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# Calendar Project - Phase 1

## The Project, Users & Stakeholders

The foundation of our project is a Calendar application, one that almost anyone is able to use to keep track of events, whether one-time or recurring, appointments, meetings, their day to day schedule, and other personal reminders. While Calendars see rather wide use from a variety of people, we expect our primary user base to range from teenage to around the age of a senior. The thought behind this age range is that those who are too young will likely have relatives or their guardians keeping track of their lives, rather than doing it themselves. On the other end of the spectrum, the assumption is that in becoming a senior and having less work and social obligation, they will have less of a need for Calendars and live more carefree. These are of course assumptions made looking at trends so exceptions will exist, but we will focus on what we believe to be heavy users.

We of course intend to support the primary functions that Calendar applications currently serve. As mentioned above, it will allow users to organize events, appointments, meetings, schedules, and personal reminders. Though we specified the age range of our expected heavy users to be between teenage and elderly, it is possible that it will see lighter use by young children or the elderly so we would like to keep basic operation as simple as possible.

Busy users who are on the go and need to move around a lot will potentially need a quick way to check their Calendar to confirm their schedule or specific times for appointments. As a result, there should be a quick way for them to do so on their mobile devices. It is also possible to consider scenarios where users are out of range of their service providers, travelling, or say in a tunnel. They should still be able to access, view, and edit their Calendar regardless, and it should sync once they are connected.

We also intend to provide access on personal computers. This will allow users to perform complex operations with more ease than they would be able to on the smaller screen of their mobile device. Of course we will strive to make operation as simple and as easy as possible regardless of platform, but we hope to give our users more options for how they access their Calendars.

Where we differentiate ourselves to our competitors is a focus on support for group event planning. Often while planning an event, it can be useful to share one's Calendar with the rest of the group to help determine group availability. While existing applications allow Calendars to be shared, generally that function shares the entire Calendar. This should not be necessary, and makes it difficult for some users to share their Calendars due to privacy concerns. We intend to make it easy for users of our application to share specific portions of their Calendar that are relevant to the timeframe of the event. As a result of this differentiation we expect to appeal to users within the aforementioned age range that are more socially active.

The stakeholders for the project are also the users. At its base, a Calendar is used for personal organization and planning, so the user is the one who is affected the most if the system fails. Individual users that organize group events more often, or perhaps are specifically responsible for such a duty will hold larger stakes. So to investigate how we should design our Calendar, we will attempt to engage potential users and stakeholders with a survey.

## Research Methods

As our target user base is quite wide, a survey will allow us to potentially receive answers from a more diverse set of people. The survey will ask them what Calendar applications they currently use so that we can perform a historical analysis of relevant competitors. This is to ensure that our application will allow the user to perform the tasks they already do, and expand the functionality as we have mentioned above.

The survey itself was a simple form that started by asking a couple of general questions. Though admittedly our sample size should be considered small, we feel that the answers that we got were still quite telling. The majority of people use their Calendars to keep track of personal reminders and events, as well as their own day-to-day schedule. As of writing, no one has reported that they primarily use Calendars for event planning. In spite of this, responses to some of the open-ended long-answer questions indicated interest in the event planning features that we suggest. We believe that Calendars should be an important utility for social planning, as determining availability is very important. That people do not currently use Calendars to assist in determining availability speaks to the lack of appropriate functionality, which we hope to rectify.

Google Calendar, Apple Calendar, and Microsoft Outlook were the most popular from those that responded. From those three, for our historical analysis of competitors, we chose to look at Google Calendar and Microsoft Outlook. Apple Calendar is a tad tricky to access without an iOS device, so we decided to instead look at S-Planner, Samsung's Calendar. Though we did not directly look at Apple Calendar, the survey results offered insight as to what features users like or dislike.

A common point between many of the responses indicated that colour coding is an important feature to our users. Being able to easily distinguish types of events on the Calendar at a glance, and the freedom to organize those events as to their own preferences is highly valued. Among users of the Apple Calendar, a common annoyance was that when setting times into the Calendars, they could only specify times at 15 minute intervals, this is something that we will look to improve on.

Taking a look at the aforementioned Calendars, the first obvious realization was that the interfaces were generally very similar. Most often the Calendar would start by showing an overview of the month with some obvious indicator marking the current day. It is generally easy and obvious to switch the view to see an individual week or day. Additionally it was common to allow the user to click or touch day from the month or week view, or a timeslot on the day view to enter an event.

Beyond these basic similarities in functionality, Microsoft Outlook is primarily intended to be an experience on one's personal computer. It is possible to sync it to other services to view the Calendar on one's phone, but it didn't seem straightforward to do so. S Planner on the other hand was primarily a mobile experience, generally speaking on Samsung devices. Again it was possible to sync the Calendar with some third party services to view elsewhere, but not straightforward. On the other hand, Google Calendar was the only one that seemed to really offer a cohesive experience on multiple devices. While our survey results indicated that most people that responded primarily used their smartphone, we would like to make it possible for the user to access their Calendar on whatever device makes sense for their current situation.

We then zoned in on how these Calendars can be used to solve the problem that we intend to solve. Once again, how we intend to differentiate, and our main appeal to our users is better utility for event planning. So, based on our survey results, we decided to zone in and see how these existing Calendars could be used to solve the problem. Broadly speaking, the problems that we're looking to solve are privacy, categorization, organization, and rescheduling concerns.

Our survey results indicated that people wanted a more privacy conscious way to share their Calendars to determine group availability. The S Planner, being a more minimalistic interface solely for phone operation didn't really give anything in this regard. Microsoft Outlook and Google Calendar on the other hand offered the ability to create separate Calendar views to separate and organize events. The different views can be toggled on or off depending on what kind of events the user wants to look at, and when sharing their Calendar the user is able to choose which they want to share.

Sharing these separate Calendars in this way does provide some separation, but it still shares all of the events from the past and into the future. For our Calendar, we intend to offer a way to

specify a possible event time range. Then, only entries that are relevant to this range will be selected and shared. There are some additional considerations as well, such as anonymizing the shared events so the time is marked as unavailable, but who is busy doing what will be obscured.

Next are the categorization concerns. All of the existing Calendars that we examined allow the user to assign colours to events. However, these colours are purely aesthetic and meant to be a visual cue for the user. Responses to our survey indicate that most users are interested in being able to assign colours to categories. Then, they can assign these colours to events. Additionally, the responses we received complained about the variety of colours available. We could then use these categories to facilitate social planning by allowing users to toggle which categories of events are to be shared. For personal organization, the categories could also be used to filter what events are currently displayed on the Calendar as well.

Some of the responses to the survey also indicated that being able to create tasks and task checklists are important. Google Calendar and S Planner do offer such functionality. The user is able to create tasks for the day, and in task view, they are presented with all of the tasks and able to check them off. They can also set reminders for each of these tasks at different times in the day. We intend to provide and improve this functionality specifically for event planning. Rather than just creating tasks independently of the event, the user will be able to optionally associate tasks to the event. This way, the task will appear on the day's checklist for the day it needs to be done, and on an event checklist.

Lastly, rescheduling. For other calendars, when the time of the event passes it is simply marked as done. We believe that for at least some types of events, the Calendar should instead prompt the user asking whether it should be marked as done or if the user wants to reschedule it. To illustrate the utility, suppose a user has scheduled review time for an upcoming exam. Should the student fail to study during the allotted time, the reminder didn't help and the scheduled time will still be marked as done. Our solution would offer a prompt allowing the student to reschedule the review session rather than being forced to create a new unique event in the Calendar.

## Reflection

Overall our research methods gave us a good amount of insight toward what our users are looking for in a Calendar focused on event planning. Looking at existing Calendars was also productive. Because these applications exist, and because we're looking to fill a gap in functionality rather than create an entirely new solution, it became much easier to convey what we were thinking to potential users through our survey and understand their responses in turn.

Admittedly our sample size is rather small so that is some cause for concern. We needed to put much more thought into specifically how we would distribute the survey and to who. We were rather rushed

for results as well, in a future run it would be good to allow more time to collect responses. At some risk of coming off as annoying, it may have been a good idea to distribute the link at the same place multiple times in case the link was missed, or someone saw the link and thought to fill it out but forgot. Alternatively, considering the time constraints rather than a survey that may take a while to accumulate responses, we could have chosen a more direct way of interacting to get more concrete information, even if from a more limited potential user base.

Additionally, as one of the concerns we were addressing was privacy, we made the survey completely anonymous. We thought that might lower the barrier people might feel to submitting answers, but there were some interesting responses that we'd like to follow up on, and other responses that showed interest in updates for the application. If for whatever reason we need to do another survey in the future, it would be convenient to be able to contact the people who responded to this one. Unfortunately, those are no longer options.

The survey results also indicated that the Apple Calendar is quite popular. We were unfortunately unable to obtain an iOS device to perform analysis. If time allowed it would have been nice to get access to Apple Calendar so that our historical analysis was more representative of the applications that we saw to be in use.

## Task Descriptions

### **Enter one's own birthday into the Calendar.**

Fred, who's now a couple of years into adulthood isn't as concerned as they once were with growing older. Having entered society, they have taken on many more responsibilities and actually forgot their birthday last year. It came to them as a surprise when Fred's friend came up to him and asked him if he was doing anything to celebrate. With little time to prepare, he just invited a couple of friends to eat at a restaurant. In order to not forget this year, Fred decides to make an explicit, recurring, entry in his Calendar.

He opens the Calendar application and February the 17th and makes the entry, setting it so that the Calendar will remind him a month ahead of time. He goes about his life, and the reminder prompts him to start making plans early so he can celebrate with his friends.

### **List birthdays of family and friends into the Calendar.**

Jack has lots of friends and he has trouble remembering birthdays of others. He also has trouble remembering birthday of his family. He feels ashamed about it, so he opens his calendar and navigates to enter the names and dates. He sets it so that when a birthday comes up, he gets a notification two days before. The reminder pops up, alerting him to not forget his friend's birthday is the day after tomorrow.

### **List all events coming up within a specific time frame.**

John wants to see all events that are planned anywhere from now to two weeks from now, he should be able to request the list of all events and filter out any events that will take place in more than two weeks away.

**Add an event to the calendar.**

Mark needs to add some events to his calendar to keep track of his own affairs, he has a job interview on Thursday at 4:30 and can't afford to miss it, he trusts the calendar will keep track of this event. He goes to the calendar menu and clicks "add event" option. He is then prompted with a window that contains event queries. He answers the queries and clicks confirm event, the event is added to the calendar.

**Rescheduling an event.**

Dennis made plans to go grocery shopping to restock on ingredients as the refrigerator was beginning to look bare. He had previously made an entry in his Calendar to remind himself, and it is now the day. Unfortunately, after work other plans came up and he needed to take care of other errands. The reminder goes off, but Dennis is unable to actually go grocery shopping at this time. By the time he finishes his errands, the grocery store has closed. Now, he wants to instead reschedule his grocery trip for the next day.

Dennis accesses his Calendar and changes the date of the scheduled grocery trip to tomorrow.

**Check the time and place of an appointment while on the way.**

Carrie is on the way to a work interview, she's nervous and of course made sure to leave early and is approaching the area. The office is part of a building with a lot of different offices, so she needs to check the floor and room number. She's riding transit, so she needs to be able to pull up the Calendar on her mobile device and quickly check the details. Opening the Calendar, she finds and selects the entry for the event to view its details and confirms the appropriate room. She also confirms that she's significantly early, and takes a breather, noting to make sure she arrives in front of the office early, but not so early that she seems over-eager. She then continues her commute.

**Check today's schedule.**

Frank has doctor appointment, meeting with his professor and deadline for assignment, along with many other events. He has difficulty keeping track of all of that on his own, so he opens the Calendar and navigates to a detailed view of today's entries.. He is reminded of where he has to be and at what time, and goes about his day.