tool not only to illustrate solutions but also to generate them

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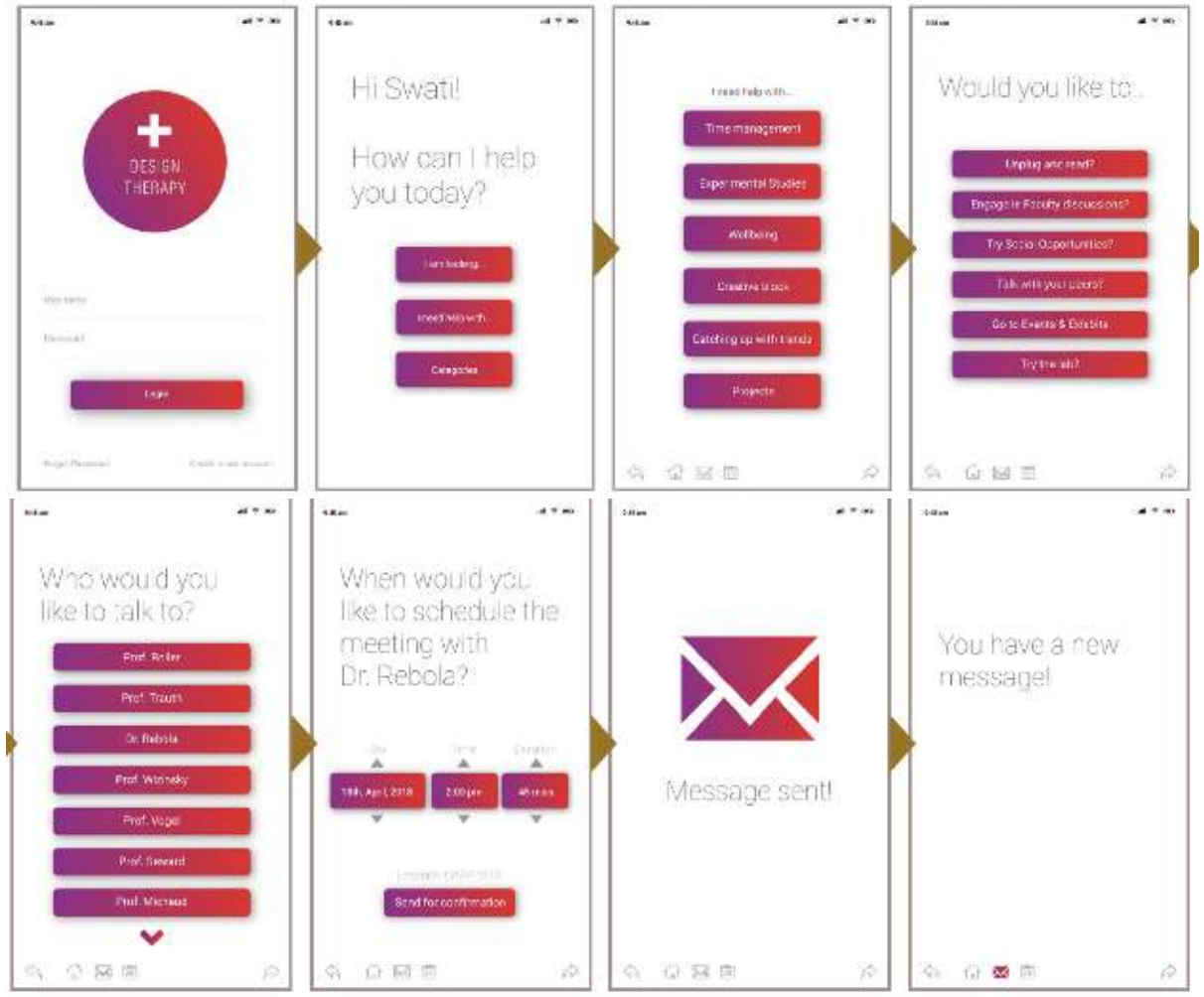

Figure 4: Multi problem networking solution

4. SUMMARY

Three methodologies were used to collect data on student's design process journey and on their students academic experience at the university. Data was collected from many generations of designers, ranging from design students educated in the 1970s till present to gain insight into the evolution of design education. The second method was a game based visual-survey to identify pain points in the problem-solving design process overlaid with psychological obstacles where intervention might be focused during the design process. The research also focused on identifying the reasons behind the common problem areas and personal interviews were conducted which resulted in common pain points such as time management, experimental studies, personal well-being, education in-line with current trends and technology, and, financial security. An application titled- 'design therapy 'was designed as a proposed solution to offer help to the students to maintain a balanced, steady & healthy life both for the personal and professional wellbeing. The application is a selection-based input resulting in solutions which are tailored for users' specific need.

5. REFERENCES

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