
Melon: Final Report

Put off your procrastination habit

Team:

Brandon Kim

Sylvia Wu

Echo Zhang

Ashley Zhou

Problem and Solution Overview

Procrastination, a tendency to delay and to avoid doing important work, seems to be a problem that frequently frustrates people nowadays. People who suffer from procrastination have trouble organizing their daily lives and achieving their goals, especially in situations that have a lot of pressure, like college or work. Even though a lot of planners and to-do list applications exist in the market, most of them are designed for people who already know how to organize their schedules. Melon, however, provides a solution for procrastinators to gain control of their time. Melon is a smartwatch application that can track the schedule, prioritize and remind users of the tasks they need to do, and a training system of breaking big goals into smaller manageable tasks to promote better work habits. It could also utilize the data to motivate the users in a way of starting on things that they have been procrastinated for a long time. With the help of Melon, we hope all people will be able to improve their ways of managing plans and overcome procrastination.

Design Research Goals, Stakeholders, and Participants

Research Goals and Stakeholders:

We chose to focus our research on students who procrastinate, though any procrastinator could be considered a stakeholder in this project. To focus on students, we chose other students at school as participants in our research. Our goal in the design research was to learn more about why students were procrastinating and what problems that caused for them, such as stress from deadlines.

Research Methods

We chose to use two methods to conduct our research: a survey and interviews. We chose these methods because the survey let us gather some objective information while interviews allowed us to explore participant's reasoning in an open-ended way. We chose these over something like contextual inquiry because it would be difficult and invasive to observe people for a long time while they work or avoid doing so.

We used the survey to collect general information about how our participants felt procrastination affected them. Here we used mainly closed-ended questions such as rating levels of procrastination on a scale. We posted this survey to student Facebook groups online to get several responses and to reach a variety of people.

In the interview, we wanted to learn more about participants' reasoning behind procrastination, what motivates them to do work, and how they organize and plan.

Participants

1. Male Junior international student studying sociology at UW
2. Female Senior domestic student studying Informatics at UW
3. Female Senior international student studying HCDE at UW

Design Research Results and Themes

One common theme among procrastinators is that deadline plays an important role in their motivation. Procrastinators will procrastinate, then start the task near the deadline. For other things like social events or personal projects, they are more likely to never start because there is not a set deadline. We found the deadline can also be a design opportunity to motivate the users, and we thought the relationship between procrastination and deadlines is worth research and design.

Another common theme among all the participants is that they all used some sort of planner or tracker, but not all are successful with them. For non-procrastinators, they feel that planners work well and they stick to the plans they make. Moderate procrastinators found planners helpful, but extreme procrastinators found that they could not stick to the plan they made so they felt planners did not work well. These planners acted like a calendar, only providing a way to store a plan and reference it, but offering no interaction which we thought could be another area to explore designs in.

During the design process, we realized that there are different kinds of procrastinators and that different approaches may help some while worse others when trying to prevent procrastination. For example, some may choose to work on a task, just something that seems less bad than what they need to do, while others may be overwhelmed by choices and feel better being told one thing to work on.

Answers to Task Analysis Questions

1. Who is going to use the design?

College students who are struggling with habits of procrastination and willing to change. College students are usually busy with school works and social lives, so it's extremely hard to have a balanced life. In addition, many college students have some level of a procrastination habit, which could cause them anxiety or stress, and even decrease the quality of their work. Sometimes, it will not only have a negative effect on themselves, but also other people that are involved.

2. What tasks do they now perform?

Currently, most of our participants stated that have tried things which help them organize and schedule their tasks ahead of time, such as using a to-do list, planner and calendar. However, some of our participants considered this approach as an efficient method because they feel like it functions as a reminder and prioritizing tool, while others reported that they fail to stick to it.

3. What tasks are desired?

Tasks that can keep track of the user's plan, and encourage users to make the plan early and finish them early. We hope these tasks can train people to get rid of their procrastination habits step by step.

4. How are the tasks learned?

Most people learn some method to keep track of what they need to do on their own with no training. Especially for university students who are responsible to keep track of their assignments, the task of entering this information into a system should be natural. To encourage planning earlier, extra steps can be guided by prompting an end user.

5. Where are the tasks performed?

The tasks will be performed anywhere because our users might receive any new events or deadlines at any time. Users should easily access the design in order to make plans as soon as they can so they do not forget.

6. What is the relationship between the person and the data?

The data that gathered is related to users plans, how they are doing on their plans, and how they feel about each deadline. All of this should be private to the person it belongs to, and does not need to be shared with anyone else. Goals and which ones have been achieved may be shared with other people.

7. What other tools does the person have?

There are many existing technology tools to help users organize and plan things better, such as Google calendar, notebook planner and other planner apps and to-do lists. These all offer a way to track tasks that need to be done, but may not provide ways to enforce a plan or to break up tasks and complete them over time rather than at the last minute.

8. How do people communicate with each other?

People are not communicating about plans and deadlines, however, we are considering letting users to have the option of sharing how they are doing on keeping track of their plans with their friends. We think the sharing system might provoke users to do better on their planning.

9. How often are the tasks performed?

The planning tasks will be performed almost every day, as people cannot really predict ahead of time what new stuff that would come up in the future, they need to keep their schedule updated once they encounter something new.

10. What are the time constraints on the tasks?

Tasks such as entering tasks or checking a to-do list and deadlines should be done very quickly. Task entry happens in the moment, so it should not disrupt what someone is doing. Evaluating tasks and prioritizing them may take more time, but should not take too long as it would be a distraction from actually doing things on the list. Checking other people's progress does not have any constraint and can be done in free time.

11. What happens when things go wrong?

If people forget about a deadline or an event they marked on their plans, they may miss something important. The same can happen if they do not have a chance to add a task to track. This can have impacts on things like grades and job prospects for students, as well as mental impacts, which can make them less motivated to work on other things.

Proposed Design Sketches

Proposal 1: Mobile Phone Application

Knowing mobile phones are a technology that people always carry with them, we first came up with a mobile phone app that helps the users go through the entire process from finding a task and finishing a task. In addition to the basic functions include tracking the schedule and frequently sending reminder notifications, our phone app also enables users to track the time they spend working on a specific task they set. Once the user finishes up with a task, they would get virtual rewards for the plant he raises.

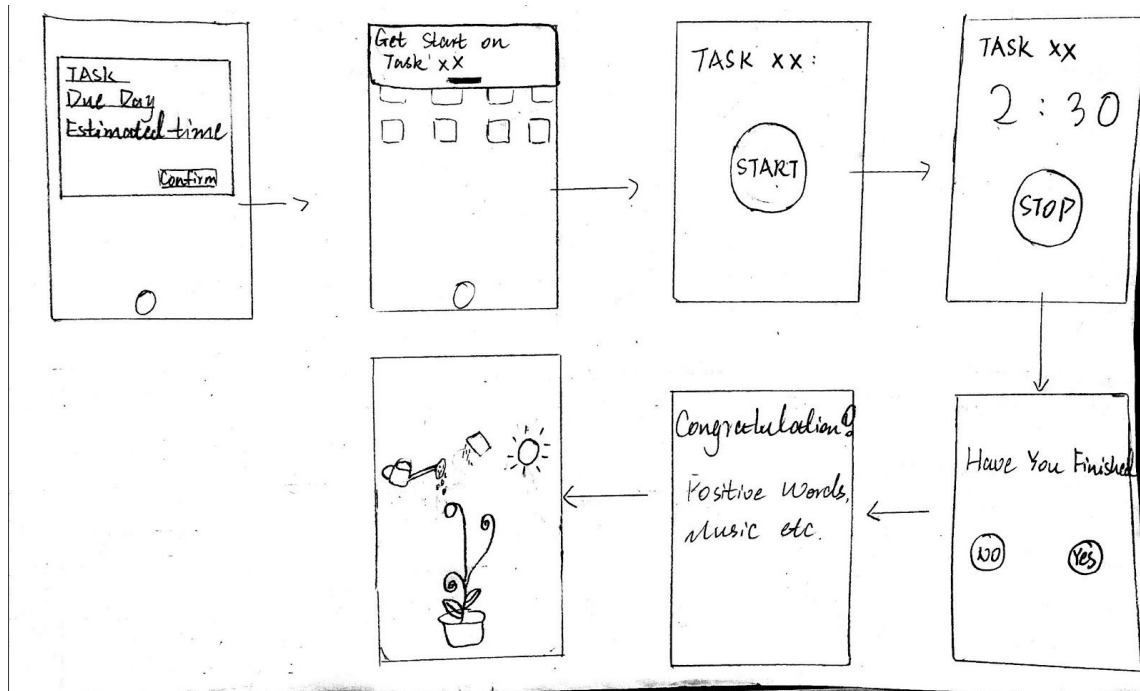


Figure 1: mobile phone application

Supported Tasks:

1. Keep Track of The Schedule And What You Finished: supported by allowing the users to input tasks (including due dates and the estimated amount of time needed in order to finish it). Our app will be able to automatically build up a schedule and calculate which task the user should work on first.
2. Finding a Reward to motivate starting a project: users can gain items that can be used to take care of their virtual plant if they finish certain tasks. The plant will bloom once it gets enough care and nutrition.
3. Remembering What You Should Do: frequently sending notifications that remind users to start on the next task to complete
4. Daily Reflection: How You Feel For What You Accomplished: support this task by allowing users to choose between positive words to best describe their feelings when they finish tasks

Proposal 2: Wearable Watch App

More and more people are starting to use wearable smartwatches on a daily basis, so this would be a simple and easy to carry a device for users. Users can easily access to the watch app in situations where using a phone is inconvenient, for instance, while exercising or during a meeting. Additionally, mobile phones have a lot of other features and applications, which could influence users to be distracted and procrastinate more.

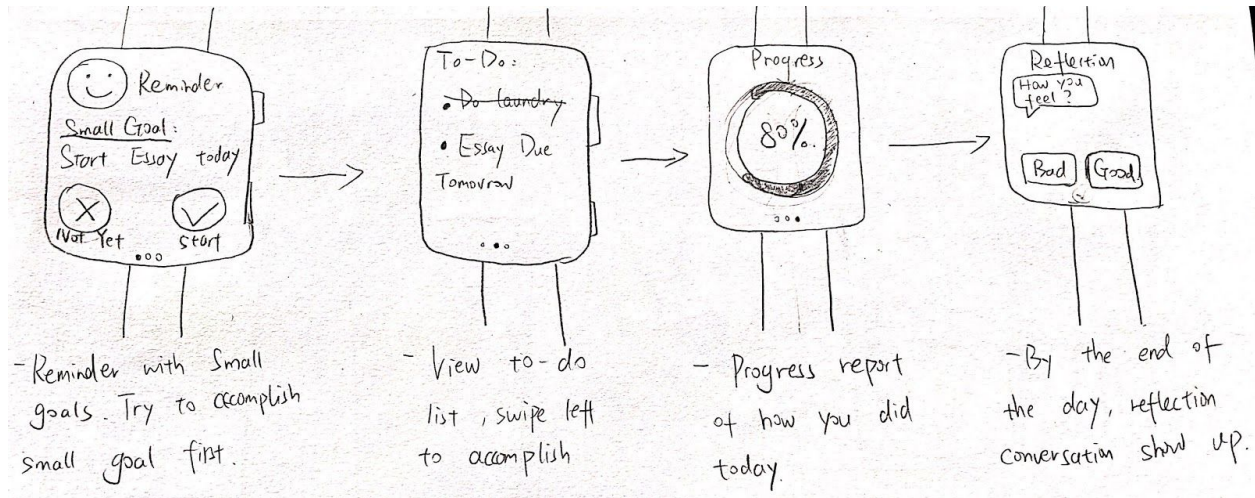


Figure 3: wearable watch application

Supported Tasks:

1. The first interface is the reminder page of small goals, which is our training system that trains our users to accomplish their small goals first. Having it on the first page is to encourage users to finish the small goal first, then the bigger goal, in order to weaken the procrastination habit.
2. The second interface is the page of the list of the things users need to do for the day. Users can mark it to be done when he/she is finished.
3. The third interface is the overall view of the progress for the day. Users will be able to see how much they have accomplished so far.
4. The fourth interface shows by the end of the day, the app will ask users how they feel about their day, and keep track of the daily reflection to let the users to have a better idea of how procrastination could affect them.

Proposal 3: Conversational Interface

Personal intelligence has grown quickly and is now present in many people's lives. They allow for easy and natural interactions and can be accessed in many ways, such as voice control or things like instant message chats. This design allows people to track tasks and manage procrastination through these communication channels that are already natural for them.

Task 1: The first task is to keep track of a schedule and tasks to finish

Someone can track a task by mentioning what they have to do, and when it is due. They can then check their schedule by asking when a task is due, or what tasks are due in an amount of time. End users can also simply ask "what do I have to do next" to be told what task due soonest, helping those with decision anxiety.

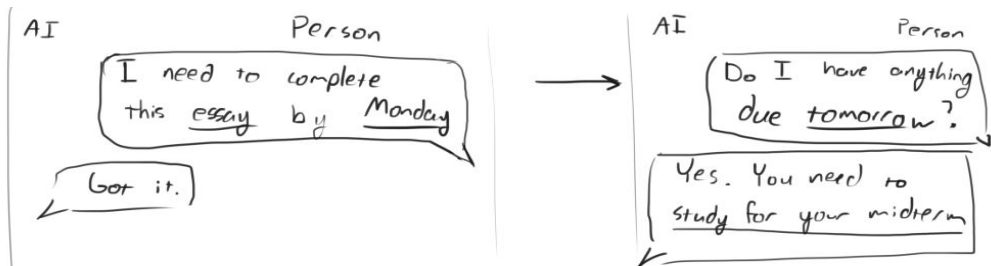


Figure 4: Task 1

Task 2: Receive rewards for completing tasks

Someone can mention a reward they would like to receive for finishing a task and the system will remember it. When they complete the task, the assistant will remind them of the reward they set, and attempt to fulfill it, such as ordering their favorite food or finding movie tickets.

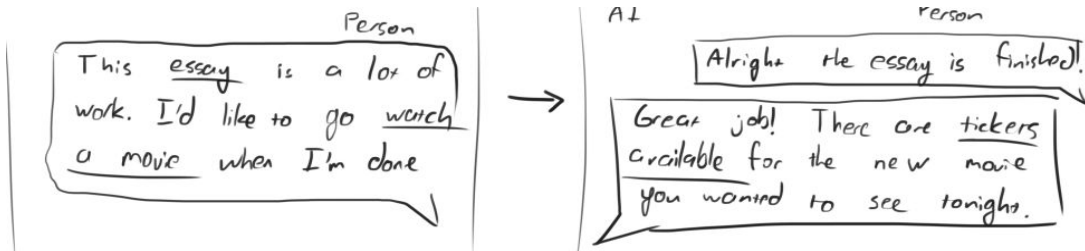


Figure 5: Task 2

Task 3: Remembering What You Should Do

The assistant will initiate a conversation when it notices tasks are near due, such as something large due the next day, or due later on the same day. It will issue a verbal reminder and can also send notifications to linked devices

Task 4: Identifying Smaller Goals

When a task is entered, the system will automatically create smaller, more manageable tasks, like breaking an essay into writing each paragraph, or a code project by functional sections. It will then report these smaller goals through the different parts of interaction, like the reminders or if asked what needs to be done next.

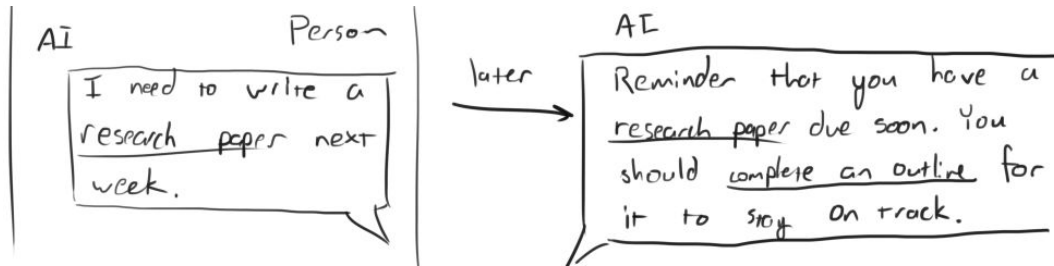


Figure 6: Task 4

Written Scenario - “1-2”

Task Prioritizing According to Procrastination Level:

This storyboard (Figure 4) illustrates a scenario where the user is using the application as his/her first time, and completing the profile with the tasks that he/she keeps procrastinating on, which would eventually help the user to have the motivation to start to do some tasks that they have put off for a long time. At the beginning of the scenario, the user is complaining to his friend about his procrastination habit, and he gets stressful because of this habit. Therefore, his friend recommends our application, so the user downloads the application to his watch. As a first time user, he opens the application with the process of completing a profile. The system provides a list of things that the user always procrastinates to select. If the user doesn't see anything in the list that he/she procrastinates on, the user can swipe up to see more of the list, or the user has the option to add any things that are not on the list. Once the user selects the laundry and exercise, the application will automatically generate a list of tasks that the users chose at the beginning. Every time the user opens the application, he will see a list of things that can be done. Then, the user decides to do the laundry because it is the easiest things to do compared to the others. After the user finishes the laundry, the user will select the laundry item on the list, and tap “complete” on the watch.

Make Goals More Manageable:

This storyboard (Figure 8) illustrates a scenario where the user is trying to study for his midterm and not procrastinate as much by using the application. At the beginning of the scenario, the user is stressed out and does not know where he should start to review. So he starts by adding reviewing for the midterm to his task list by tapping the microphone button on the watch screen. The user will say “CSE midterm next Friday”, and the watch will automatically translate and record this information from voice to text. Then, the application asks “how long do you think you need to prepare” and showed the microphone button, so the user taps the button and said “4 days”. Once the user puts the number of days he/she needs, the application will ask the user to divide up the task with different options. If the user chooses to see more options, he/she can swipe down to see more options or add an option. Once the user selects 2 parts, the application will ask how the user would describe each part of the tasks with the microphone button. The user

could also tap on the button and give each part a title. As everything is being set up, the application will confirm finishing adding the task with the screen of "Done! Good luck, we will remind you."

Storyboards of the Selected Design

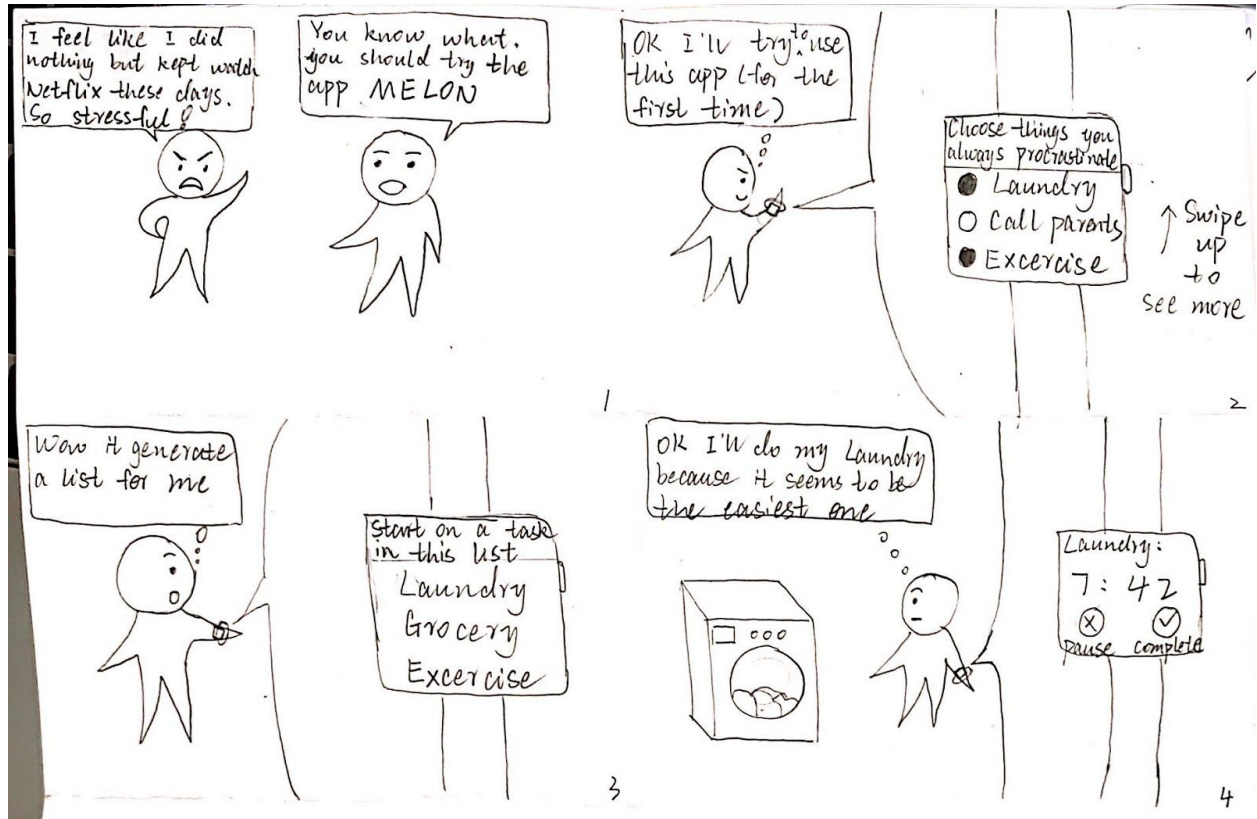


Figure 7: Task Prioritizing According to Procrastination Level

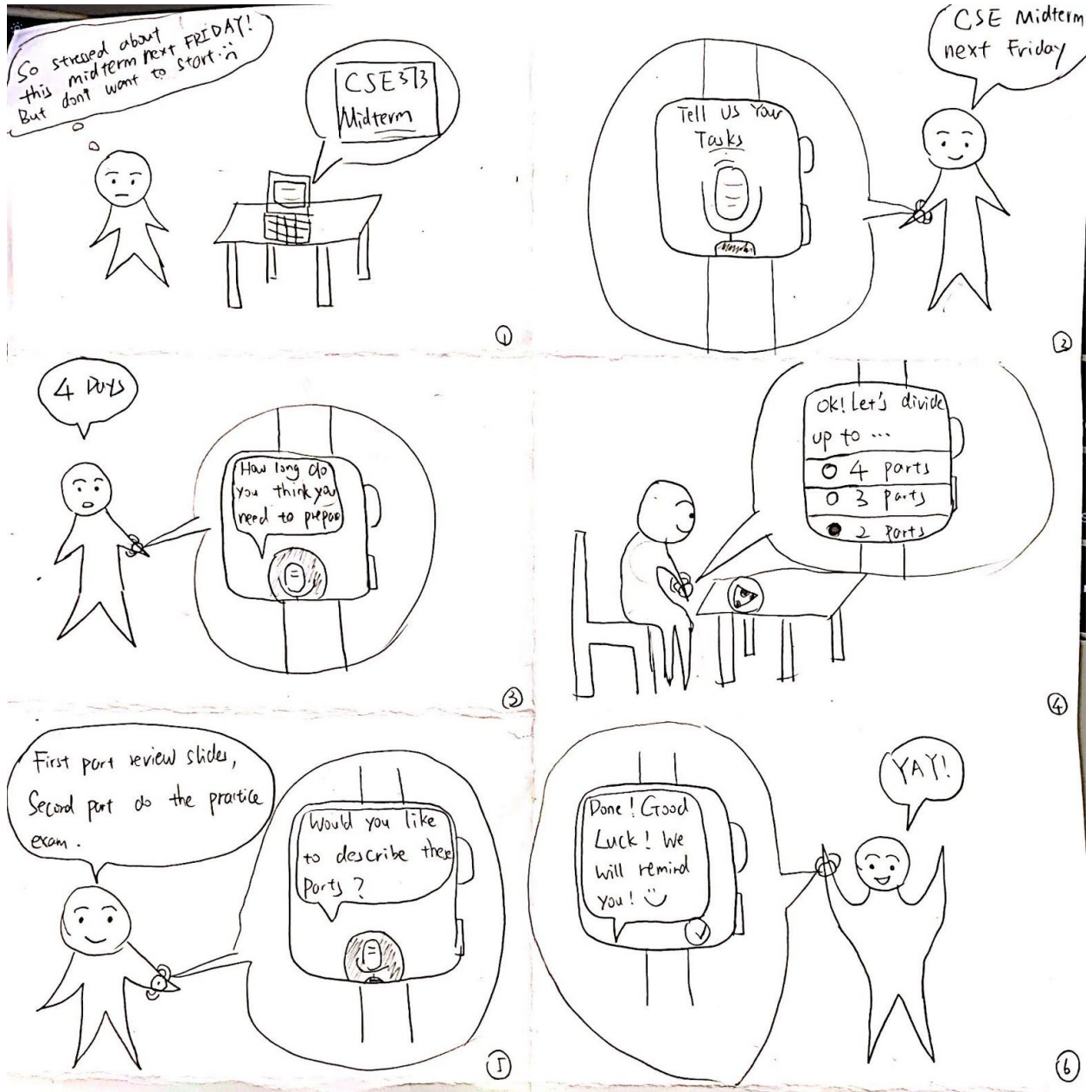


Figure 8: Make Goals More Manageable

Contribution Statement:

Brandon Kim: 30% Rest of the revision, proofread

Sylvia Wu: 20% Problem and Solution

Echo Zhang: 25% Written Scenario, format, proofread

Ashley Zhou: 25% Written Scenario, format, proofread