StressEraser

A smart calendar tool that learns and tweaks your daily plans for a more efficient and healthy schedule.

Team

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Problem and Solution Overview

Stress is something every student encounters throughout their college career. While there are many existing methods for managing and dealing with stress, they often require a third party and are expensive while an option at the hands and convenience of individual is overlooked. Our proposed solution aims to create some platform that utilizes CBT (cognitive behavioral therapy) and technology that could be used independently or in conjunction with a therapist or some other method to alleviate stress in its users.

Design Research Goals, Stakeholders, and Participants

Stakeholders

Initially, the stakeholders we thought we would target were undergraduate pre-STEM majors. We chose this group as our target stakeholders because we thought that with the growing competitive nature of pre-STEM majors, the students applying to the related programs would have high levels of stress and anxiety and given that we are all in a STEM major ourselves, we would have more access to potential candidates to interview.

Research Methods and Goals

For our research methods, our team decided we could learn about what stresses students out best by talking to them. This led us to use interviews as our main research method, rather than contextual inquiries or another method. The types of questions we decided would be best to ask our interviewees were questions that would give us insight into the variables that may have had an impact on the subject's automatic thoughts; variables like location, occasion/situation, automatic thoughts, reactions, and recurrences.

We also decided to perform a brief literature review to get a stronger fundamental understanding of CBT in both the methods used in CBT and its purpose. We figured it would

be easier to formulate interview questions and interpret the corresponding answers if we had a better understanding of how CBT actually worked.

Participants

We were able to conduct four interviews on students that were either currently in a pre-STEM major, or had recently been accepted into a STEM program and still had the experience fresh in their minds.

Participant 1 - **Johnny**. Johnny had recently been accepted into the Information school and was trying to figure out which focus he wanted to take in the program.

Participant 2 - **Jackie**. Jackie is a 2nd year undergraduate at UW and is a current double major in economics and mechanical engineering. He had recently been accepted to Mechanical Engineering as his second choice to Computer Science.

Participant 3 - **Tiffany**. Tiffany is a senior in HCDE planning to graduate in Spring 2018.

Participant 4 - **Garrett**. Garrett is a junior in HCDE planning to graduate in Spring 2019. This is his first quarter in the program. HCDE was his first choice of major.

Design Research Results and Themes

After conducting our interviews and looking over the data we had collected we realized we needed to reevaluate the target stakeholders and proposed solution we had previously decided on. The "themes" that we were able to pull from our interviews were too high level to make any actionable tasks off of and were also too unrelated to each.

We needed to hone in on a single high-level theme that we were able to pull from our data, redefine our target stakeholder group and how that fit into a new solution, and then gather more research so that we could get more concrete and low-level data to work with.

The high-level theme we decided to go with was stress caused by an overwhelming schedule, and the work that comes with it. As a result, we thought it made more sense to make our target stakeholder group: students that are stressed because of their overwhelming schedule. This target stakeholder group was an important change in direction of our project because it allowed us to switch our focus from addressing the different types of things that stress out pre-STEM majors to alleviating stress that is caused by an overwhelming schedule.

This changed our proposed solution because we were no longer focusing on making a platform a digital CBT platform and instead a platform that simply alleviates the stress of our new target stakeholder group.

After making this switch in stakeholders, we performed a follow-up interview to look deeper at the stress caused by an overwhelming schedule and had much better success in gathering lower-level data. We found that there are layers to the sensations of being overwhelmed and stressed. At the top, students feel the need to perform well in all of their courses to maintain a high GPA. Consequently, this gives them a busy schedule which can be hard to manage. Additionally, it forces them to spend a lot of time on subjects they may or may not care about at all (the latter case being another cause of stress). This leads into the next layer of stress and overwhelming feelings. Students feel the need to keep a high GPA in the first place because they want to keep potential options open. Why? Because they are unsure about what they want to do. Because of this uncertainty, students find it hard to prioritize their time and end up feeling overwhelmed.

Task Analysis Questions

After redefining our problem scope and stakeholders, we were able to better answer the task analysis questions:

1. Who is going to use the design?
   The people who are going to use our design are students who feel stressed out either in part or fully because of how overwhelming their schedule is.

2. What tasks do they perform now?
   The tasks that are currently performed are creating a school schedule at a minimum (others create calendar with non-academic dates and events)which involves choosing classes. Attending scheduled classes, events, etc. Doing assignments, tests, projects, etc.

3. What tasks are desired?
   One desired task is to figure out what they want to do in their future. Another desired task is to spend less time working on things they don't care about.

4. How are the tasks learned?
   The tasks current tasks aren't so much learned as just simply performed. The desired tasks are learned through a review of the person's data.

5. Where are the tasks performed?
   The tasks are performed on campus for classes, anywhere with a mobile device or computer for scheduling, and any location where an activity is scheduled for non-academic related dates.

6. What is the relationship between the person and data?
   This question is different for our situation, because our in our proposed design, the

person creates their own data via feedback that is then used to help them complete the tasks they currently do, and their desired tasks more efficiently.

7. What other tools does the person have?
   The person currently has canvas and the UW registration system for their classes and applications like Google Calendar for all things not in their school schedule. They also have physical paper, and digital notes to record data.

8. How do people communicate with each other?
   In this context, there aren't really people communicating with each other. But if there was for some reason communication for scheduling it would happen over an email or in person.

9. How often are the tasks performed?
   Scheduling for classes happens once per quarter but scheduling personal dates and events can be up to multiple times a day to as little as once every several months.

10. What are the time constraints on the tasks?
    For any schedule or time management, the task must occur before the actual event happens or else there is no point. This is dependent on how often a task is performed. It could be within minutes or weeks even.

11. What happens when things go wrong?
    In this context the person experiences feelings of being overwhelmed and resulting stress!!

Updated Tasks

1. Johnny likes the design school and what it has to offer but he often finds himself invested in certain classes a lot more than others, and finds it hard to perform well in the other classes he isn't as interested in. As a result sometimes his performance is those classes suffers and as a result lowers his GPA which stresses him out. He wants there to be a way to take classes that are related to each other in a more direct way so that what he learns in each class can help him in the others, and as a result he will perform better.

2. Johnny understands that there are department elective requirements that he can't avoid taking; classes that vary in topic. While these classes do offer a brief description in the course catalog, he only has a surface level of what the classes might be like from reading their descriptions and doesn't know if he will be willing to invest a lot of time into them. He wishes there was a way to review his experiences in past classes and
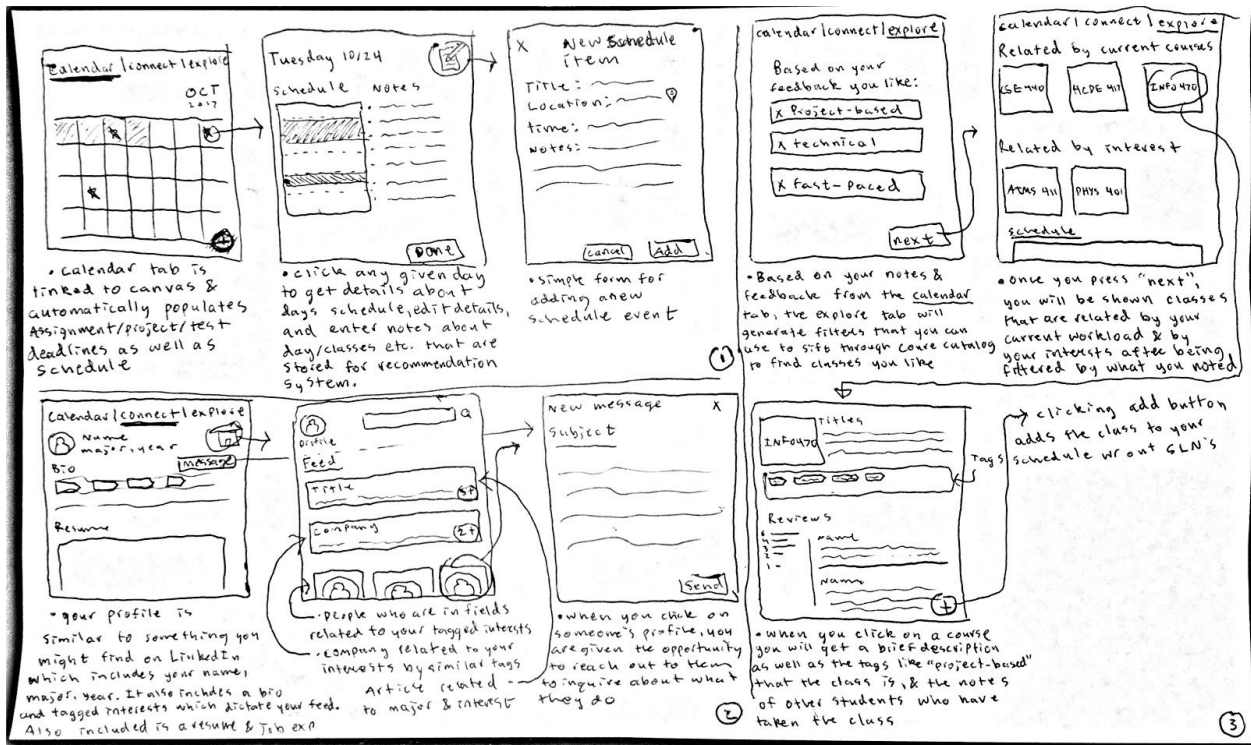
compare the things he liked and disliked about them to the new classes he is considering taking to make sure they are relevant to what he enjoys and is interested in.

3. Sometimes what Johnny is interested in and fully wants to invest his time in isn't offered by a course. In these situations he finds himself putting a majority of his time into his interests and then doing his schoolwork last minute to turn it in on time. These situations stress Johnny out because he knows he isn't turning in his best work, or even quality work for that matter, but finds it hard to care because of his lack of interest in the subject. Johnny wants a way to structure his schedule such that his personal interest needs are met while he is turning in quality work.

4. Johnny often finds himself in a situation with a class where he is really enjoying what he is learning and is very inspired. Unfortunately, at the end of the quarter, he finds himself with a whole new schedule, and the vast majority of the time, the courses he is now taking aren't at all building on what he enjoyed so much last quarter. Johnny wishes there was an easy way to view other classes either within or outside his discipline or department that built on what he learned in the previous quarter, or at a minimum point him towards resources that he could pursue in his own that would help him work towards the goals he wants to achieve for himself.

5. Johnny is very opinionated. He has has a lot of strong feelings about what he wants to do in his life. The problem is, he becomes overwhelmed when he is trying to figure out which goals he is thinking about are actually important to him and it becomes hard for him to make a decision he is certain about that he wants to work towards. He wants a better method for organizing his ideas and thoughts so that he could synthesize achievable goals that he actually cares about.

6. Johnny has experienced firsthand that can't be certain if he is interested in a subject if he hasn't explored it thoroughly which often comes in the form of taking a class and can consequently become a commitment he does not want to make if he finds out early on he is not interested in the subject at all. He also has experienced firsthand the knowledge you can gain from others who have fully experienced something you are interested (through talking to peers, coworkers, professionals, etc.). Johnny thinks it would be helpful if he had easy access to an alumni network who are involved in topics he is uncertain he wants to invest time and energy in so he can try to find out more about what other's experience were and how he might be able to relate.
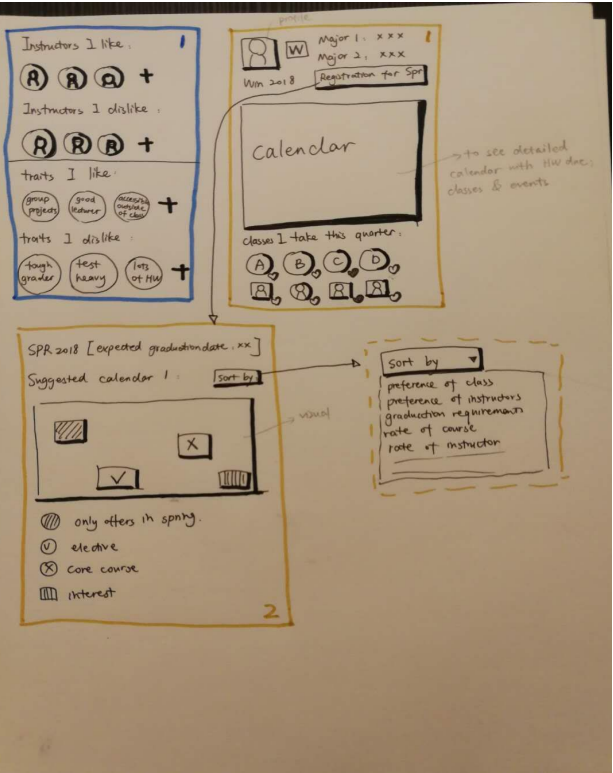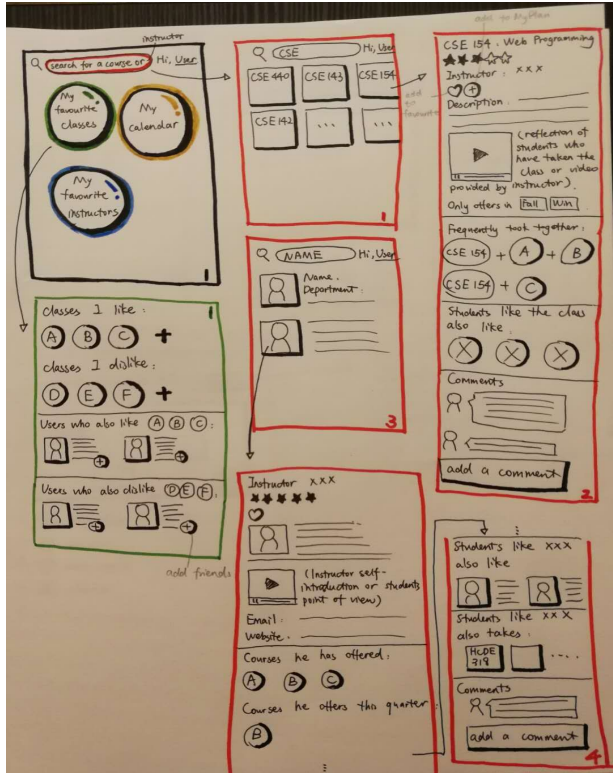
Revised Tasks

Moving forward we condensed our previous tasks into our two new tasks which are 1) providing feedback into system about what person likes and what works well for them in their schedule and 2) making small changes to schedule to improve mood (prevent feeling overwhelmed and relieve stress) based on the feedback they have entered into the system
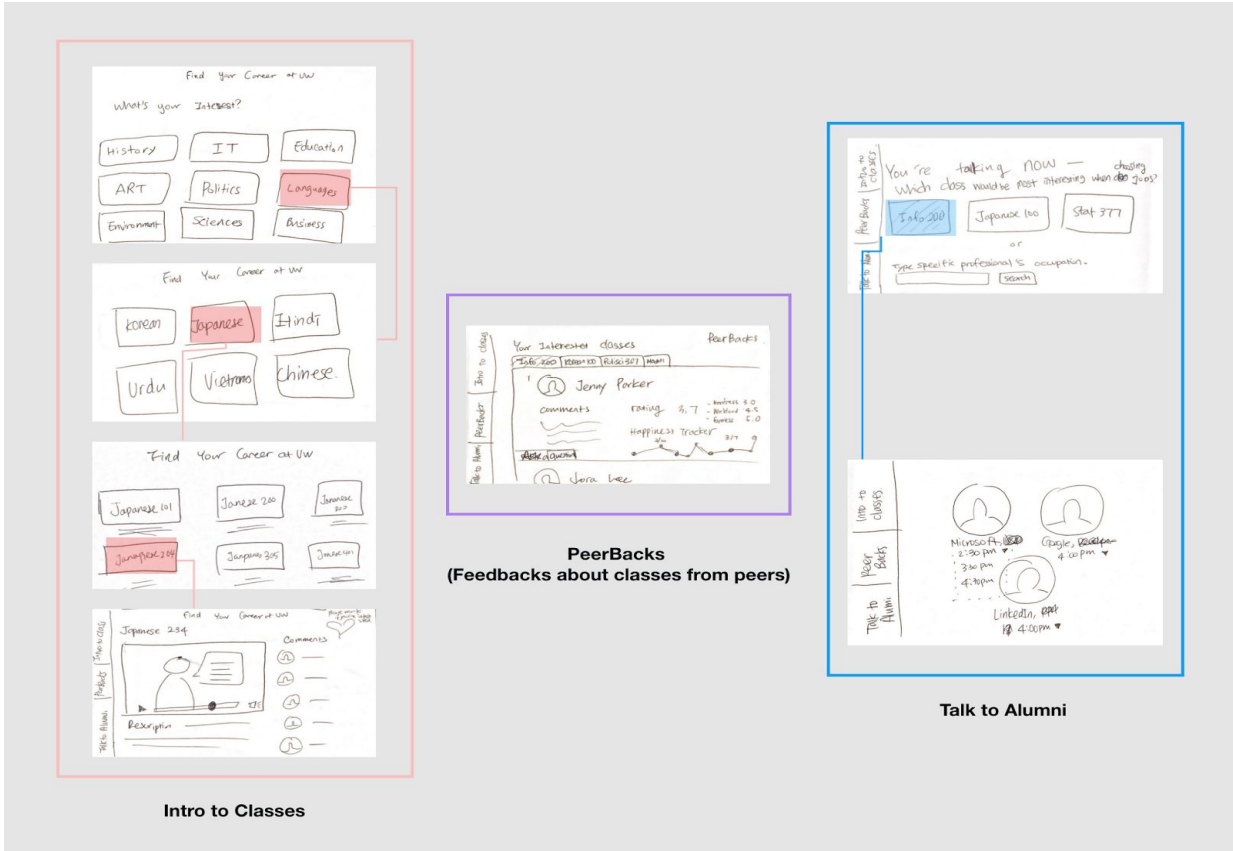
Proposed Design Sketches - "3x4"

Panel 1 (top-left): Calendar | connect | explore
OCT 2017
- Calendar tab is linked to canvas & automatically populates Assignment/project/test deadlines as well as schedule

Panel 2: Tuesday 10/24
Schedule   Notes
Done
- Click any given day to get details about days schedule, edit details, and enter notes about day/classes etc. that are stored for recommendation system.

Panel 3: X   New Schedule item
Title:
Location:
Time:
Notes:
Cancel   Add
- Simple form for adding a new schedule event

Panel 4: calendar | connect | explore
Based on your feedback you like:
X Project-based
X technical
X fast-paced
next
- Based on your notes & feedback from the calendar tab, the explore tab will generate filters that you can use to sift through course catalog to find classes you like
(1)

Panel 5: calendar | connect | explore
Related by current courses
GSE 440   HCDE 411   INFO 470
Related by interest
ATMS 411   PHYS 401
Schedule
- once you press "next", you will be shown classes that are related by your current workload & by your interests after being filtered by what you noted

Panel 6 (bottom-left): calendar | connect | explore
Name major/year
BIO   Message
Resume
- your profile is similar to something you might find on LinkedIn which includes your name, major, year. It also includes a bio and tagged interests which dictate your feed. Also included is a resume & job exp.

Panel 7: Q
Profile
Feed
Title
Company
- People who are in fields related to your tagged interests
- company related to your interests by similar tags
Article related to major & interest

Panel 8: New message   X
Subject
Send
- when you click on someone's profile, you are given the opportunity to reach out to them to inquire about what they do
(2)

Panel 9: Titles
INFO470
Reviews
name
Name
- when you click on a course you will get a brief description that the class is, & the tags like "project-based" as well as the tags like "project-based" & the notes of other students who have taken the class

Panel 10: Tags
- clicking add button adds the class to your schedule wr out GLN's
(3)

Design 1

Design 2

Design 3

Design 1 is to provide a digital interface for students to organize/explore their thoughts and goals. The three different tabs, Calendar, Connect, and Explore each allow students to manage their school/personal schedule while recording their thoughts about the process, connect with alumni to learn more about particular fields they may be interested in, and different course options that might fit more closely with their goals/interests respectively. Accessible from a computer, tablet, or even phone, students will be able to manage their school and activities efficiently preventing them from becoming overwhelmed.

Design 2 is to help students choose the "right" classes. There are four main functions in this design, which are searching for a course or instructor, my favourite classes, my favourite instructors and my calendar. The common goal of the four functions is to help students schedule their classes.

Design 3 is to provide a platform for students to choose the right classes, plan out their course schedule with a introductory video of a class, discussion board, and analysis of the class alumni's daily mood. Also, function of connecting students and alumni will be useful tool to gain insights about academic/career interest.

We decided to go with design 1 of the calendar and recommendation system choosing tasks 3 (structuring schedule such that personal *and* academic needs are met) and 5 (tracking thoughts and ideas to synthesize achievable goals and understand what users actually are passionate about). There are two components that build off each other. There's the component that allows the user to record their thoughts and ideas on their schedule that are fed into the recommendation system and there is the recommendation system itself that aids the construction of a new personalized schedule based on their feedback as well as allows the user to understand their feedback and offers tips and reminders to keep them on track. These tasks are more compelling than others because not only how directly they address the individual using the system but also because they do not rely on the participation of peers or alumni networks to be successful.

Written Scenarios - "1x2"

Task: Tracking thoughts and ideas to synthesize achievable goals and understand what he actually is passionate about. (Storyboard 1)

Angus gets up at 7:30 am and he checks his phone and find out that he has three classes in the schedule. After class, he scheduled to play tennis with James. There are about 30 mins break between each class. First class CSE 142 ended at 9:30 and he receives a notification on his phone screen says "You are having a break, want to record some of your thoughts about the CSE 142?". Angus clicked "Yes!" and then he saw a page with interactive survey. It takes him less than 2 mins to input his thoughts about the previous class.

Task: Structuring schedule such that academic needs are met. (Storyboard 2)

Angus feels really stressed and anxious when registration date is approaching. He has no idea which classes he wants to register. Angus's has been tracking his thoughts with the app for the winter quarter. According to data in the app , the app finds out Angus likes classes with "fast-paced", "programming" and "challenging materials", Angus chooses info 201 and HCDE 310 based on recommendations from the app. During the quarter, Angus has fun with the classes and performs well. He gets an average 3.9 GPA at the end of the quarter.
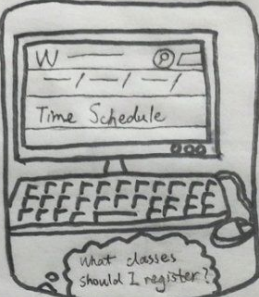
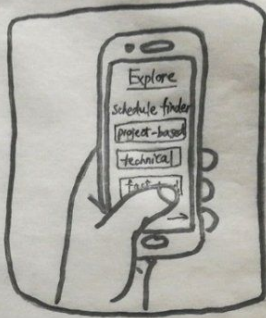# Storyboards of the Selected Design

Storyboard 1

Task Tracking thoughts and Ideas

① 7:30AM — Jenny wakes up at 7 am and checks her schedule on her phone. (3 classes)

② After first class, she scheduled to play tennis with James. — Create to do: Tennis, Time: 3:00pm, create

③ Jenny receives a notification after class.

④ She gets a notification to record her thoughts about class she just went to. (If you are on breaks, want to record thoughts about Eng 121? no / yes)

⑤ After clicked "yes", she sees a designed interactive survey and completes it.
① Did you enjoy your class? Y / N
② Scale your likeness 0 — 5 — 10
③ If said no to 1st question, what did you dislike? Answer in one sentence

Jenny gets more clear about what she's passionate about with recommendation system's help.
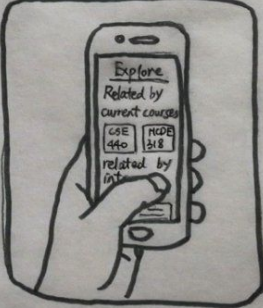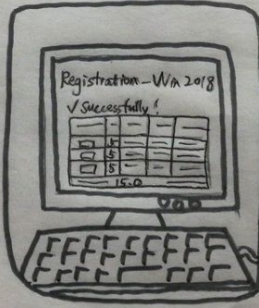
Storyboard 2

Task: Structure Schedule

① Angus feels really stressed and anxious when registration date is approaching.

② Angus has no idea which classes to register and which classes he can perform well.

③ Angus decides to use the application to help him schedule classes.

④ He chooses to find classes which are fast-paced and related by his interest based on his feedback from previous quarters.

⑤ Based on suggestions from the app, Angus chose info 201 and HCDE 310 which are fast-paced and related to "programming" and "challenging materials"

⑥ Angus really likes the classes and performed quite well. He got an average 3.9 GPA at the end of the quarter.