

Individual Project

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1 INTRODUCTION

Google Calendar is an integral part of helping many people keep track of their schedules. It is very helpful in distributing cognition and helping ease the task of keeping appointments, classes and other events in memory.

While most people use the Weekly view on their computers when using Google Calendar, many people choose to use the Schedule view on their phones. This view allows the user to quickly see everything that is happening on a given day and when it is happening and then to scroll down through the next days. It only shows scheduled events, so it is a clean way of seeing one's calendar.

An issue with this view is that adding events to the calendar is not consistent with the other modes and it is more time consuming. This singular piece of the interface doesn't work in the way that the rest of the interface does and it makes it less usable, less satisfying and less efficient.

Improving the task of adding an event to the Schedule view of Google Calendar would make this part of the interface most usable, more satisfying and more efficient.

2 NEEDFINDING PLAN

2.1 Survey

The first part of my needfinding plan is a survey (Appendix 15.1). The survey was sent out via PeerSurvey to my classmates. For the survey, I wanted a diverse group of users to get a sense of how they used Google Calendar on their phones. My classmates are the most diverse group of users that I have ready access to, so this meets that goal. The survey asked them which view of Google Calendar they primarily use, why they use that view, if they have any frustrations with that view, how often they add events to their calendar and how satisfied they are with the ability to add events on their phone. For a base comparison, I asked which view they used on their computers, why, and how satisfied they are with

the ability to add events on their computer. This survey is intended to give background data on how users interact with Google Calendar on their phones and what frustrations they may have.

2.2 Interviews

I will then complete a minimum of five interviews with talk-throughs as a second step of the needfinding exercise. I will focus these interviews on the thought processes of users as they add events to Google Calendar in both the Day and Schedule view. First, I will have them go onto their phone and add an event to the Day view of the calendar and then the Schedule view. I will record this process. I will use a post-event protocol to get their thoughts about the process immediately afterward. Then I will have them use my phone to add an event to both the Day and Schedule view. I will screen record this so I can time how long each takes as well as look for any slips or mistakes.. This will take into account that this will not be the first time they have done either process. These will be done in person.

2.3 Heuristic Evaluation

The next part of the needfinding process will be a heuristic evaluation. The specific heuristics that I am going to focus on are consistency, discoverability, structure and simplicity. These are taken from Lesson 2.5's fifteen principles, but closely mirror Nielsen's "consistency and standards", "flexibility and efficiency of use" and "aesthetic and minimalist design". Consistency suggests that actions, like adding an event, should be consistent throughout a platform and "follow platform conventions" (Nielsen). The Reuse Principle also states that "The design should reuse internal and external components and behavior" (Constantine & Lockwood). Discoverability looks at whether it is "possible to figure out what actions are possible and where and how to perform them" (Norman). Structure overlaps with consistency as it says that the designer should use consistent models and that "similar things should resemble one another"(Constantine & Lockwood). Simplicity or minimalist design suggest that the designer should make the process of interaction both as simple as it can be but also discoverable to the user. I will narrow my scope by specifically looking at the Google Calendar Schedule view and the task of adding events in this view on a phone.

3 NEEDFINDING RESULTS

3.1 Survey Results

A total of 46 people responded to the survey through PeerSurvey. I removed one because they don't actually use Calendar on their phone. The data was downloaded into Google Sheets to make it more manageable. Of the 45 responses, 12 users primarily use the Schedule view. They chose the Schedule view because of usability and viewability - the ability to see all the events coming up over the coming days.

There were a number of frustrations with the Schedule view that users did not have with the other Calendar view modes. The first revolved around the difficulty of adding events to the Calendar in Schedule view, which is my primary focus. There was also frustration with the number of steps involved in adding an event. Next was poor feedback about whether the right times and dates were set. Another had to do with the length of the blocks in Schedule view not mapping to the actual amount of time. One user specifically mentioned that it would be nice to have a scroll bar to be able to go through the day.

All of the users utilize a different view than Schedule view when using their computers. Most use the Month view. The average rating of satisfaction with the ability to add events is higher in that format.

3.2 Interview Results

Five interviews/talk-throughs were conducted with a range of users in terms of age, comfort with technology and their experience with Google Calendar. Users clearly had an easier time adding events in the view that they were used to. There were stark differences in the learnability as well as the timing of adding events in Day versus Schedule view. In all cases, adding events to Schedule view took more steps, took more time and was a more frustrating and confusing experience, from both an execution and evaluation standpoint.

Two of the users primarily used Schedule view to both view and add events. Their proficiency at adding events was evident and their frustrations were with the number of steps needed to add an event and the poor feedback in terms of whether the event ended up at the correct time and place.

When those users switched over to Day view, neither had any trouble understanding how to add an event. Through previous interaction with the interface, they knew all they had to do was swipe to the day they wanted to add to and then touch the block of time they wanted. From there the name of the event could be added, the time could be changed in length and the event modified in the other ways possible. The gulfs of execution and evaluation were small and the interface was largely invisible.

For the three users who used other views - two used Day view and one used Week view - switching to Schedule view presented challenges. They commented that the way that you need to add an event is different in Schedule view. You cannot touch on a given time frame because they are not there. There is an icon in the very bottom right corner with a plus sign in it, which all users figured out was the way to add something to the calendar, but that took some time. They also commented on the fact that instead of simply adding the event name and time, there is a list of choices, including Out of office, Working location, Task and Event. This too is unlike any other part of the interface when adding items.

3.3 Heuristic Evaluation Results

The first heuristic that is clearly violated is consistency. There is a distinct lack of consistency across a number of features of this part of the interface. Throughout all other views of the calendar, you simply touch where you want to add the event and then type in the name. With the Schedule view you have to locate the add(“+”) icon, touch it, then choose the event or task option and then go in and add the name as well as the date and time (Figure 1). All of these issues are clear violations of consistency.

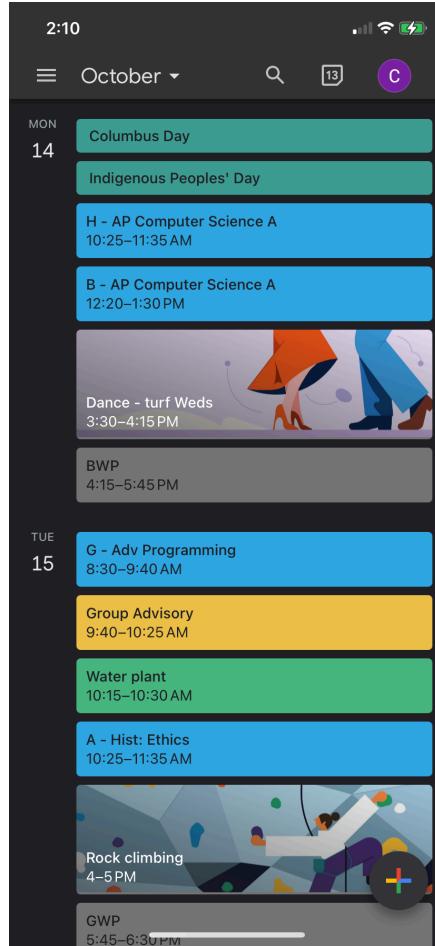


Figure 1—Google Calendar view is very useful, but does not uphold the principles of consistency or minimalism.

This portion of the interface also violates the structure heuristic. Once the event is in the calendar, there is bad mapping between the length of the event and the view of it in the Schedule view. In all other views, the length of the event can be seen by the size of the box representing the event, which is good mapping. But in the Schedule view all events are the same size, if they are 15 minutes long or three hours. Further, if there is an image representation (Figure 1) then those boxes are bigger. Where the interface comes up with those images and for which events is unclear.

Another violation of the structure and consistency heuristics has to do with overlapping events. In all other views, overlapping events are clearly mapped as overlapping, side-by-side in the view. This can help prevent double-booking time. But on the schedule view, overlapping events are not mapped that way,

they are simply listed one after the other, which can be confusing and does not provide good feedback about double booking.

The last heuristic is simplicity, or aesthetic and minimalist design. The Schedule view also violates this heuristic. There are two additional steps involved in adding an event through Schedule view. The first, choosing between the four options presented, is unnecessary. The second, having to add the actual time and date of the event, can potentially be avoided. Both factors violate the principle of simplicity.

The first insight I gained through this process is that adding an event to Schedule view should be simplified and made more consistent with the rest of the interface. The second is that the mapping in this part of the interface should be improved so as to clearly represent event length and overlapping events. The last is that the feedback should be more clear so as to make sure that the event is being added to the right time and date and to avoid double booking.

4 INITIAL BRAINSTORMING PLAN

Brainstorming will be done individually and in a small group of family members. I will additionally use AI brainstorming with the aid of ChatGPT and Flint AI. Biases will be mitigated by attempting to produce a number of different design alternatives.

5 BRAINSTORMING RESULTS

Brainstorming produced three different design alternatives. Two of the three designs were chosen because of their consistency with the other views in Calendar. The third was chosen because of its efficiency and ease of use. The first involves moving and adapting the “+” icon to be able to add events to specific time slots, the second involves swiping left to get to a Day view and the third is a voice input method.

The first alternative is to have the plus icon on the left side of the screen near the top. When pressed down, the circle could scroll up and down the right side of the screen, allowing the user to add an event to the rough area that is wanted. When the finger is lifted, the screen will go directly to the Event name screen, just as it does with all of the other Calendar views when adding an event. From there the exact time could be chosen. This was chosen from the design alternatives

because it is the most straightforward and the most consistent with the rest of the Google Calendar event entry methods.

Alternatively, when this button is pressed, it could pull up a vertical list of all the time slots between the two existing events that you already have in your calendar, or if you have none on that day, the time slots starting in the morning that you could scroll down through. This too is a straightforward design that fits in the existing structure of the interface and uses similar inputs.

Another design that would be consistent with the existing structure of Google Calendar would be to use the swipe right feature. That is used in all of the other Calendar views to move between different days, weeks or months. But the only thing it is used for in Schedule view is to swipe right to delete an event. Swiping left could pull up the equivalent of the Day view into which an event could be added, and once done, it would automatically revert back to the Schedule view. This design is also consistent with the rest of the Calendar interface and might be the easiest to implement given the way it would fit into the existing structure.

The final design alternative would be a voice input button that would allow the user to simply say add x event to this day at this time. This would probably be a secondary entry method. This would fall under the heuristic of flexibility as it might not always be practical, such as when the user didn't want to be speaking to their phone or when there is too much background noise for the phone to understand. This design was chosen because it would likely be the most efficient and easiest way to add events to the Google Calendar. But it would not always be accessible, would potentially be difficult to design and would likely also be the hardest to give and get feedback in terms of getting the event on the right date and time.

6 INITIAL PROTOTYPING

The first prototype is a card prototype. It includes the “addition” icon but moved to the left side of the interface on a slider bar that goes up and down the schedule (Figure 2). This button includes a right facing arrow. The button can be depressed and dragged to point between the two events that you want to add a new event between.

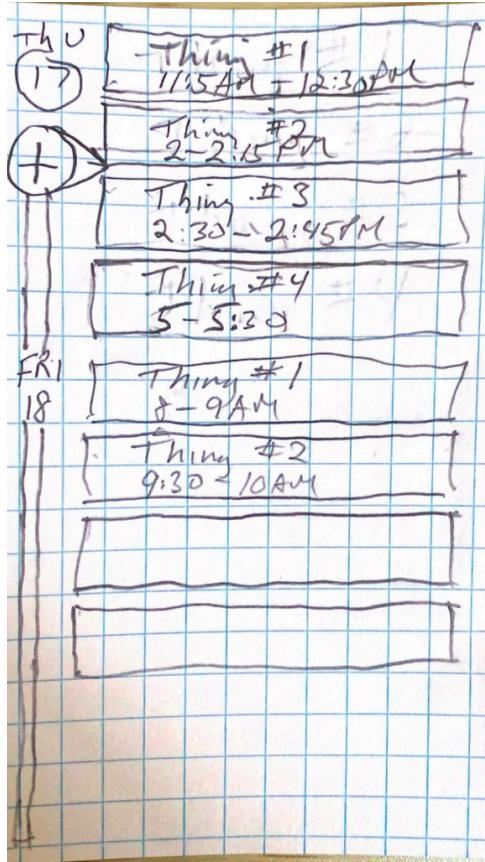
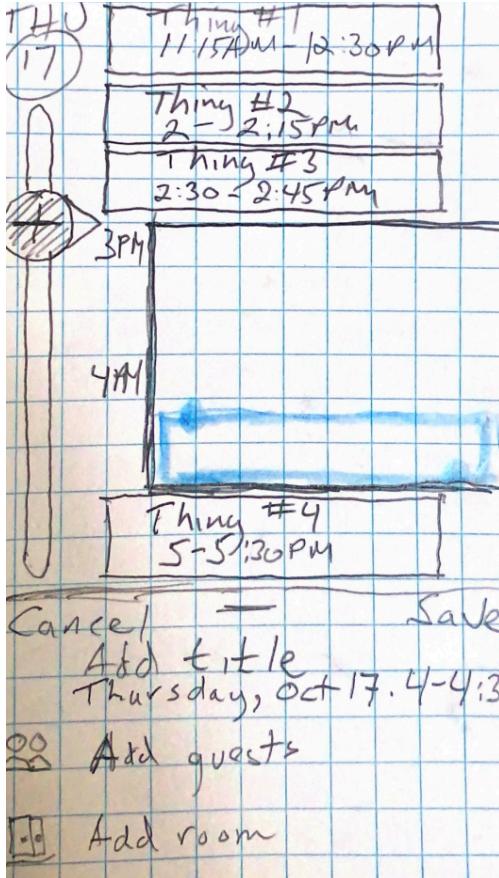


Figure 2—Card prototype #1 of the Schedule view that includes an add icon on a slider bar along the left side of the interface.

When pressed, the button will darken to signify that it is depressed. When it is let go, a window in the current screen will pop up that lists all of the time slots between the two events that were on either side of where the arrow was pointing. In Figure 3, you can see that the arrow was depressed and dragged between *Thing #3* that ended at 2:45 PM and *Thing #4* which started at 5 PM. So the available time blocks between those two times pop up. From there, a time block can be pressed which is consistent with every other Google Calendar View and the Event can be entered from there. The blue box is the same used in the Day and other views to enter an event and allows the user to drag the top or the bottom to customize the start or end time with direct manipulation. This increases the consistency of the Schedule view while also making it a more minimalist design (at least from the user standpoint).



*Figure 3—Card prototype #1 showing that the add icon was depressed and slid down to the space between *Thing #3* and *Thing #4*, opening up the available time slots between the two events.*

The second card prototype keeps the same basic design as the current Schedule view but adds signifiers and a different underlying structure. For this prototype, signifiers are added to the right side of the screen indicating that the user can swipe left. There would be a signifier aligned with and corresponding to each day that is viewable on the current Schedule view (Figure 4). One thing that Google Calendar overall does not do well is use signifiers for the different swipe features. On the Day view, swiping left takes you to the next day. On the Week and Month views, it is similar. Swiping right takes you back a day, week or month. But on the Schedule view, swiping left does nothing and swiping right deletes events. Using signifiers on the Schedule view could indicate that this action is available, but also different from the same action in the other views. While this isn't perfectly consistent with the other swipe left interactions, it does allow for better function, efficiency and minimalism of the interface.

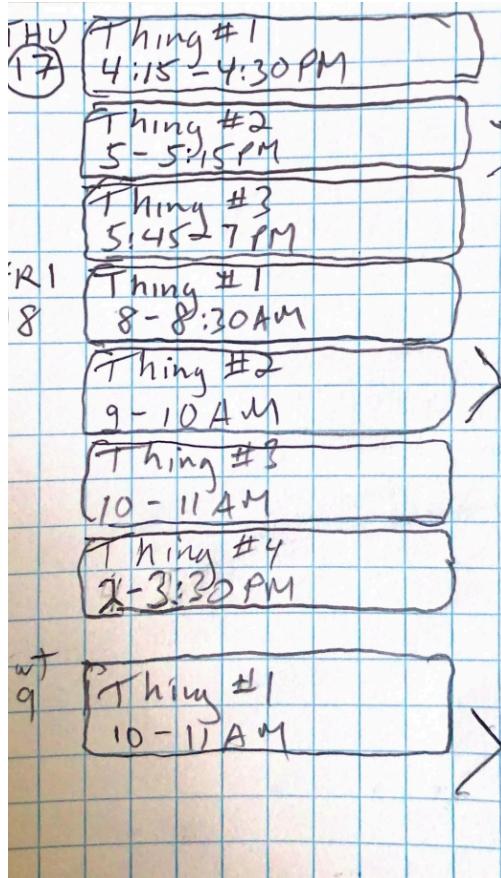


Figure 4—Card prototype #2 showing signifiers that indicate that the user can swipe left corresponding to each day that is in view in the user’s current Schedule view.

When the user uses the swipe left functionality, it would take them to the Day view to be able to quickly and easily add an Event while seeing what time slots are available (Figure 5). In this case, the user swiped left on the right side of the Events on Friday, taking them to the Day view for Friday. The events from the Schedule view are seen, but in the Day view format, which shows how long the Events are as well as available time slots in the day.

From there, adding the Event is exactly the same as it would be in Day view. However, once the event is added, it takes the user immediately back to Schedule view of that day, giving immediate feedback that the Event has been added to the correct time and date. This prototype is much more consistent with the rest of Calendar, while increasing aesthetic and minimal design and giving better feedback.

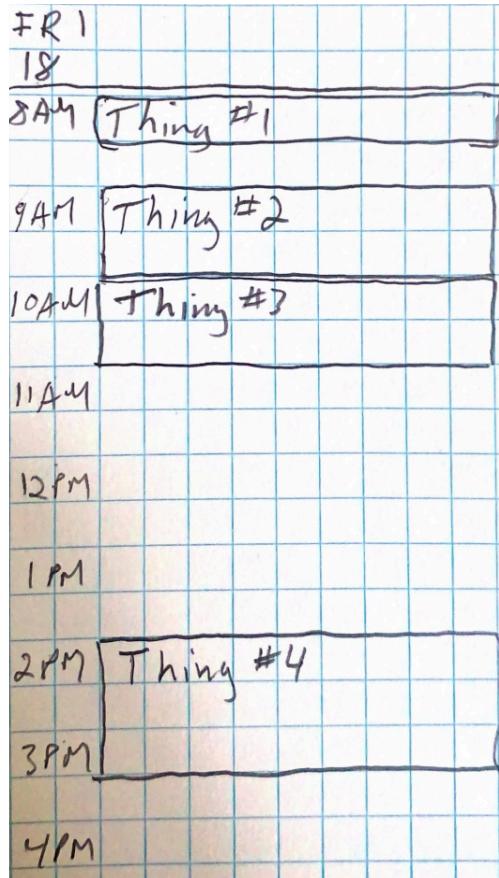


Figure 5—Card prototype #2 showing the Day view of the Friday after the user swiped left on the signifier for Friday from the Schedule view.

The last prototype involves a voice input icon (Figure 6). The user could then choose the current input method with the add icon or choose the microphone icon. Pressing the microphone icon would allow the user to say the name of the event, the date and the time to add. The Event then would show up in the Schedule view. This would be consistent with other applications, but not with other aspects of Google Calendar. There would be potential issues with feedback in terms of making sure that the Event is set at the correct time and date. The different buttons would allow for flexibility in terms of novice and expert users.

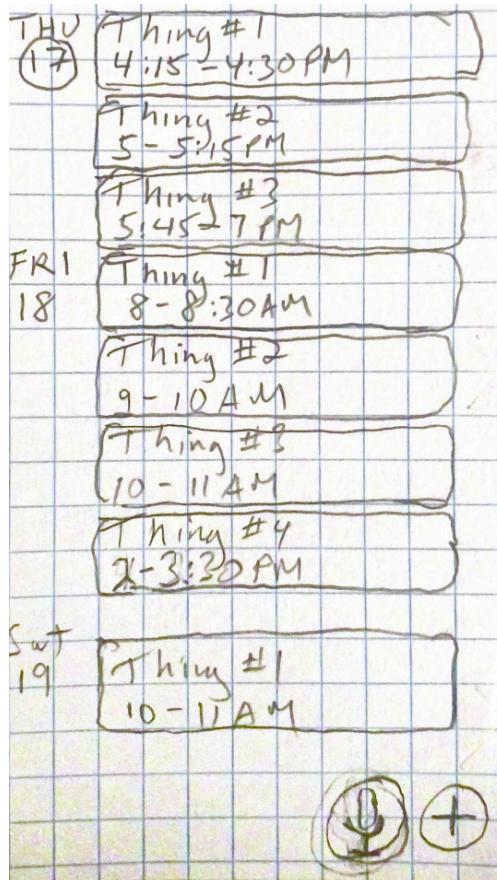


Figure 6—Prototype #3 includes a microphone icon to indicate that you can use voice input to add Events to your calendar.

7 EVALUATION PLANNING

Evaluation will involve both individual interviews and a focus group. The interviews will be done with friends and family, the focus group will be done with a group of five work colleagues. The focus group will be asked to preview the prototypes and to think aloud during the interaction with the prototypes.

All participants will be asked to give feedback comparing the prototypes to the existing design as well as to each other. They will be asked if they understand how the interface appears that it should be used. Several forms of quantitative data will be kept. First, mistakes will be kept track of. Further, they will be asked to rate each prototype on several measures from 0-10. They will rate how easy the interface is to understand, how easy it is to use, the consistency with the other Google Calendar views, and their overall level of satisfaction with the interface. For each of these measures, the mean and standard deviation can be

used to give overall rankings to the various prototypes. They will also be asked about potential concerns or expected frustrations with each prototype. Each person will complete a survey for each of the prototypes.

The voice input will require a Wizard of Oz approach and will be the most difficult to evaluate, especially in terms of feedback from the interface.

8 EVALUATION RESULTS

Five of my work colleagues participated in a focus group. Four more people completed interviews, recruited from my friends and family group. I should have used separate surveys for each of the prototype designs, but I simply included the question of which interface the participant was evaluating and had them go through it three times. This created more work on my end for data analysis (Appendix 5.3).

The highest ratings for any of the designs were for the audio input with 8.75 average rating (on a scale of 0-10) for overall satisfaction with a standard deviation of 0.5. This included a rating of 9.75 for both how easy it is to understand and to use. It was not ranked as well in terms of consistency with the rest of Google Calendar, because audio input isn't used anywhere else in the interface. All participants agreed that they liked this interface more than the existing one with a perfect score of 5.0.

There were, however, some serious concerns, mainly about feedback. It wasn't clear to the participants whether the event they were trying to add had, in fact, gotten added in the right time and place. In the focus group, it was suggested that there be a confirmation page like there is when you add a note or send an email through Siri. When you send a text through Siri it follows up with "Send it"? This includes a pop-up screen that has a cancel button or a green send button with the email. This could easily be included in the prototype for the audio input with the indicated date and time and a message that says "Add it?" You could at that point say add it or cancel, or press the respective buttons on the pop-up.

The second highest rated prototype was the side-bar slider add icon. This was slightly behind the audio input in terms of overall rankings with a satisfaction rating of 8.25 and a standard deviation of 0.96. It was still ranked highly in terms of ease of understanding and use at 8.5 and 8.75 respectively. It was the highest ranked in terms of consistency with the rest of Google Calendar at 4.25 (on a

scale of 1-5) with a standard deviation of 0.5. All participants preferred this interface to the existing one as well - scored at 4.75.

There were no issues raised with feedback on this prototype. Given that the event is actually added in exactly the same way as it would be in any other view of Google Calendar, the interface matches the expectations of the participant in this regard. One question that was raised in the interviews was whether you could overlap the event with one already in your calendar, and that is done in the same way as the current Day view in Calendar.

The final prototype ranked lowest in terms of the participants ability to understand the interface at 6.25 with a standard deviation of 1.5. It was brought up that the swipe left signifiers were not clear or consistent with any other part of the interface. This was also the one prototype that had the most mistakes. It did, however, rate highly in terms of consistency with an average score of 4, given that the swipe feature is used in all of the other Google Calendar views. However, the swipe feature does different things in the existing interfaces. In the existing interface for the Schedule view, swiping right is the delete function, while swiping left does nothing.

So it was brought up in the focus group that there was a fear of using any swipe feature in Schedule view in that it would potentially delete an existing event. This could be rectified with better signifiers. But since no part of the Google Calendar interface uses signifiers of this kind, it is hard to see how this would be useful and clear to use.

9 SECOND ITERATION PLANNING

Given the evaluation and feedback, it makes sense to move forward with the first prototype that has the sliding add icon. This was overall the highest rated design and was preferred by all participants over the existing design. Participants understood how to use it given the affordances of the slider and the add icon. The only mistake made was sliding to the wrong window of time. But in that case, the participant clearly understood what they had done and was able to easily correct their error.

To simplify the user experience even more and be even more consistent with the existing design, the add icon can be slid down the Schedule view on the left and when let go, will pop up the day view for the corresponding day. The slider and

add icon will still be visible on the left side of the screen and the add icon will continue to appear to be “depressed”, or darkened in color. The user can then touch the screen where they want the event in exactly the same way as it is done in the current Day view.

Once the event is added, the view will go back to the existing Schedule view and not remain in the Day view. If the user decides they made a slip in terms of adding the event or which day to add the event, they can tap the add icon and it will also revert back to the original Schedule view.

The audio input also ranked highly and could be included as well in a final design prototype. This design is consistent with other applications that participants are used to and was clearly understood and easy to use. The one criticism was the lack of clear feedback. To make this more useful and consistent with Nielsen’s first principle of “Visibility of System Status”, feedback in the form of a confirmation audio and pop-up will be added. This will be a message that says “Event (actual title) added on X day at Y time”. It will then ask “Confirm?”. The visual pop up will include a Cancel button on the left and a Confirm button on the right to stay consistent with other view interfaces.

To move forward, I will create a medium fidelity prototype that incorporates these ideas.

10 FINAL PROTOTYPE

A final medium-fidelity prototype was designed in Proto.io ([link](#)). The existing screens from Google Calendar were used. The add icon has been moved to the left of the screen with the affordance of the vertical slider bar to slide the icon up and down the screen vertically (Figure 7). The user “pushes” the button and it changes color to signify that it is “depressed”. It can then be slid up or down to the respective day.

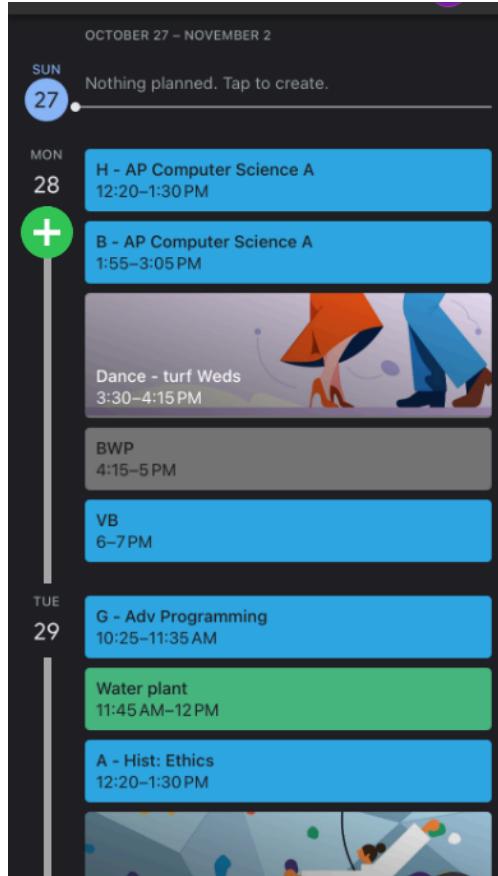


Figure 7—Final Prototype includes the add icon on a slider bar to indicate that you can add Events to different days in your calendar.

When the user picks their finger up off the button, a pop-up appears on the screen that is the Day view from Calendar for the corresponding day. The button and slider remain visible (Figure 8). If this is a mistake or a slip and the user wants a different day, they can simply tap the add icon again and it will take them back to the original screen.

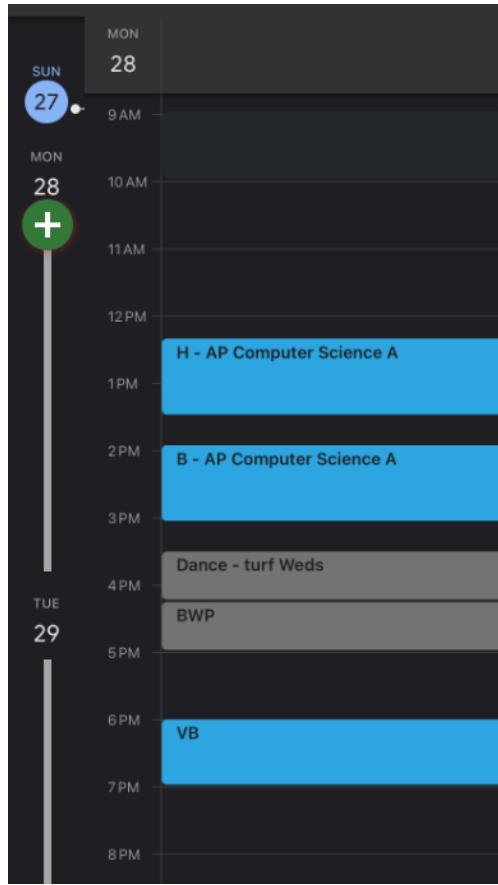


Figure 8—When the button is released, the user is taken to the corresponding Day view in Calendar as a pop-up. The add icon and slider remain.

From here the interaction is the exact same as it would be in the Day view of Google Calendar. The user can simply touch the time block they want. When that is done, the regular pop-up appears at the bottom of the screen that allows the user to “Add title” as well as “Add guests” or “Add room” (Figure 9).

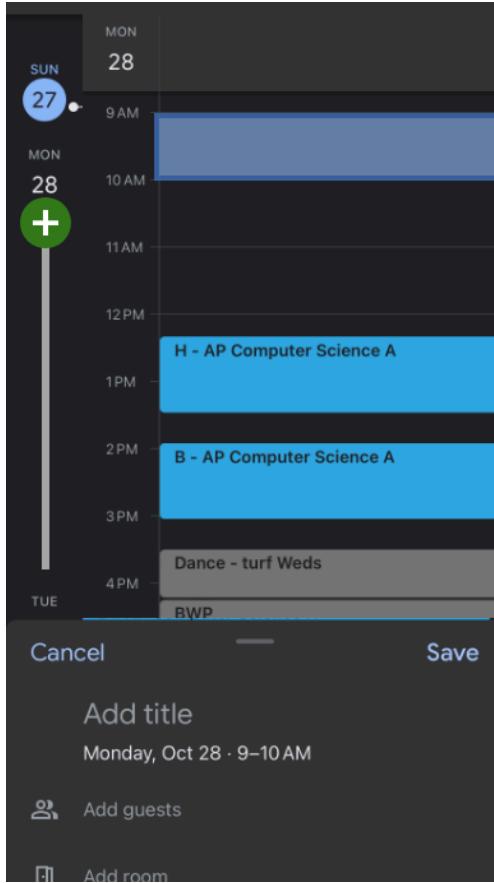


Figure 9—In the Final Prototype, touching a time block gives the normal Google Calendar pop-up from Day view to add the title of the event.

There are also “Cancel” and “Save” buttons on the top left and right of the pop-up respectively. Tapping either of those two buttons takes the user back to the home Schedule view, either with - Save - (Figure 10) or without - Cancel - the new Event. In a high-fidelity prototype, I would include the ability to make the time block shorter or longer through the ability to enlarge the time box available.

In this example, the user wants to add a new event on Monday at 9 AM. They leave the add icon where it is and press it. The Monday Day view comes up as a pop-up on the screen. They then touch the 9-10AM time slot and the regular Google Calendar bottom pop-up appears with the day and time as confirmation and the user adds the title (and guests and room if wanted). Once they type in “New event” and click save they are returned to the Schedule view with the new event included.

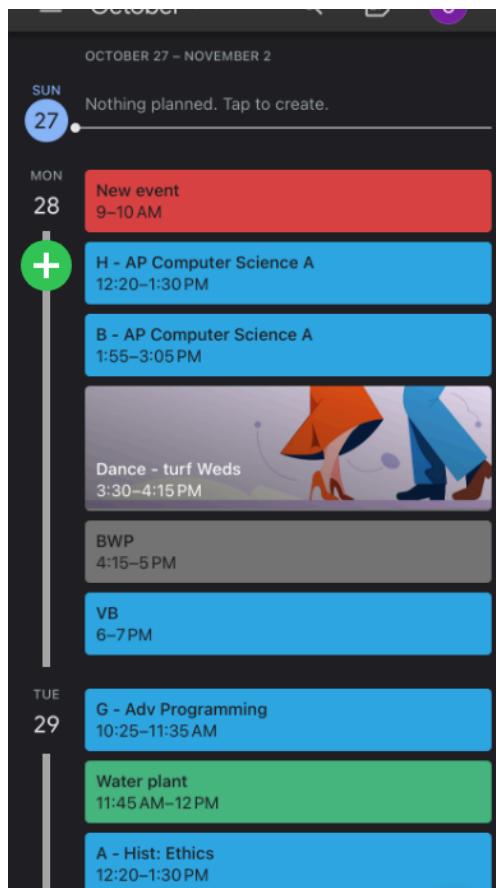


Figure 10—The new event has been added after clicking save and the user is taken back to the Schedule view.

11 VIDEO PROTOTYPE

The video prototype can be found [here](#).

12 FINAL EVALUATION PLANNING

The final evaluation will again use a focus group and interviews. The survey will ask most of the same questions used in needfinding but will also ask about or record actual mistakes, because the interface is interactive. The focus group and the interviews will be based on participant interactions with the medium-fidelity prototype.

The interviews will be done with friends, family, and classmates. The focus group will be done with a group of five work colleagues. The focus group will be asked to preview the final prototype and to think aloud during the interaction with the prototypes.

All participants will be asked to rate each prototype on several measures from 1-5. They will rate how easy the interface is to understand, how easy it is to use, the consistency with the other Google Calendar views, whether they prefer it to the existing Google Calendar Schedule view and their overall level of satisfaction with the interface. For each of these measures, the mean and standard deviation can be used to give overall rankings to the various prototypes. They will also be asked about potential concerns or expected frustrations with each prototype.

13 FINAL EVALUATION RESULTS

I did four in-person interviews and talk throughs as well as three online interviews and talk-throughs. The participants were recruited from family, friends, colleagues and other students from our class.

All of the quantitative ratings were from 1 to 5, with 5 being the highest rating. For how easy the interface is to understand, everyone rated it a 4. For ease of use, the average rating was 4.29. The rating for how consistent the interface is with the rest of Google Calendar was the same at 4.29. The overall satisfaction with the interface was 4.43 with a standard deviation of 0.53. The final rating for the interface was whether participants preferred this interface to the existing Google Calendar Schedule view interface. The rating scale was also from 1-5 with 3 being that rating if participants did not prefer one or the other. The rating from participants was 4.57, showing a strong preference for this interface to the existing one. The standard deviation was 0.53.

The final quantitative analysis was of mistakes made by participants in using the interactive medium fidelity interface. The average number of mistakes was 0.85, suggesting that the interface does a good job in terms of being easy to understand and learn and would quickly become invisible.

There were several issues brought up that would lead to another round of prototype development and evaluation. The biggest issue was how to reverse a mistake. The primary mistake was clicking on the add icon associated with the wrong day. The way that the interface is designed is that the add icon changes

color to signify it being “depressed”. Therefore to get back out of the Day view screen and return to the home screen, one should click on the add icon again, but that wasn’t clear to all participants. One specifically said “I wouldn’t think to take the same action that created the mistake to get out of it.” So there should be an easier way to fix that mistake if made or another clearer way of doing it.

The other thing that could be done is that instead of having an add icon that scrolls up and down the left side of the screen, there is simply an add button directly under each day heading. The Schedule view scrolls up and down and so each day would have its own add icon and that would also map well to the fact that once clicked it takes the user to the corresponding day view to add an event.

Finally, it was difficult to implement all aspects of the design into the medium fidelity prototype. The fact that the pop-up page is the same as the Day view in Google Calendar and has all of the same functionality was something that wasn’t entirely clear to all participants.

Overall, the goal was to address consistency, discoverability, structure and simplicity. This prototype does that with high user ratings and is preferred to the existing interface design.

14 REFERENCES

1. Nielsen, J. (1994). 10 Usability Heuristics for User Interface Design. Retrieved from <https://www.nngroup.com/articles/ten-usability-heuristics/>.
2. Norman, D. (2013). The Design of Everyday Things
3. Constantine L. & Lockwood L. (1999), Software for Use

15 APPENDICES

15.1 Survey Questions

1. Do you use Google Calendar on your phone?
2. Do you use an Android or iPhone?
3. Which view do you use most often?
 - a. Schedule
 - b. Day
 - c. 3 Day

- d. Week
 - e. Month
4. Why do you use that view on your phone?
 5. Is there anything you find frustrating about using Calendar on your phone?
 6. How often do you add events from your phone?
 - a. More than once a day
 - b. Daily
 - c. Weekly
 - d. Never
 7. I am satisfied with my ability to add events from my phone.
 - a. Strongly agree
 - b. Agree
 - c. Neither agree nor disagree
 - d. Disagree
 - e. Strongly disagree
 8. Is there anything that would make a different view in Calendar more appealing?
 9. What view do you use on your computer?
 10. I am satisfied with my ability to add events from my computer.
 - a. Strongly agree
 - b. Agree
 - c. Neither agree nor disagree
 - d. Disagree
 - e. Strongly disagree

15.2 AI Brainstorming Transcript

I would like a brainstorming partner. Do you have any interesting design alternatives for redesigning Google Calendar Schedule view, in which the ability to add events on a phone is inconsistent with the rest of the calendar view. I would like to be able to add events in Schedule view in a more efficient way

ChatGPT said:

Here are some ideas for redesigning Google Calendar's Schedule view to improve event creation on a phone:

1. Quick-Add Buttons Embedded in the Schedule View:

- **Current Issue:** You have to navigate away from the Schedule view to add events.
- **Solution:** Add a floating "+" button next to each day in the Schedule view so users can instantly tap it to create an event for that specific day. This avoids navigating away from the schedule, improving flow and efficiency.

2. Inline Event Creation:

- **Current Issue:** The process of adding an event takes too many steps and disrupts the viewing experience.
- **Solution:** Users can tap a time slot directly in the Schedule view to bring up an inline editor without leaving the current view. This would let them add event details (title, time, location) in the same space, with quick-edit fields similar to the "inline reply" feature in messaging apps.

3. Drag-and-Drop Event Addition:

- **Current Issue:** It's hard to visualize new events directly within the existing schedule.
- **Solution:** Introduce a drag-and-drop interface where a user can drag an event creation icon to a desired time slot or day. When dropped, a pop-up allows for adding event details.

4. Voice-Activated Event Creation:

- **Current Issue:** Tapping through screens on a mobile device can be cumbersome.
- **Solution:** Implement a voice input button in the Schedule view so users can dictate new events with commands like "Add meeting on Friday at 2 pm."

5. Adaptive Event Suggestions:

- **Current Issue:** No personalized suggestions are made based on your schedule.
- **Solution:** Use AI to suggest event times, contacts, and recurring events based on previous patterns. For example, if you often have a "team meeting" on Fridays at 2 pm, the app could suggest that automatically when you start typing.

6. Event Templates:

- **Current Issue:** Adding repetitive events can be time-consuming.
- **Solution:** Add a feature where users can create and save event templates (e.g., "Team Meeting," "Doctor Appointment") that include pre-filled details. These templates could be accessed via a long-press or quick-access button.

7. Scrollable Timeline at the Bottom:

- **Current Issue:** It's hard to navigate to different days quickly.
- **Solution:** Add a horizontal scrollable timeline at the bottom of the screen (e.g., a weekly timeline view), where users can tap a day to jump to it within the Schedule view and add events by long-pressing a time slot.

8. Persistent "Add Event" Option:

- **Current Issue:** Users are forced to rely on a single floating action button for event creation.
- **Solution:** Make an "Add Event" button always present at the top of the screen when scrolling through the Schedule view. This ensures users don't have to hunt for the button as they scroll through days.

9. Multi-Day Event Creation from Schedule View:

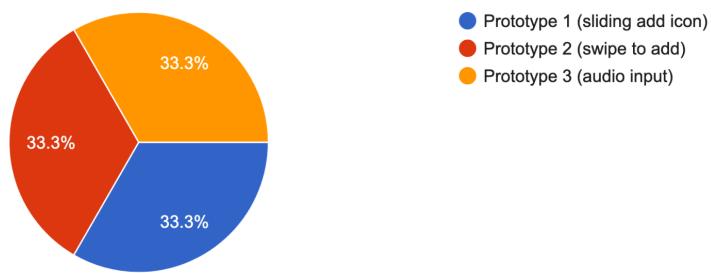
- **Current Issue:** Creating multi-day events takes several steps.
- **Solution:** Allow users to long-press and drag across multiple days within the Schedule view to create a multi-day event instantly, similar to how

some calendar apps allow you to click and drag to block out times in the grid view.

15.3 Prototype Evaluation Survey Results

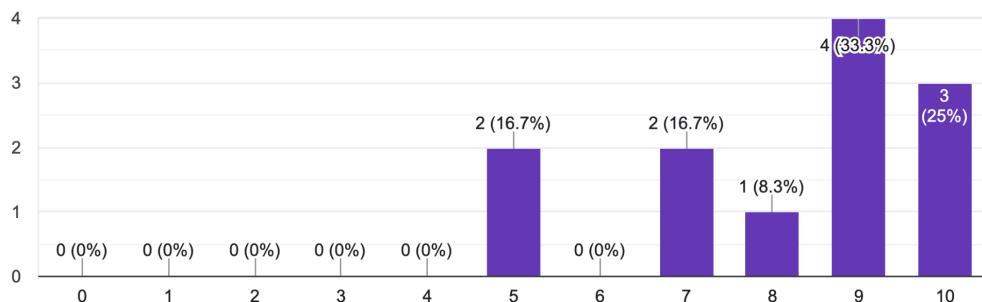
Which interface did you use?

12 responses



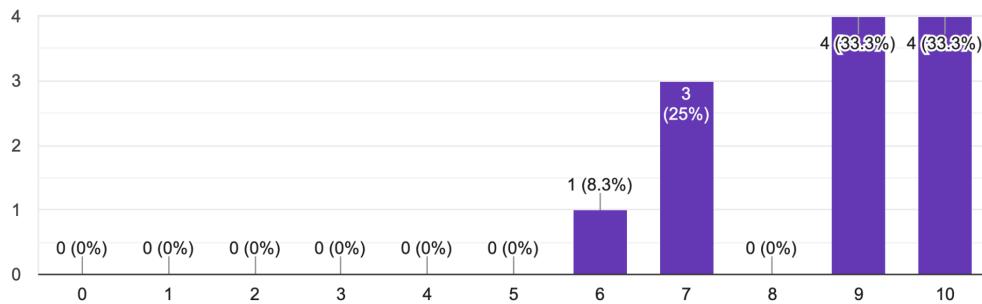
How easy is the interface to understand?

12 responses



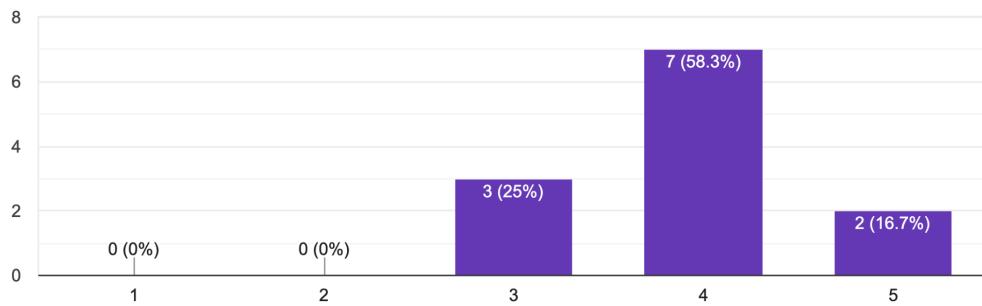
How easy is the interface to use?

12 responses



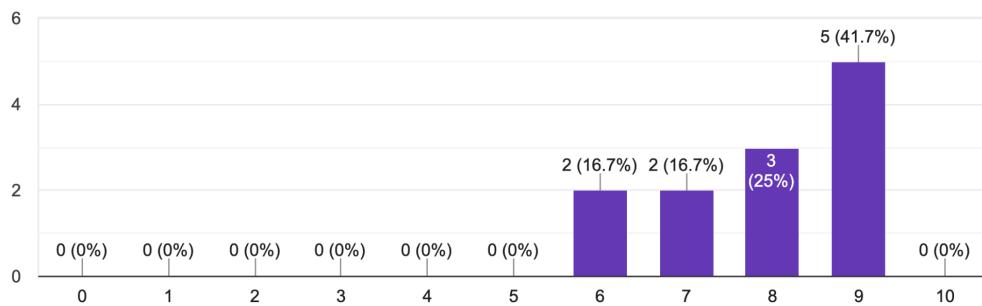
How consistent is this interface with other views of Google Calendar?

12 responses



What is your overall level of satisfaction with the interface?

12 responses



Do you prefer this interface to the existing interface?

12 responses

