

## **Time Balance**

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### **CSE 440 Assignment 2f: Design Check-in**

#### **1. Categorize Time Spent**

Every activity on your schedule belongs to a category such as work, socializing, study, play, etc. For example, going out to dinner would be categorized as social while eating alone at 2 a.m. would not. Similarly, both going to the gym and reading a book could be considered personal. You should be able to define your own categories and then categorize each task in your schedule. Repeated tasks can be stored and automatically categorized. The current task should also have the option to update its categories as things change, such as when a friend decides to join you for an activity. The categories of your current task could also be automatically inferred from parameters such as your location, your heart rate, or open applications.

#### **2. Set Goals For Each of Your Categories**

There should be a way to set specific goals for the categories that you are trying to balance. Since each task can be categorized, we can keep a running total of the time spent doing each of the categories. Goals can be modified easily as things change, like spending two extra hours studying, or getting extra sleep the day before an event. Part of categorizing each of your tasks is to make sure you meet the defined goals that you have set for yourself. When you have reached your target goal for one category, there can be some type of reward, followed by prioritization of the remaining goals.

#### **3. Share Schedule and Free Time**

Sharing your schedule with your friends is hard and time consuming. People's schedules are always changing and it's hard to keep track of other people's obligations. There should be the ability to make parts of your schedule publicly available to everyone, share parts only with selected people, and keep the rest completely private. You should be able to tag people for certain events, overlay the shared schedules of different people and get notified when someone's schedule changes. When you have nothing on your schedule, it could notify other people that you are available and invite them to join you if their free time aligns with yours. You should also be able to import schedules from other services such as Google Calendar or Facebook. The trick will be coordinating many users schedules without violating their privacy.

#### **4. Decide What to Do While Waiting**

Deciding what to do while waiting is hard because you may only have a short time to wait and you are still engaged in that activity. Maybe you're waiting on an e-mail from your boss for fifteen minutes and you can't leave your office, or you are sitting on the bus every morning. Instead of wasting that time, you should get a suggestion of the most efficient thing to do in the time allotted. The technology could be able to infer what suggestions would be best based on the input from various sensors, your tasks, and your goals. You should not get a suggestion to do push-ups while riding the bus, or a suggestion to read a book in a loud work environment. You should be able to reject suggestions and allow the technology to learn how to make better suggestions in the future based on what you accept.

#### **5. Adapt When Your Schedule Changes**

In the real world, schedules are never maintained perfectly. Things take longer than expected, people cancel appointments, and traffic can put you hours behind schedule. These events are simply beyond your control. It is important to be notified about these changes as soon as possible and to be able to update your schedule accordingly. In the case of a traffic delay, you may have to push some of your tasks back. In the case of a cancelled appointment, you may suddenly have free time to fill with something else. When things take longer than expected, a "snooze" button could extend the schedule, and when you finish early you can press the "done" button.. Even a "skip" button could remove it completely. This technology should dynamically adapt your current schedule to all of this and fill in new gaps with things from your TODO list or even things you have scheduled for a later date.

#### **6. Get Reminders for Flexible Tasks**

A lot of people have a busy schedule everyday that is constantly changing. Some events can only be planned for general times during the day, such as lunch or dinner. Since our design is targeting busy people, this kind of situation can arise quite frequently. This technology needs the ability to infer the best time slot for that event, and notify the user of the proposed insertion into the schedule. For people who forget to eat lunch, a reminder could let the user know that it is the best time to eat. If these flexible task cannot be inserted within the proper time frame, alternative or partial suggestions can be made. Meals could be shortened and moved, or even turned into a quick stop while traveling.

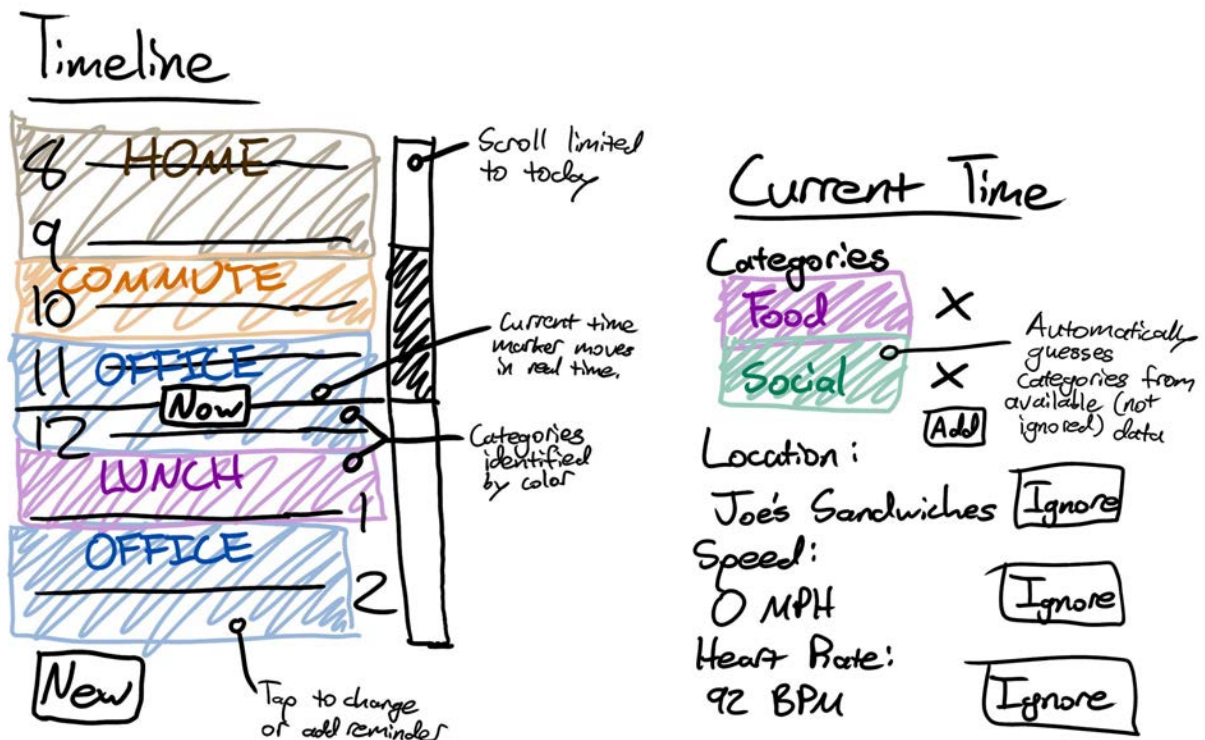
## 7. Prioritize or Lock Tasks When Scheduling

People that are dealing with a wide range of events everyday can usually prioritize the importance of each task. Some tasks, such as appointments and meetings, must happen at an exact time and cannot be automatically rescheduled at all. These tasks can be “locked” into an exact time slot. For the tasks that are not “locked”, a priority and/or a deadline can be set to help prioritize the important tasks first. One task in our design is to create a TODO list of things with an importance ranking. When the schedule needs to be adjusted, this technology should make sure that the deadlines are met, and the next item it chooses from your TODO list is prioritized.

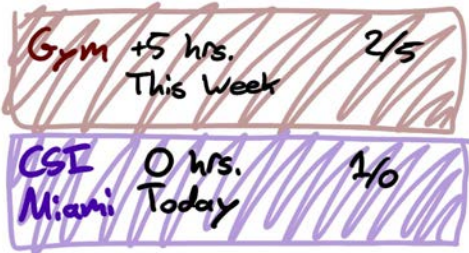
### Design: Phone App

High Level:

The phone app is the most lightweight design. It has fewer onboard features, but it is simple to use and the least intrusive if we already carry our cellphones around. Users will be able to easily integrate the technology into their existing phones, allowing them to use it without drastically changing their habits. This means that it will be easier to pick up and harder to put down. The technology can rely on existing tracking data like location and speed, even social networks like Facebook. Unfortunately, this design would limit the potential users to smartphone owners who are willing to take their phone everywhere.



# Active Goals



## Task #1: Categorize Time Spent / Set Goals

- To add a new time to the timeline: Tap the "timeline" tab. Tap the "new" button. Choose a name and one or more categories from a checklist. Drag the time to a beginning spot on the timeline and then stretch it to an ending spot.
- To copy another day: Tap the timeline tab. Tap the "copy" button at the top of the timeline. Choose a day to copy. Weekdays are automatically copied from the "week" tab which has a separate Monday, Tuesday, etc. timeline.
- To edit a time: Tap it on the timeline. Drag to move it. Double tap, or press and hold, to edit its categories or delete it entirely.
- To add a category: Tap the categories tab. Tap the "new" button. Choose name and a color.
- To categorize the current time: Open the app or tap the "current" tab. Press the "x" next to any category that is incorrect. Press the "add" button and choose a category for any category that is missing. Press "ignore" or "un-ignore" to control what data is used to automatically guess categories.
- To add a goal: Tap the "goals" tab. Press the "new" button. Choose a category, an amount of time, and a span of time.

# Free Time



## Task #2: Share Free Time

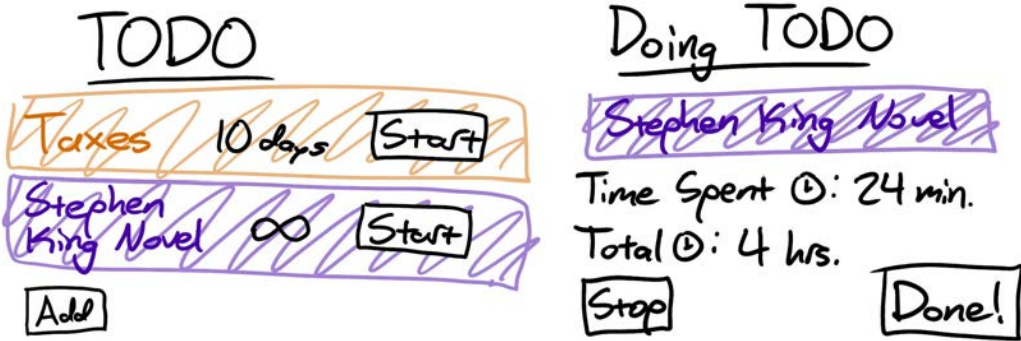
- To share your free time: Tap the "free time" tab. Scroll to a block of free time and press the "share" button. Choose the network or specific friends that you want to share it with. Press the "shared" button again to un-share it.
- To remove free time: Fill it in with another time in the "timeline" tab.

# Active Reminders



## Task #3: Set Up Automatic Reminders

- To set up an automatic reminder: Tap the "reminders" tab. Press the "new" button. Choose a time from your timeline. Or alternatively, from the "timeline" tab, double tap, or press and hold, a time and check the "active reminder" box. Automatic reminders are copied with times.
- To turn off an automatic reminder: Press the "off" button. To permanently delete it, double tap it and select delete or disable it from the "timeline" check box.
- To get an automatic reminder: Do not turn it off. The phone's native alarm system will send a reminder.



#### Task #4: Keep Prioritized TODO List

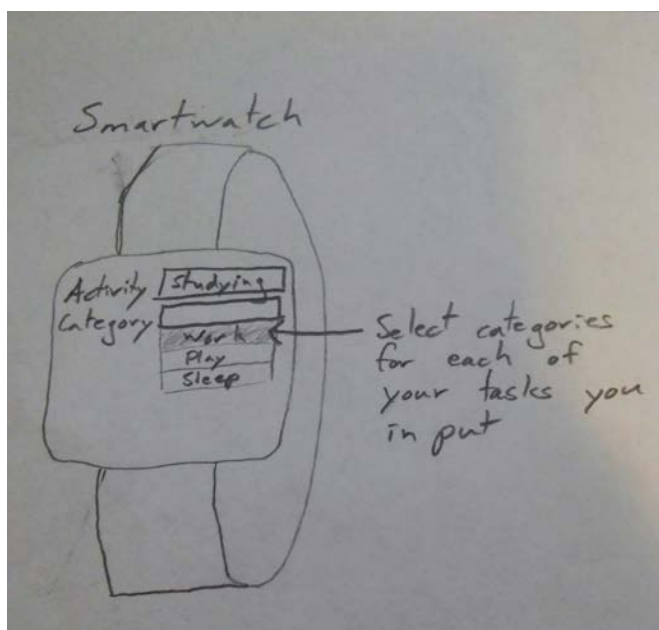
- To add a task to the TODO list: Tap the “TODO” tab. Press the “add” button and select a name, a category, a priority, and a deadline.
- To do a task on the TODO list: Press the “start” button next to it. Press the “stop” button to stop and continue it later, or press the “done!” button to permanently finish it.

#### Design: Smartwatch

High Level:

The smartwatch design is a fairly simplistic design because of the limited space on the screen for the user. The basic screen that shows the schedule looks like a typical watch face for familiarity and ease of use. The activities are color-coded and there is a button to switch from AM to PM (see sketch for task #2). This smartwatch could have a built in heart rate sensor to monitor exercise, and bluetooth or wifi to synchronize or communicate. This design primarily focuses on making things really easy and low-burden on the user.

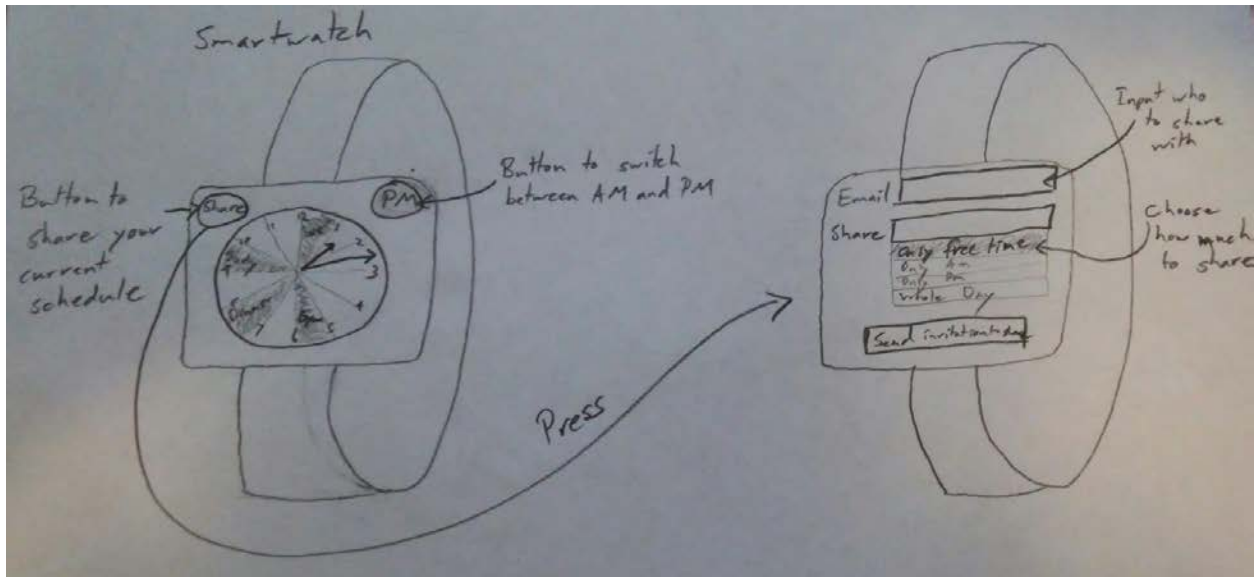
#### Task #1: Categorize time spent



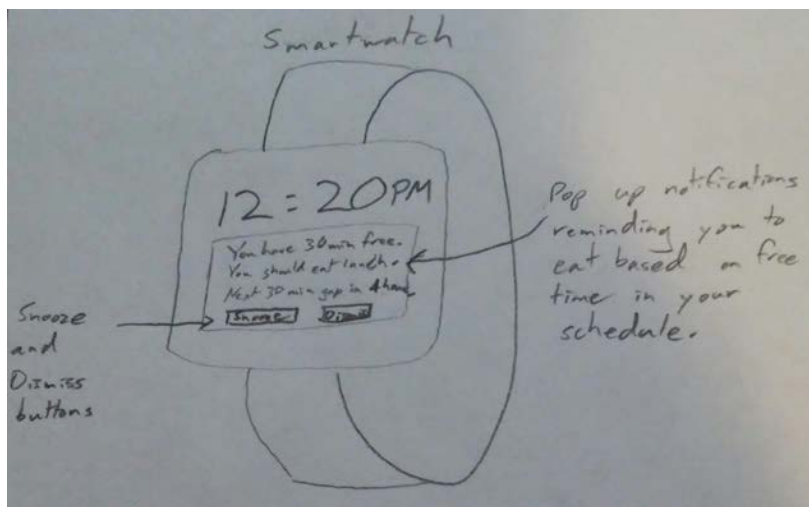
When entering activities into your schedule, you can select which category they belong to; work, play, or sleep. The application will then store this for repeated use in the future. It will also keep track of how much time you spent doing activities in each category so that you can set goals and review your progress. The heart rate monitor can also determine how much exercise you have done during those activities.

## Task #2: Share free time

When viewing your schedule for the day, you can also select whether to share it with other people. If you choose to share it, an email invitation will be sent to the other person and they will be asked to share theirs too in order to find common free time between your schedules. Upon sharing, you can choose how much you want to share with the person, be it only your free time, your entire AM schedule, your entire PM schedule, or your entire day.



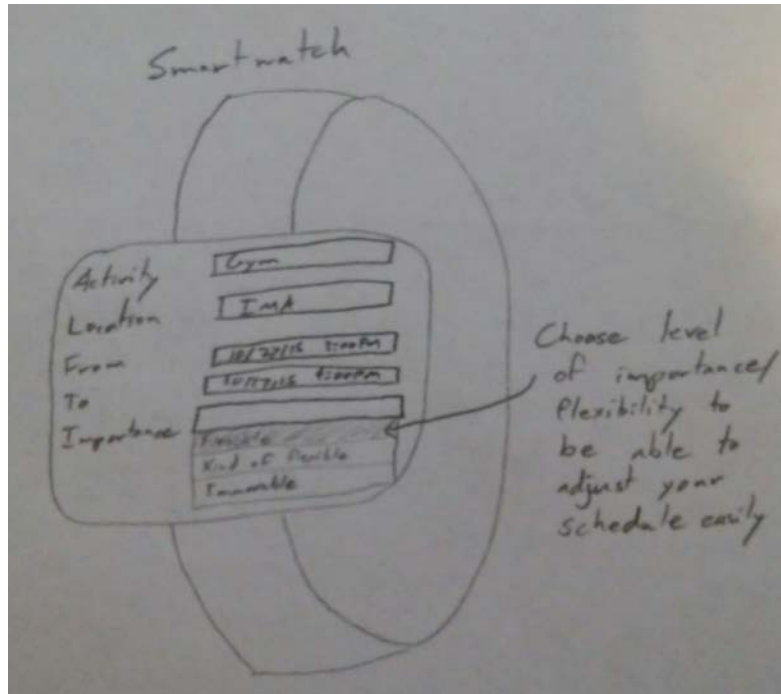
## Task #3: Set Flexible Reminders



The application will take a look at your schedule and find blocks of free time around flexible tasks, such as lunch. It can then provide a pop-up notification reminding you to eat lunch and letting you know when your next decent size free block is. You can choose to snooze this notification and have it alert you during your next free block, or dismiss it entirely.

#### Task #4: Prioritize or Lock Tasks When Scheduling

While inputting activities into your schedule, the user will be able to select the importance/flexibility of each particular activity. If unexpected things arise during the day to disrupt the user's schedule, the user can then shift their schedule around by placing flexible tasks into the best time slots with a push of a button. Immovable items will be left where they are and other activities will be adjusted around them.



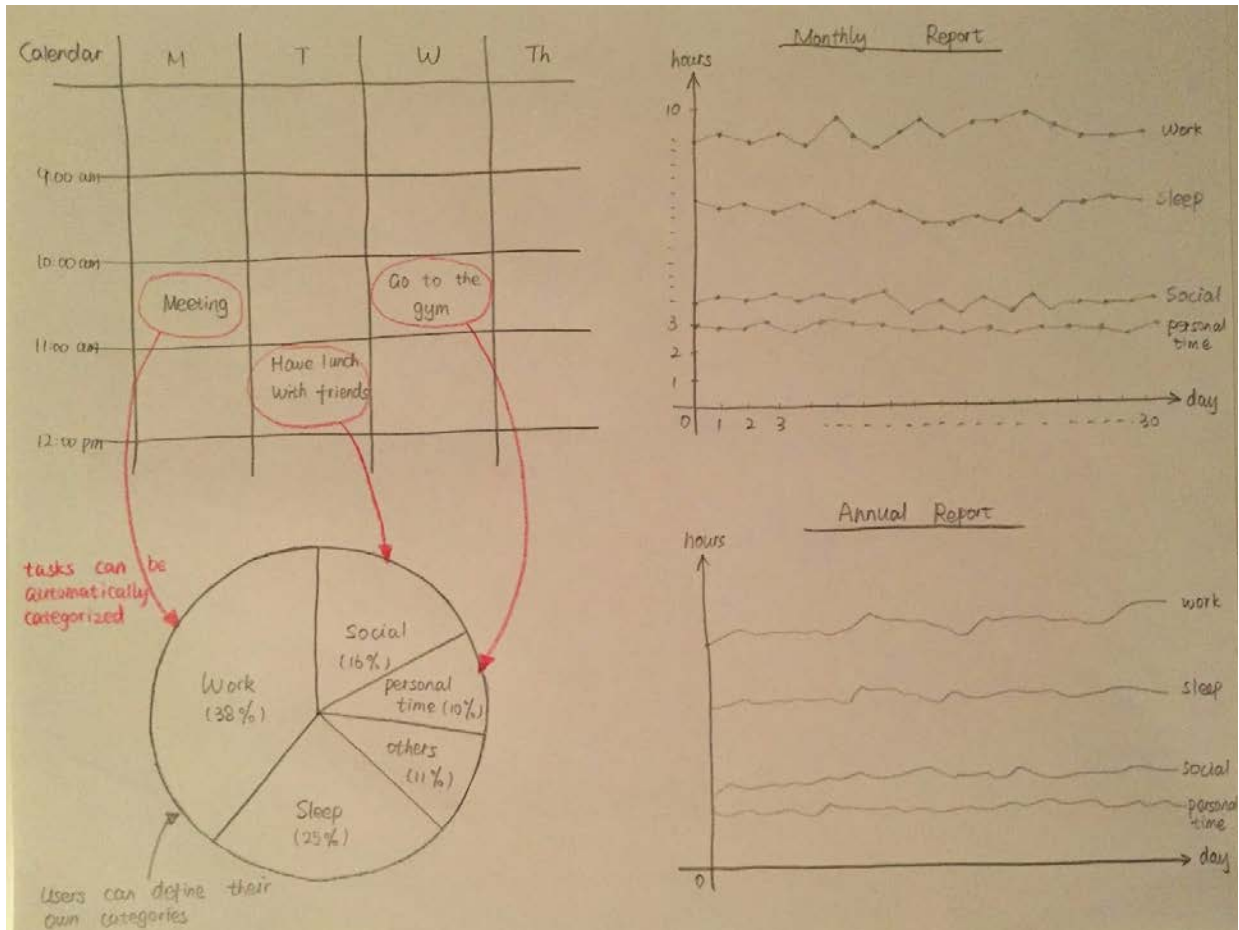
#### Design: Webpage

This design is based on a webpage application. Users can easily access their full schedule online using a desktop or laptop. It's not lightweight or necessarily mobile, but it is a full functioned application which is always online. It would require the use of a web server, however, which means many devices should be able to access the webpage, or even use a separate phone application to stay synchronized. With a very rich GUI, It would be easy to set up tasks in the calendar, import schedules from other applications, share schedules with friends, and balance the time spent on different categories of tasks.



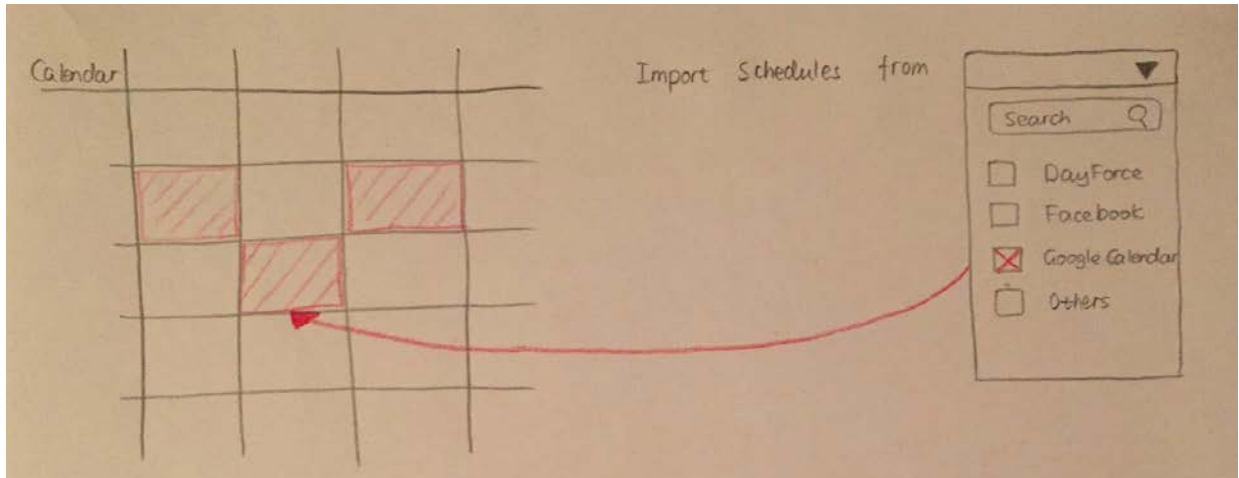
## Task #1: Categorize time spent, and Set Goals.

Users are able to define their own categories of tasks and what goals they have for each category. Similar tasks are automatically categorized. Users are presented with a pie chart that displays the percentage of time they spent on each category that day and the progress made towards each goal. There are also monthly and annual reports to help the users keep track of how they spend their time so they can balance it appropriately to match their patterns and habits. Because of the available computing power, this web page can allow a wide variety of reporting and analysis.



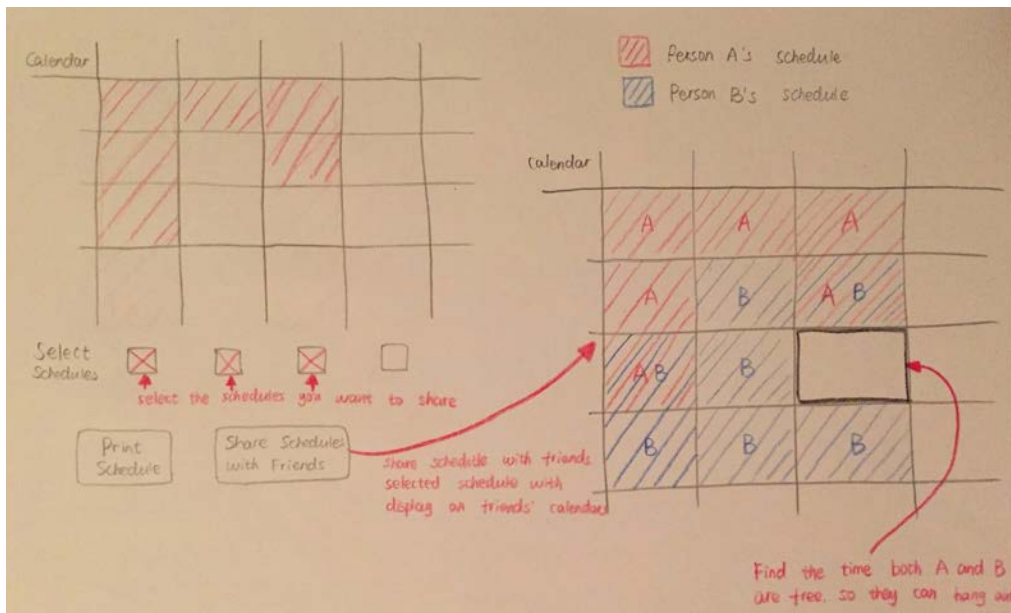
## Task #2 Integrate schedule with other applications (Adapting When Schedule Changes)

Since we are functioning within the operating system of the web server, we have access to functions and protocols that allow a wide range of synchronizations. We can import schedules from all of our calendars, such as Google Calendar or DayForce, and receive notifications in real time. Tasks can be imported, analyzed, and placed into a time block. Traffic, weather, and local events can all be used to optimize our schedule very quickly. We can also share our schedule with simple phone applications to allow our webpage to be more mobile.



## Task #3 Share schedule with friends

Users can share their schedules with families and friends. Select the specified schedules and click the share schedules button. The selected schedules will display on friends' calendar. The time periods in which both the user and the user's friend are free will be displayed.



## Task #4: Prioritize or Lock Tasks When Scheduling

The users set up a TODO list with the urgency ranking. The urgency will be displayed on the calendar by using different numbers and colors. Tasks with number 3 on the top right corner, in red color, are the most urgent things that need to be done on time. Number 0, not urgent at all, in black color, are the things that can be done at other times.

