

OnTop

Make every part of your day productive

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Problem and solution overview

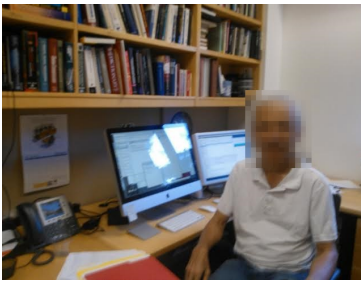
Many people make the excuse they "don't have time" for many tasks, for example working out and doing laundry. But despite their excuses, there are often many empty pockets of time in the day at variable hours that would actually accommodate these workouts and other forms of self-improvement. Goals and schedules can be integrated with these open pockets of time to make people improve themselves. Many apps are designed to only take up small parts of peoples' days, e.g. when sitting on the toilet people might play Angry Birds. But what if they did useful, productive things in that time? Enter OnTop. Our proposed solution will find these open pockets of time and show them to the customer, also suggesting tasks to do at that time based on location and preset goals. Using this product, the user will be able to accomplish more in a day and stay on track for those goals.

Contextual Inquiry Profiles

1. **P.I.** is a research assistant, Co-Term student and is on graduate housing staff. She was recruited via a phone call. We interviewed her at her residence. She is extremely busy, as she juggles classes with her current jobs as a Residential Computing Services staff member and writing tutor as she also applies for new jobs. She is wholly dependent on google calendar for anything and everything that needs to be done, including minor and major tasks. She says she is unsatisfied with products other than Google Calendar, and still lacks enough time for sleep, exercise and social life.



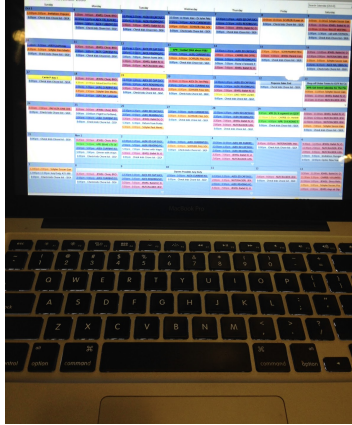
2. **D.F.** is an undergraduate student at Stanford University. He was recruited via email and interviewed in his dorm room. Between taking many classes, participating in several student organizations, and playing sports, this subject has an incredibly busy schedule. While he is technologically proficient he prefers to use a traditional wall-mounted calendar for scheduling, combined with a smaller weekly calendar. He feels as though he has inadequate time for exercise and reading.
3. **J.G.** is a professor at Stanford University. J.G. has an extremely packed schedule. He likes experimenting with new ideas and devices. He is also very familiar with the usage, modeling and production of various systems. He was asked to participate in the survey during his office hours. He mixes various techniques for scheduling his day, including his local calendar and Post-it notes.



Contextual Inquiry Results

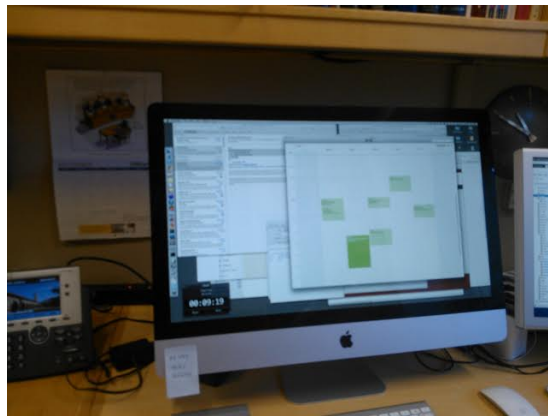
We tried to keep variety in our customers for contextual inquiry so that we could get diverse responses which would help us take the right decisions in developing our system.

One important requirement that became evident during the interviews was that the system should be efficient. Everyone stressed this particular feature. J.G. wanted the system to be intelligent enough to be able to learn a person's routine. That would mean that we would not have to enter redundant information while trying to schedule some activity (e.g: the system would learn usual times of sleep and not attempt to schedule anything then). On the other hand the system would also learn to autofill common information (e.g.: you would just enter laundry and the system would know how much time you normally take to do laundry and fill up your schedule accordingly. In that case you do not have to enter some information that makes the system efficient). P.I specifically mentioned that her current system only suggests a certain time for all new events, which she found rather disappointing because more often than not that particular time is already taken up by some other activity.



Pictured above: P.I.'s current calendar. It's packed with events! She obviously needs flexible and smart suggestions to fit other goals into her day.

Another factor that J.G stressed on is an intelligent system that learns every day and hence increases in its utility and efficiency on its own. So not only will intelligence help make input techniques better (as mentioned before), but it will also better manage a person's tasks. For example, in case of an emergency, the system would know not to bug a person with irritating reminders. On the other hand, it will not fully switch off, but keep track of all the tasks not done. It would also know when to turn the service back on). An intelligent system would be able to prioritize the work.



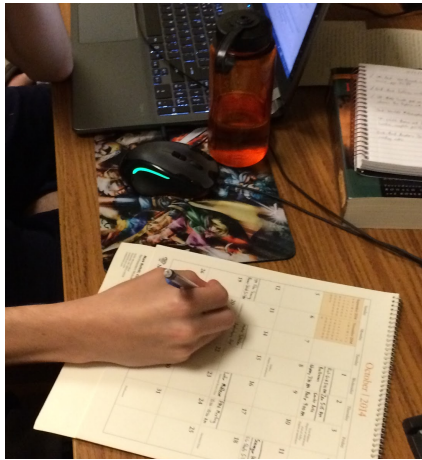
Picture above: JG uses both calendar and post its for scheduling. A more compact and efficient system is a better substitute

An essential feature for this software would be the ability to account for unstructured time: D.F. made it clear that while he would like to accomplish more day-to-day, he also needs time to relax and recuperate. Scheduling every part of the day might feel like overkill, so we might integrate a way to set the intensity and frequency of new goals.

We also asked our target customers how they felt about the use of location data. If a user had the general goal of working out JG had no problem with the system using location services to give better performance. However, P.I. expressed that the use of location services in apps feels like an

infringement on user privacy. She felt that having an app tell you what to do whenever you go somewhere would be nagging to her. She however suggested that in case location services had to be used, it'd be much better if the suggestions made by the app based on location would only be limited to the tasks the user has listed on their 'To do lists'; for instance, it only makes sense for the app to suggest a gym work out if the user wanted to do it, otherwise the user may not be prepared with the proper attire. While D.F. is generally skeptical of software that uses location services, he said that because the greatest obstacle for doing certain tasks is his location, he would find such a feature useful.

P.I mentioned that ease of access is important, especially with a wide span of devices that users may have at different times of the day. Given that both participants P.I and J.G update their calendars as soon as events come up, its clear that they need to use whichever device is nearest. So having a web service for the app, or syncing it with Google Calendar/iCal would be useful. In the case of D.F., who currently uses a physical calendar, it would be important to make inputting tasks easy as currently the process of entering an event takes under thirty seconds.



Pictured above: D.F.'s current system takes only a few seconds for input.

Task Analysis

Who is going to use the system?

Any person who has a busy schedule and feels he/she cannot accomplish everything he wants within 24 hours of the day could benefit from this system. People from different age groups would be willing to use this product, including teenagers, college students, professionals and parents.

What tasks do they now perform?

Most people use some form of scheduling technique, although these technique varies from one person to another. Some of them prefer using paper calendars, post it notes whereas others prefer phone calendars, online calendars, checklists, and apps. All these techniques have a common aim: to help the user remember all his/her tasks and deadlines.

What tasks are desired?

People prefer to use efficient scheduling systems, meaning the system should require minimal user input. Our target customers mentioned they don't use reminder apps because the data entry (what, when, priority) can be slow and inconvenient.

How are the tasks learned?

Usually these scheduling systems are simple enough so that you can learn how it works by just using it. Some of the more complicated systems might have a user manual or guide

Where are the tasks performed?

Scheduling tasks are carried out almost everywhere. In offices, we schedule meetings and manage workload according to deadlines. In schools, students schedule their classes and other activities. At home we schedule household chores like laundry, cooking etc. At shopping centers we manage our work based on items to buy and where to buy from. These are just a few examples to show how we do scheduling everywhere.

What's the relationship between customer & data?

The data is events which the customer intends to undertake/ tasks that the user plans to do.

What other tools does the customer have?

Customers have various other tools that can be classified into two main types: Scheduling on physical objects like wall calendar and post its, and scheduling using software applications (Google calendar, iCal, Reminders, different calendar apps).

How do users communicate with each other?

Most customers communicate schedules through interactions either talking, discussing etc or through social media like Facebook. On the other hand some of the apps have a sharing feature, where the app can share a person's calendar with another person and based on the joint calendar schedule some activity. So the two users do not have to spend time finding their common free time to schedule an activity together.

How often are the tasks performed?

Different people have different scheduling habits. Some prefer scheduling their whole day or even whole weeks task in advance. Two of our interviewees preferred to schedule on the fly as events came up.

What are the time constraints on the tasks?

Everyone prefers scheduling systems that are efficient. So the shorter the time it takes to add anything to a calendar, the better. This seems to be a very important parameter as everyone we questioned stressed on this fact as a necessity.

What happens when things go wrong?

When things go wrong the system should be intelligent enough to handle the situation. For example you have an emergency and cannot follow your schedule, the system should not keep reminding you. Instead it can store the tasks you cannot do now in a separate location that you can access later and decide whether you want to add the undone tasks again into your schedule or not.

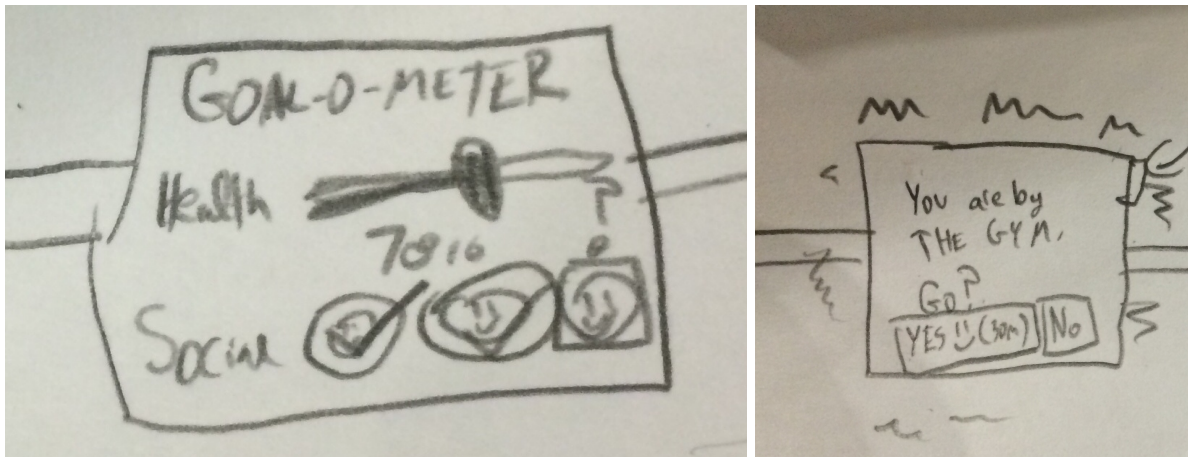
Old and New Tasks:

1. Adding a new task (*medium, high importance, medium frequency*)
 - a. From our task analysis we determined that some users tend to add events to a scheduling system as they come up while others tend to add them all at the same time. In both these circumstances it is essential that the task of adding a new assignment can be accomplished quickly. For some users who add events throughout the day it is essential that this task can be done from a mobile device.
2. "Crunching Time" (*simple, medium importance, low frequency*)
 - a. Participants in our contextual inquiry often collaborated with others to see when they could schedule meetings or social events, either in person or using email and messaging services. Because user's will do this often and from various locations, the "crunch time" feature which shows a user all their free time in a given day must be simple to use and available for mobile devices.
3. Last minute schedule changes (*complex, high importance, low frequency*)
 - a. From our contextual inquiry it is clear that user's often experience last-minute changes to their schedule including emergencies. A feature which allows user's to account for such changes is essential.

Application ideas with sketches:

1. OnTop system on wearables:

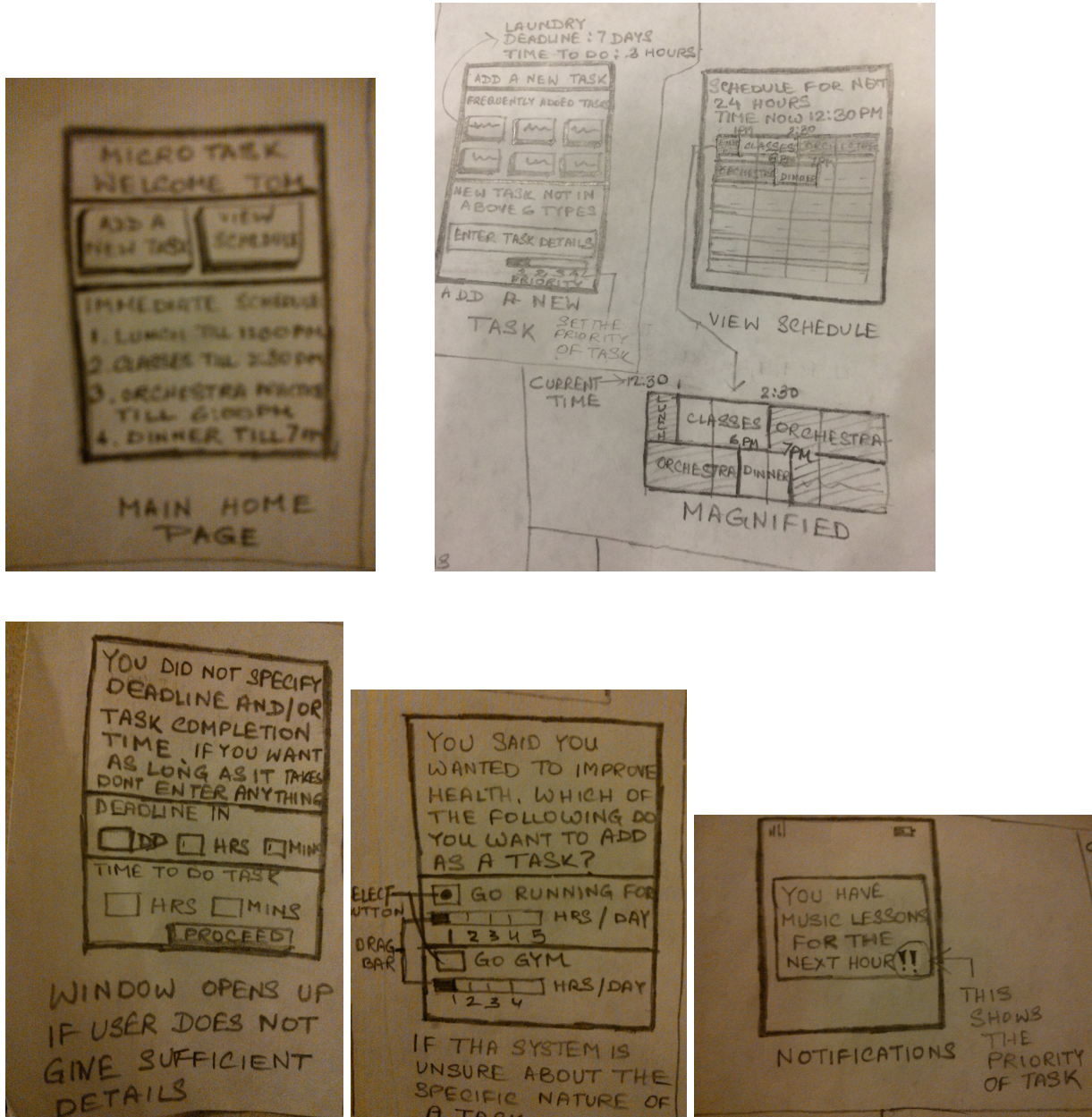
Description: The wearable makes this product immediately accessible and is arguably the product that would have the most direct impact on its users. This particular screen shows how far the user has progressed in goals for the day, measured with different metrics for each meter. "Health" might have a percentage bar, whereas social goals might have several faces of people to see before the end of the day that get checked off. The interface is supposed to show a small short summary of the user's progress.



Wearable Screen(Sketches by Matt Millett)

2. On Top with calendar projected on Wall

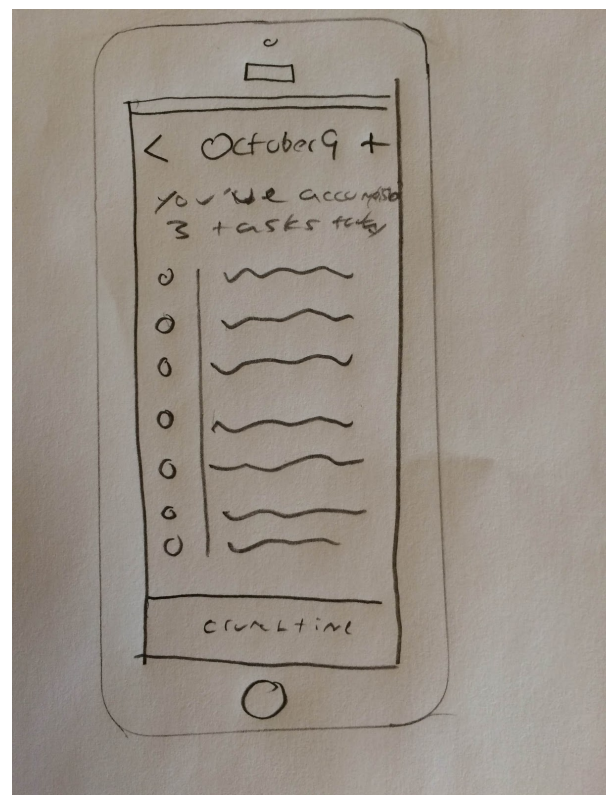
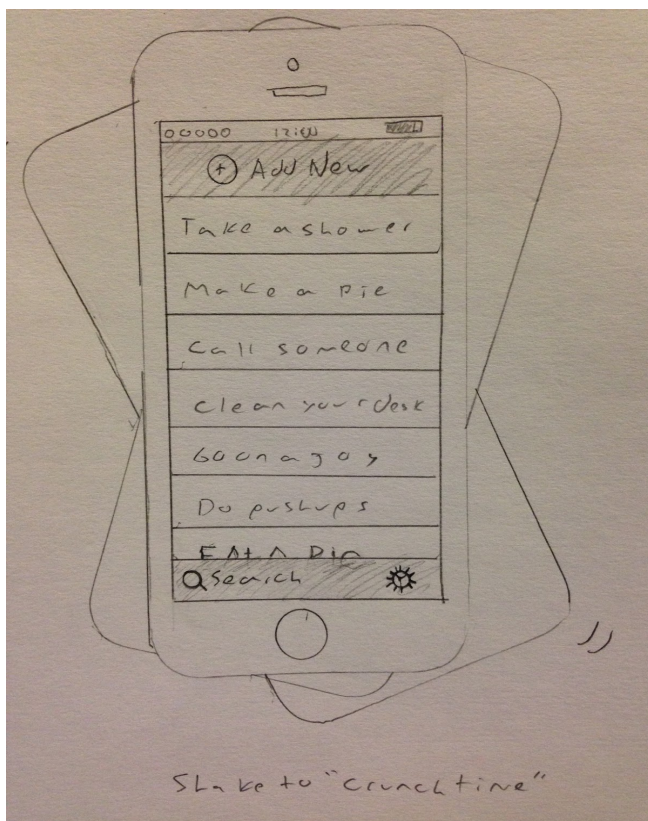
Description: This calendar will have large amounts of necessary information for the day projected onto a wall. It allows the user to add new tasks with custom information about duration, time, location, and other details. The user can also quickly just press a large button that includes frequently-used tasks to add it to the to-do list. The user can also take a close-up look at his schedule within a smaller timeframe. Note that all the time in the calendar has been scheduled and filled with different events, leaving no wasted open time.



Wall Projection Calendar+phone Control of System(sketches by Pallabi Ghosh)

3.OnTop with phone/cloud Integration

Description: The top bar allows a user to add a new task, which would bring up a more detailed screen for task creation. Following is a list of tasks the user has already scheduled, ordered in terms of priority. The app will have a color gradient representing priority. The bottom bar has a search bar to search for particular tasks. In the bottom right corner is the “settings” button, which will allow the user to set more general goals and toggle other settings. Shaking the device would bring up a “crunch time” interface, showing all as-yet unscheduled free time in the day.



Phone/Cloud-integrated App(sketches by Alec)