amisu

The Team

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Problem and Solution Overview

As people progress in life, they will oftentimes have to part ways from their close friends. This distance between friends can easily cause a decline in frequency of communication. There are many social media websites that attempt to keep people connected, but they can easily become cluttered with entertainment, ads, and acquaintances. This clutter of current social media makes it difficult for people to stay connected with those who really matter in their lives.

Our team wanted to create a more intimate and intentional communication application to keep people connected to long-distance best friends. In order to make *amisu* more intimate, we decided to focus our app on video communication and memories. Through *amisu*, people can schedule video calls without worrying about time differences and reflect on their relationship as they continue to grow in their lives. We hope that this solution will help keep friendships together, even when separated by thousands of miles.

Initial Paper Prototype
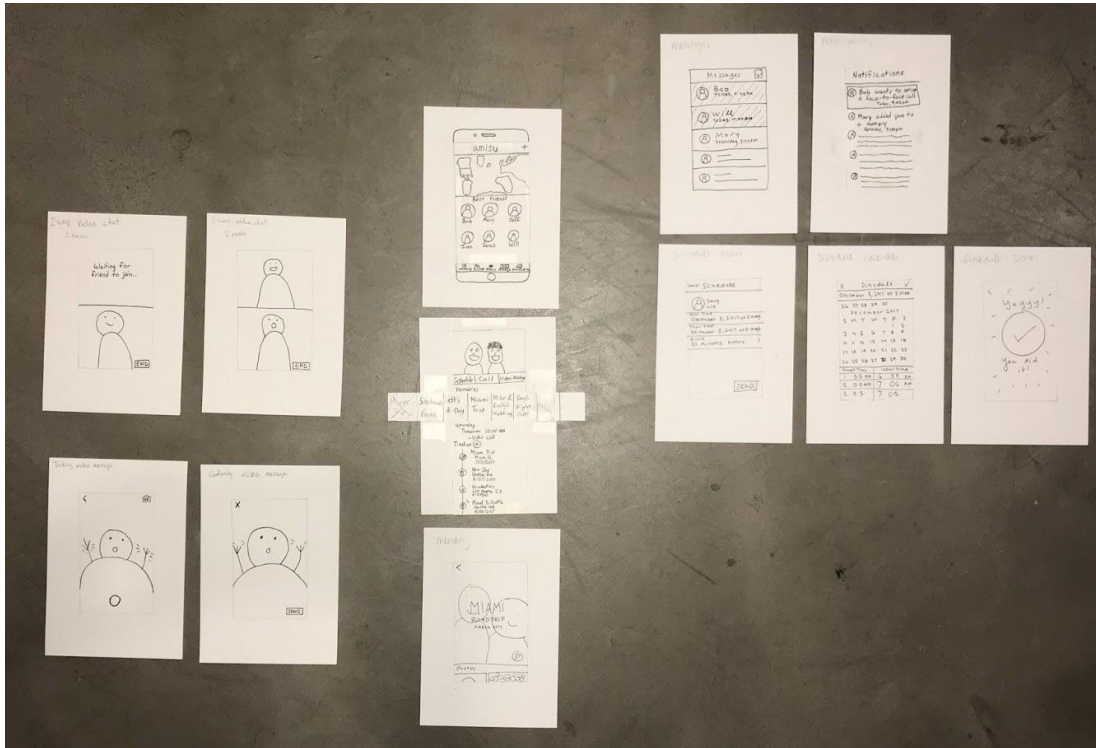
Task 1: Scheduling a Video Call
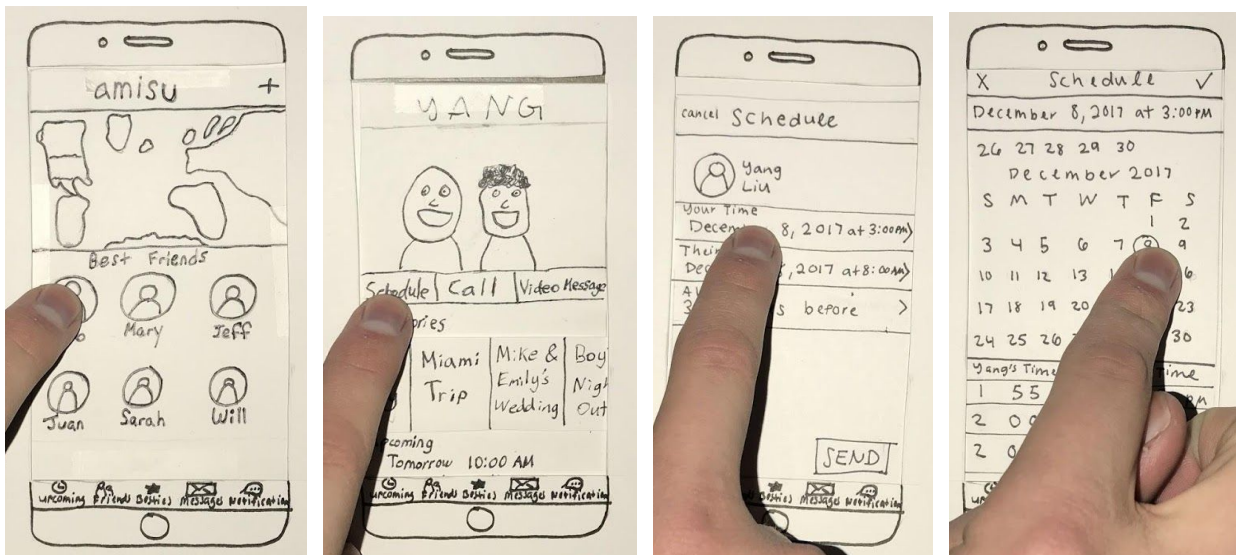
(1) Bob wanted to schedule a video call with his friend Yang. He found Yang from the Best Friends list on the home page.

(2) Bob entered Yang's profile and clicked the Schedule button.

(3) In Schedule, the application shows user's local time and their friend's local time.

(4) Bob picked a date for the video call.

(5) The app shows the scheduled time for both friends and alert option. Bob confirmed the information and clicked SEND button.

(6) The invitation was sent to Yang.

(7) Yang received a notification that Bob wants to set up a face-to-face call on a certain date.

(8) Yang accepted the request.

(9) The video was scheduled successfully.

(10) Yang received a notification 30 minutes before the start time.

(11) Yang clicked VIDEO CHAT BOB.

(12) Yang joined the video chat and waited for Bob.

(13) Bob joined and they had a cheerful video chat.

Task 2: Reflecting and Appreciating a Friendship
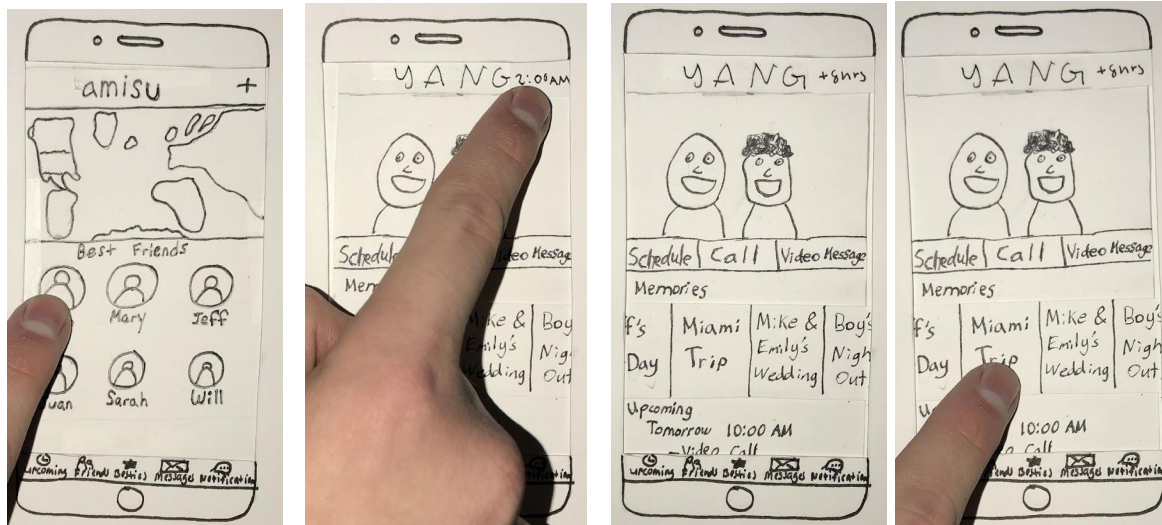
(1) Bob missed his friend Yang and decided to check their Memories on amisu.
(2) Bob could see Yang's current local time or how many hours he's ahead of him by tapping the top-right corner.
(3) 2:00AM was changed to +8hrs.
(4) Bob clicked Miami Trip to see more details.

(5) Bob browsed their videos and photos from Miami Trip.
(6) Bob decided to return to profile page.
(7) Bob decided to send a video message to Yang.
(8) Bob recorded a video clip.
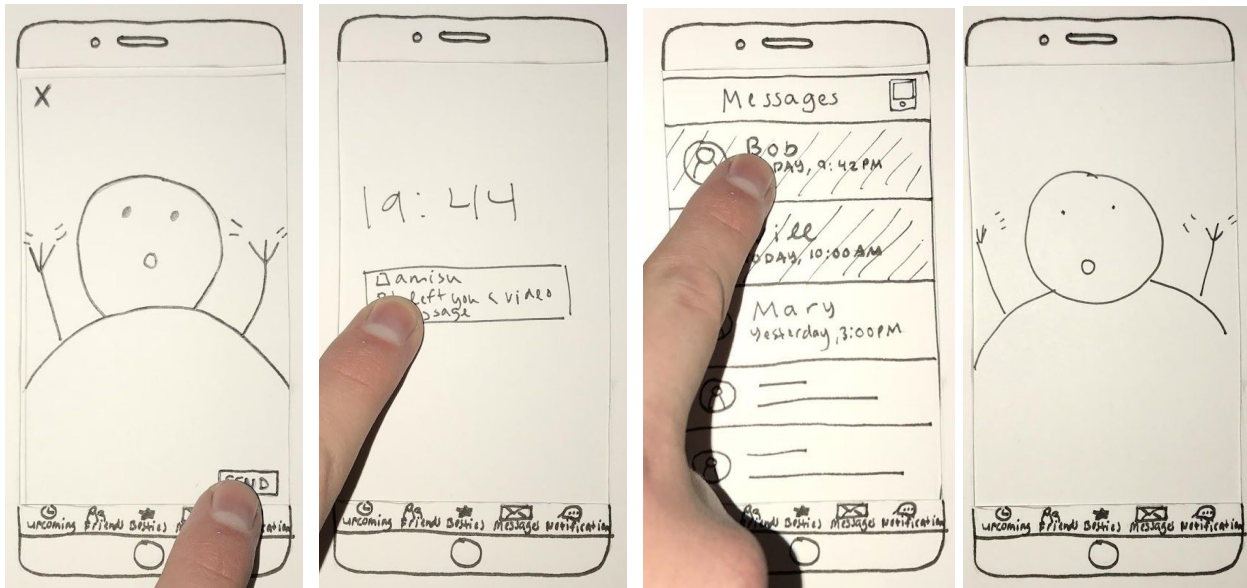
(9) Bob clicked SEND to send the message.

(10) Yang received a notification that Bob left him a video message.

(11) Yang checked the unread message from Bob.

(12) The app played the video message.

Testing Process

Our testing method was through having users complete two tasks using our paper prototype.

Our first task was split up into three sub-tasks. They were:
      (1) Schedule a video call with a friend.
      (2) Edit a scheduled video call with a friend.
      (3) Conduct a video call that was scheduled with your friend.

Our second task was split up into two sub-tasks. They were:
      (1) Create a memory with a friend.
      (2) Edit an existing memory with a friend.

First, we would introduce the user to our app and explain the main features of the app. We would not show them what the app looked like until we started the tasks. After this, we would ask them to complete the given sub-task. We asked them to ask any questions and state any confusions they had, but we would not answer the questions. There were a few questions we would answer because our paper-prototype did not represent some aspects of our app well enough for people to perceive what the components were. An example of this would be in our schedule a call section. The time selector is supposed to be a scroll-wheel, but it was challenging for us to draw it. All participants asked what it was, and we always said it was a scroll wheel, and this always cleared up any confusion.

Once all tasks were completed we asked our users to inform us of all the confusions they had with our app. If we noticed they were confused about something during the tasks, but they didn't bring it up, we would ask them about it. This was often where we got the most useful information from the user tests because they would go into more detail about why it was confusing to them. After all of the confusions were discussed, we would ask them about what their favorite parts were about the app. This helped us with what design ideas we should expand upon in our app.

Our testing process did not change a lot as we went from user to user. This is because we thought the way we did our user tests gave us a lot of valuable information. Instead, we did small updates on the paper prototype that helped clear up small confusions people had that we did not expect. By doing all of the user tests in a similar way, it was easier for us to compare the feedback from each user. It was nice to see as we made small improvements after each user test, that the next user had less confusions about where to go or what our app's components did.

Testing Results

Heuristic Evaluation

We found many problems with our paper prototype when we did our heuristics evaluation.
We found out that we had too many issues with video messaging so we decided to remove this aspect of our design so that we could focus on other areas. Many of the other issues were problems with consistency or error prevention. Some of the issues we encountered were:

- **External Consistency** - We didn't include a way to expand pictures in our paper prototype. This breaks consistency and standards as most other applications allow you to expand on an image simply by clicking on it. To fix this we included screens that would allow people to expand pictures.
- **External Consistency** - We never included a "change camera" button or a "mute" button in our video call. This is a problem because people expect to be able to mute themselves when calling someone and they also expect to be able to use both cameras on their phone. To fix this we included these two buttons on our call screen.
- **Error Prevention** - Our nav-bar was still visible when video chatting. This could cause problems if people accidentally switch screens while calling. To fix this issue we decided to remove the nav-bar from the call screen.
- **Error Prevention** - When exiting out of the "Schedule" screen, users might not be quite ready to discard the invitation. To fix this we decided to add a screen that asks the user to confirm that they wish to cancel their invitation.
- **Minimalist Design** - We had a lot of clickable buttons scattered through our friend page. This made our design look very cluttered and not very minimalist. We decided to include a plus icon that creates a drop down menu where our users can add a memory or schedule a video call (we decided to undo this revision after usability testing).

Usability Testing

Before conducting usability testing, we fixed the issues that we found in the heuristic evaluation. Even after fixing those issues we found several problems with our design. For these tests we asked our participants to perform a series of tasks to show if they could navigate through our application without any explanation. We used three people for our tests. The first was Armol, a Master of Human-Computer Interaction and Design student. We conducted this test in the fireplace room at the HCDI studio. The next two participants were Hector and Elias, who are both Kellan's roomates. Hector is a fifth year senior studying physiology and Elias is a senior studying Spanish.

Usability Test 1

- **Schedule Page** - Our first participant struggled when asked to edit the time on a scheduled video chat. They did not know where to click when they arrived on this page. When asked after the test why she had difficulties with this, she said that she thought that was her current time, not the one that she could change. To fix this, we changed "your time" to say "pick your time". We believe that this will make it more obvious for the user to tell that they can edit that time.

- **Friend Page** - Our participant got confused with the upcoming section already showing a call before they scheduled one. This problem was more of an issue with our paper prototype than with our design. For the next usability tests, we covered up this section so that they were not confused when seeing this page.

Usability Test 2

- **Editing a Memory** - When asked to edit a memory, our second participant wanted to add photos to one and we realized that we had not implemented this into our paper prototype. This is a pretty serious with error recovery as people might forget to add pictures initially or they might delete photos on accident and we need a way for them to add them in later. In order to fix this issue we made the last photo icon that our users could click on to add more photos.
- **Scheduling a Call** - When asked to schedule a video call, our participant struggled to find the correct button. His first instinct was to click the "video call" button which puts the user straight into a call. It took him a bit of time to find it in the "+" drop down menu. This is a very serious issue as scheduling calls is supposed to be a major feature of our app and it seems to be hiding in a drop down menu. We decided to undo our drop down menu and make "schedule call" and "add memory" more prominent buttons that are always visible.
- **Accidentally Deleting Scheduled Call** - Our participant accidentally deleted an upcoming video call by clicking the "X" button. He thought that this canceled the slide buttons but the button actually deletes the scheduled call. We decided to include a popup screen that prompts the user to confirm this action.
- **Scheduling Call for a Different Time Zone** - This didn't come up in our usability tests, but we realized that we didn't think about what would happen to a scheduled call if you were going to be in a different time zone, or if when you already scheduled a call and happened to be in a different time zone when the call was happening. We decided to add fields for where you think you'll be during the call. This will auto fill with your current location, but can be changed by clicking on it and typing in a new location

Usability Test 3

- **Scrolling Cue** - Our third participant stated that the only reason that he knew there was scrolling on this page is because he saw the rest of the paper screen sticking out the bottom. This is a serious issue but also partly a limitation of our paper prototype. When we created our digital mock up, we intentionally included partial visibility of content at the bottom of the screen lets the user know that there is more to see.

Final Paper Prototype

Task One: Schedule a Video Call, Editing a Scheduled Video Call, and Conducting a Video Call

Part 1: Scheduling a Call with a Friend
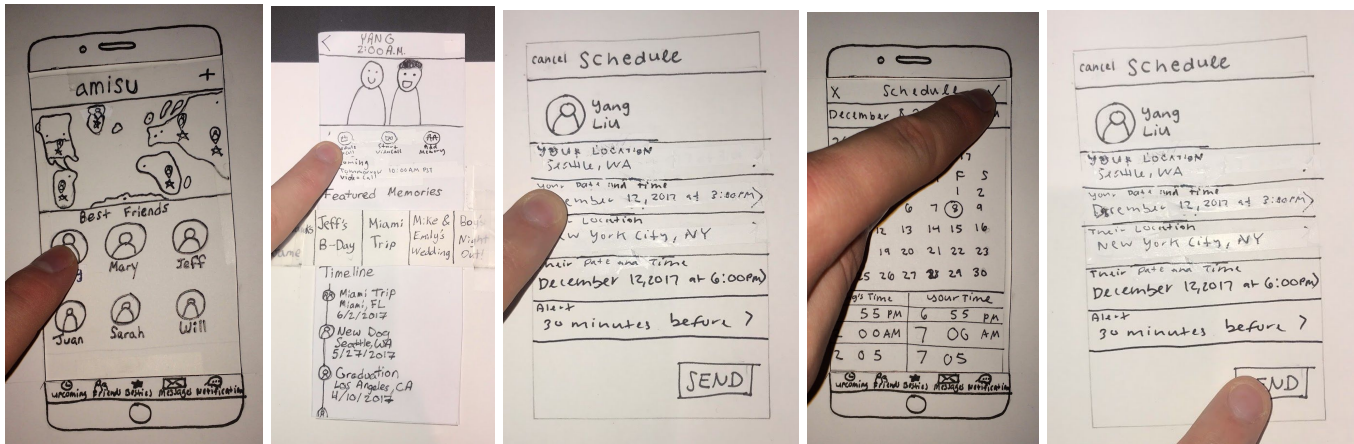
(1)Click a friend you want to schedule a video chat with.
(2)Click the "Schedule Call" button.
(3)Click on "Your Date and Time" to edit when the call should be scheduled for.
(4)After editing the day and time, click the check in the top right to confirm your changes.
(5)Click on "Send" to finish the scheduling and send it to your friend.

Part 2: Editing a Scheduled Call
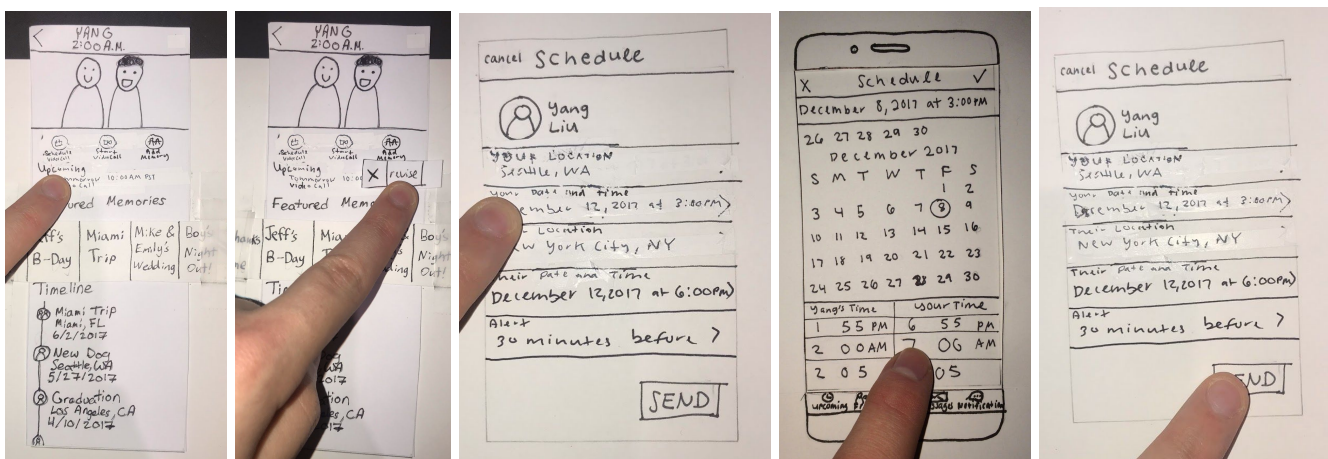
(1)To edit a scheduled call, click on the call in the "Upcoming" section of the friend page.
(2)Click on "Revise" to edit the call.
(3)Click on "Your Date and Time" to edit when the call should be scheduled for.
(4)After editing the time and date, click the the "Check" on the top right to accept your changes.
(5)After reviewing the information, hit send to update the scheduled call's information.

Part 3: Calling your Friend
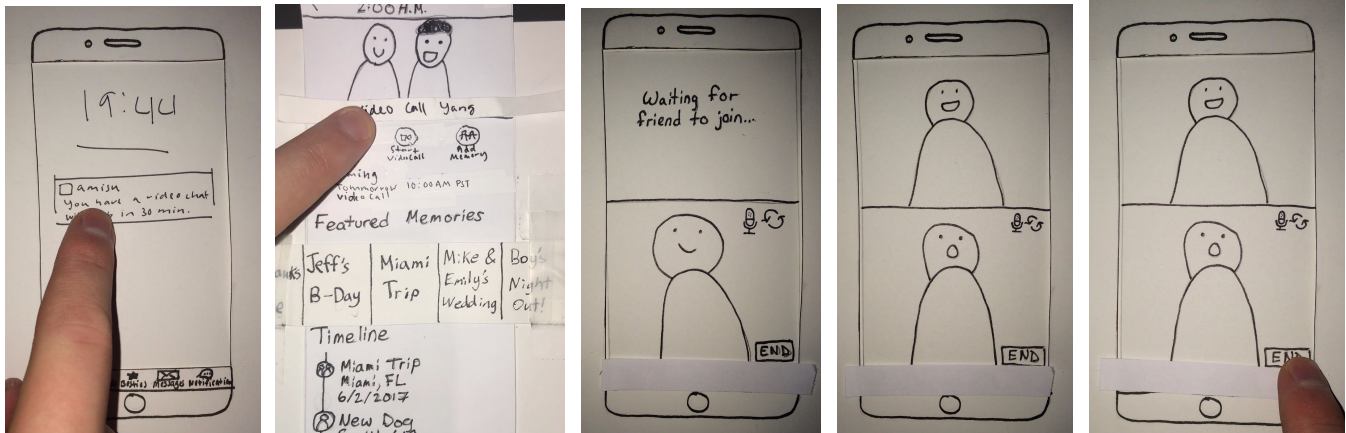
(1)Click or swipe the notification to be taken to their friend's friend page.
(2)Click on video call to enter a video call with your friend.
(3)Wait for friend to join.
(4)Talk and enjoy a video call with your friend.
(5)To end the call with your friend, click end.

Task Two: Creating and Editing a Memory

Part 1: Creating a Memory
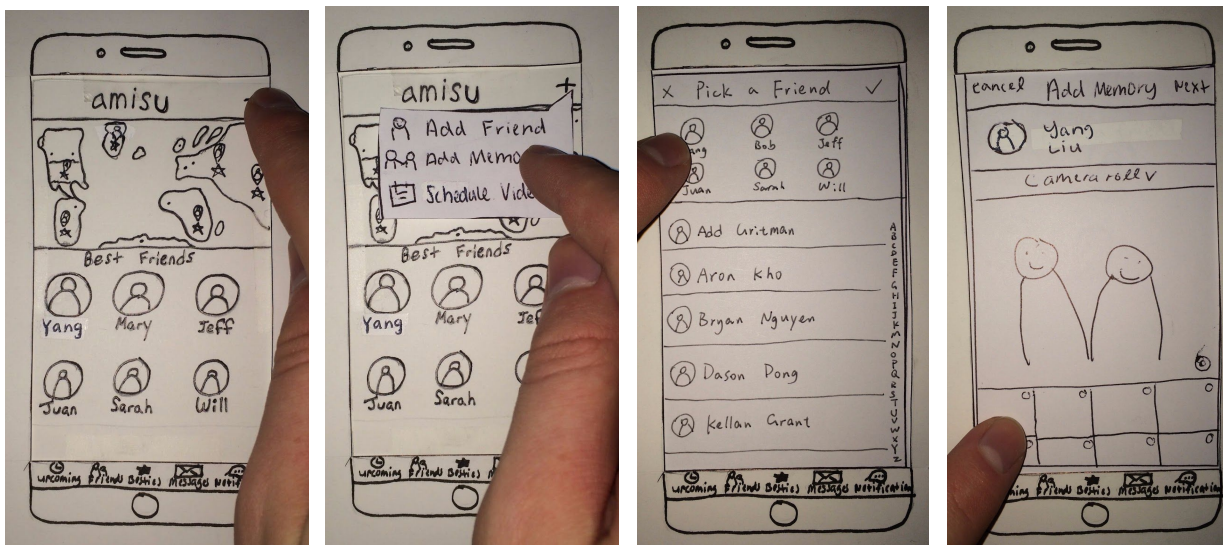
(1)Click the "+" in the top right to get more options
(2)Click "Add Memory" button.
(3)Click the friend you want to create a memory with (In this case, Yang).
(4)Select all the images you want for this memory.
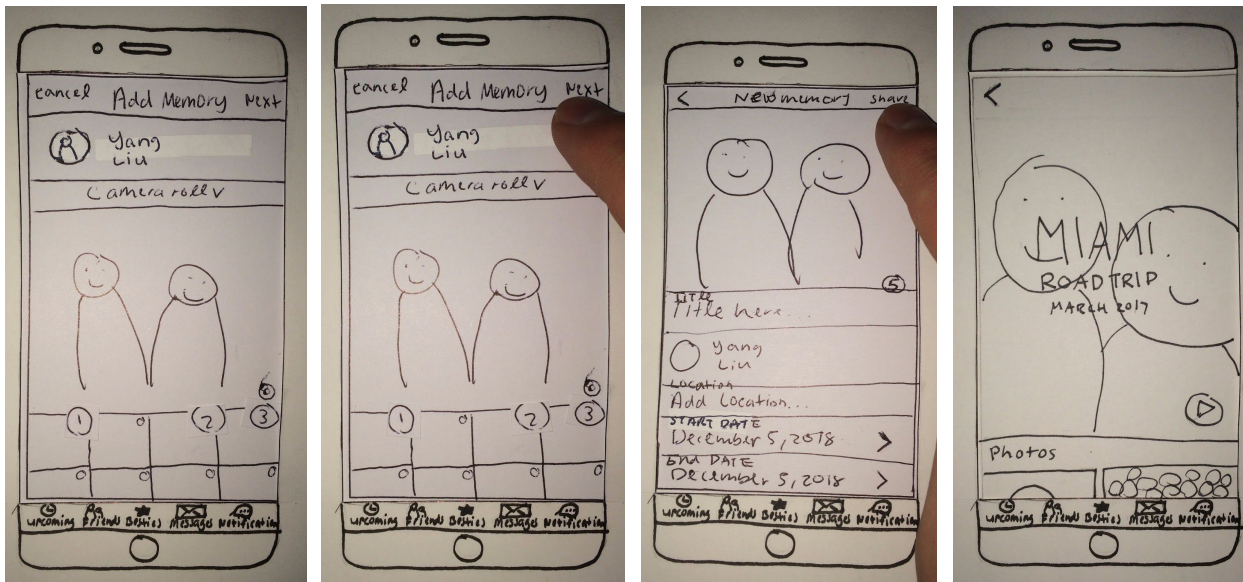
(5)Select all the images you want for this memory.
(6)Click "Next" once you have selected all of the pictures you want to add.
(7)After editing the values, click share to post the memory.
(8)Click the back arrow to return to the friend page.

Part 2: Editing/Deleting a Memory

(1)Click on the memory you want to edit.
(2)Drag down to the very bottom of the page.
(3)Click the "Edit Memory" button.
(4)Delete pictures you don't want by clicking the "x" next to the picture.
(5)Click "Save" when you are done editing the memory. To exit screen, scroll up and click the back arrow.

Part 3: Adding to a Memory
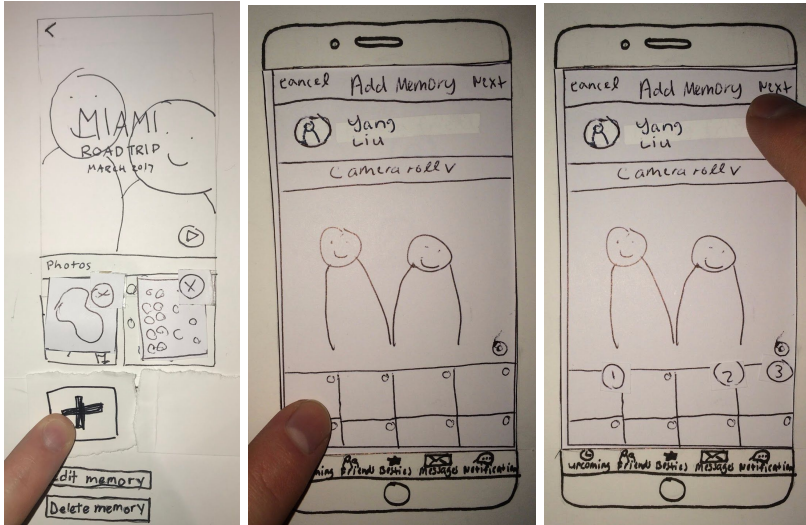
(1)Click on the "+" icon
(2)Select all the images you want for this memory.
(3)Click "Next" once you have selected all of the pictures you want to add.

Digital Mockup

Task 1a: Schedule a Video Call
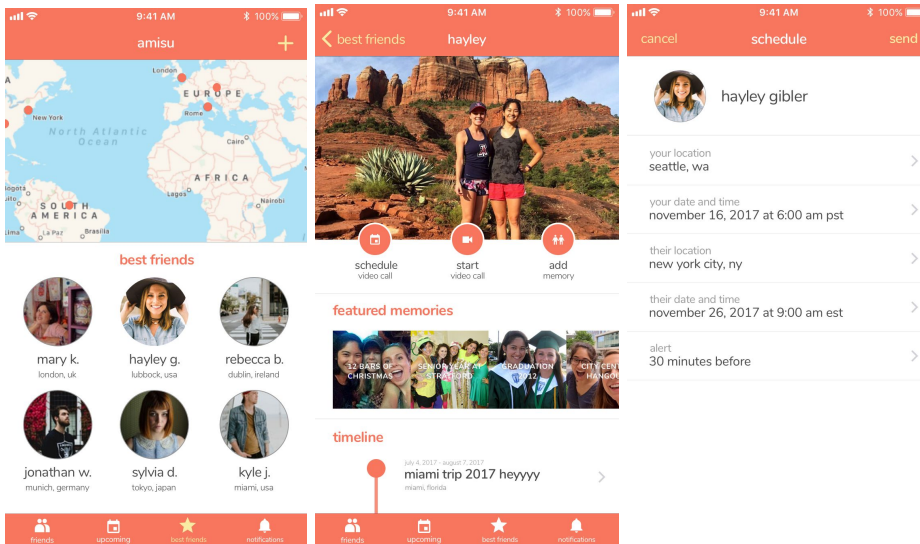
The first screen represents the best friends/home page. Your top friends and their location are shown. Tapping on "hayley g.", you are sent to her page containing actions to "schedule video call", "start video call", and "add memory". There are already a handful of featured memories to see and a timeline overseeing your pivotal milestones and memories with Hayley. Clicking on "schedule video call", you arrive to a screen with information on your location, date and time, along with theirs.

Changes
The send button on the schedule screen has been moved to the top right corner for consistency.
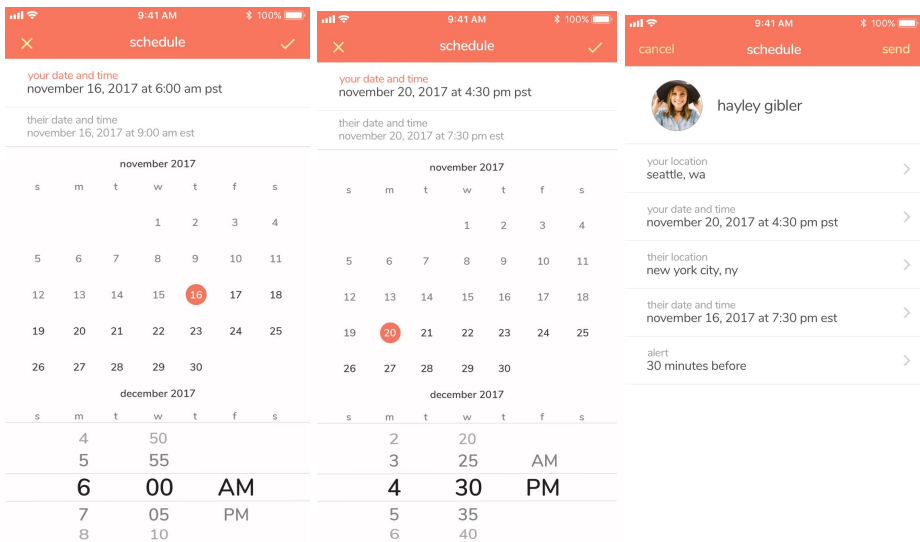
Tapping on "your date and time" brings you to a calendar and time picker. As you go about picking a suitable time, both cells are updated in the top two rows: "your date and time" and "their date and time". You can immediately see how the time difference impacts you and your friends. Finally picking a good time, you checkmark out and then hit "send".

Changes

Initially, the picker had two time pickers, but it was critiqued as a bit confusing so we changed it to one picker and added another row with "their date and time" above the pickers.
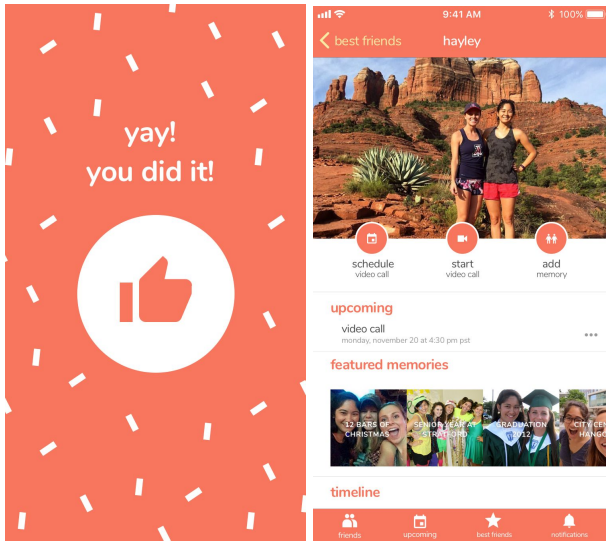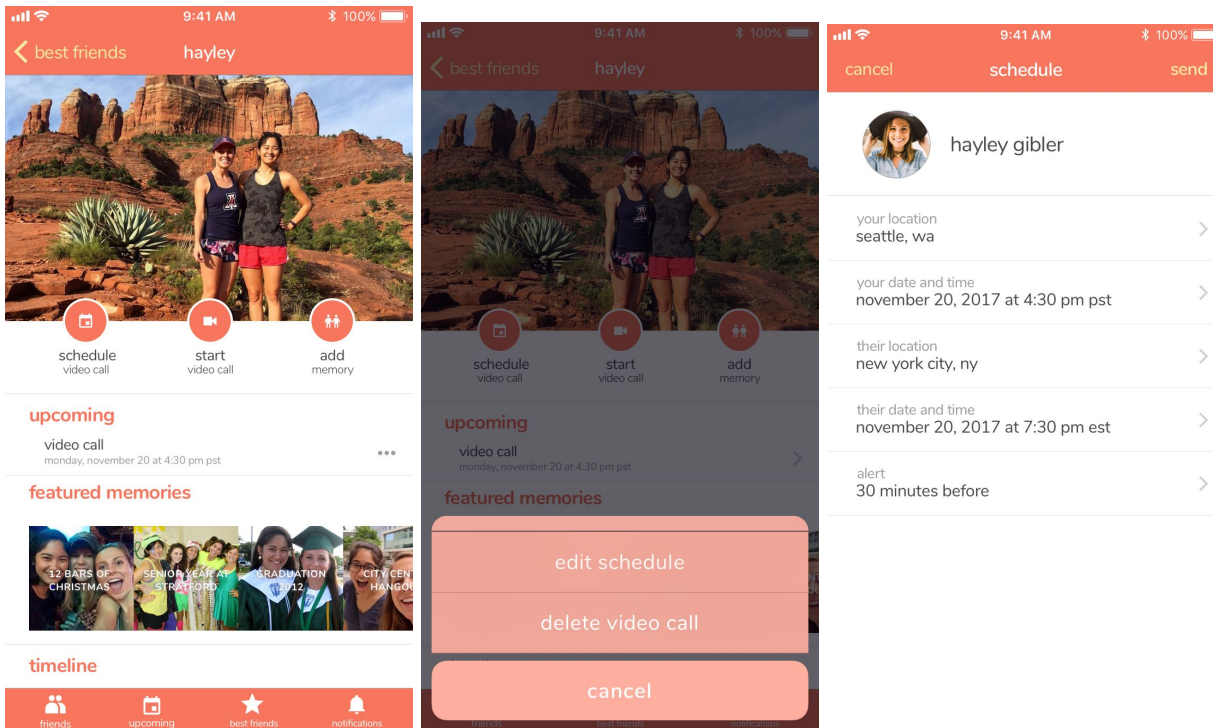

It's been confirmed that it's been sent, and Hayley's page is updated with an "upcoming video call".

Changes

In the upcoming section, the date and time now includes the day of the week to help remind people which day the call is on.
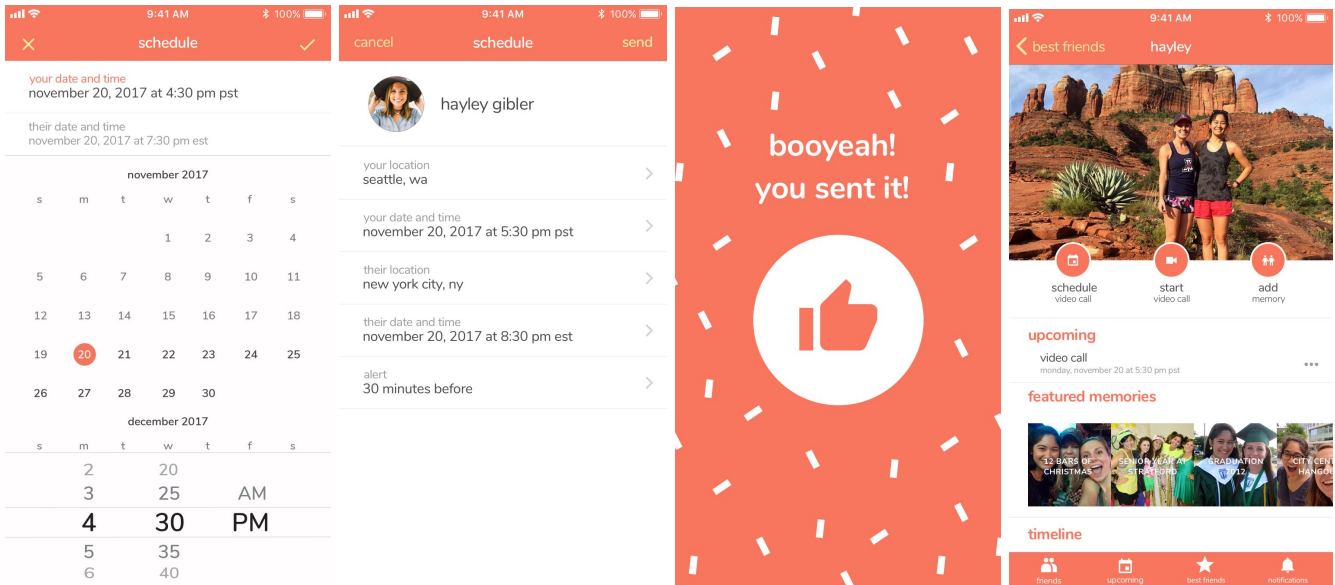
Task 1b: Edit a Video Call

You can also edit or delete the video call when you click on the three dots on the right of the upcoming video call.

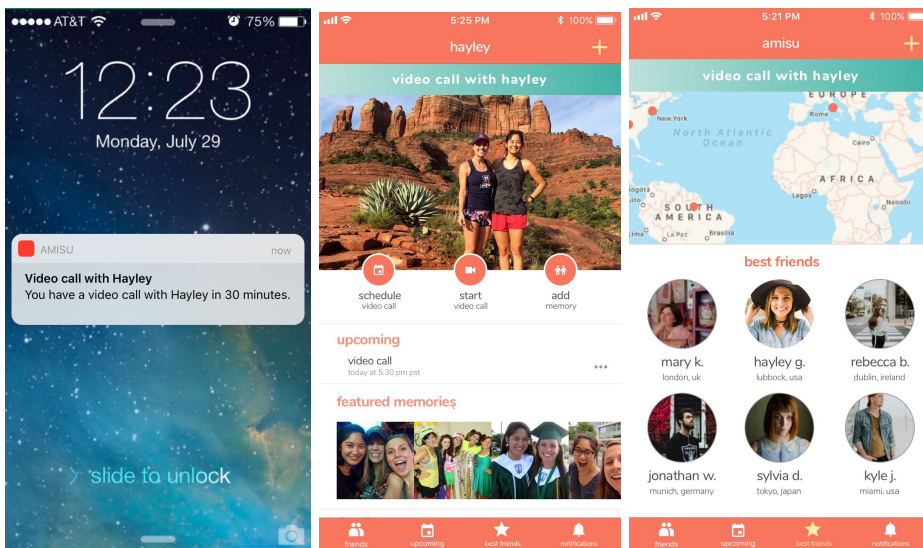Editing takes you back to the schedule screen.

We removed the arrow and the sliding feature and placed three dots to tap on instead. In this way, the user is given a more familiar interaction to edit or delete the video call.


Again, you can pick a new date and time that also updates their date and time, and send out the request.

Task 1c: Video Call

There are two main ways to access the video call. 1) Tap on the notification and that will take you straight to the friend's page. An active gradient banner on top is clickable and can take you to the video call as well as tapping on "start video call". 2) You can enter the app into the homepage/best friends page, and click on the banner on top.
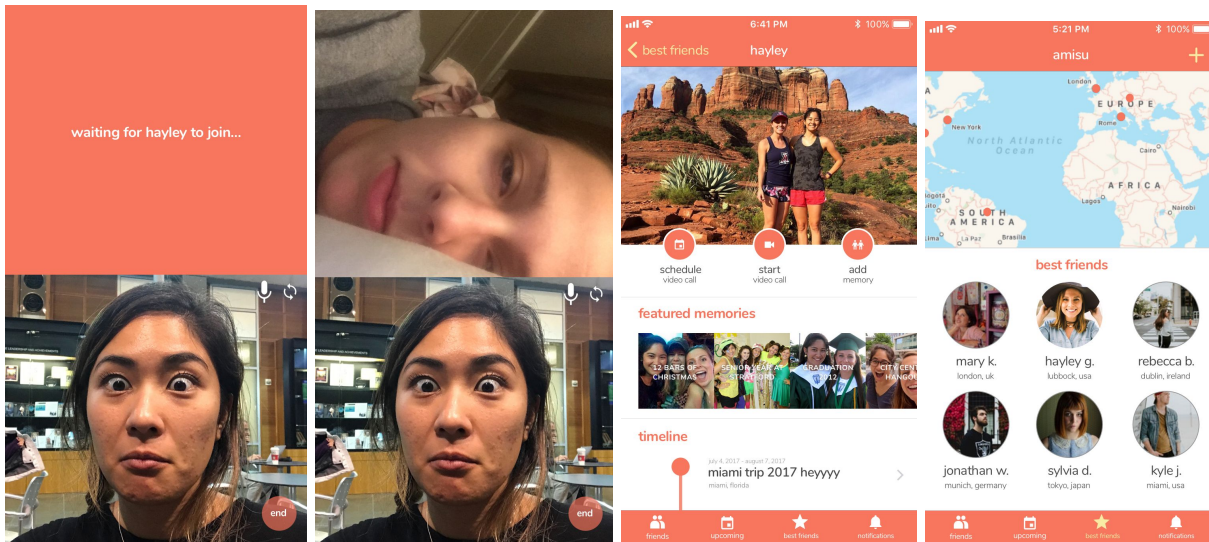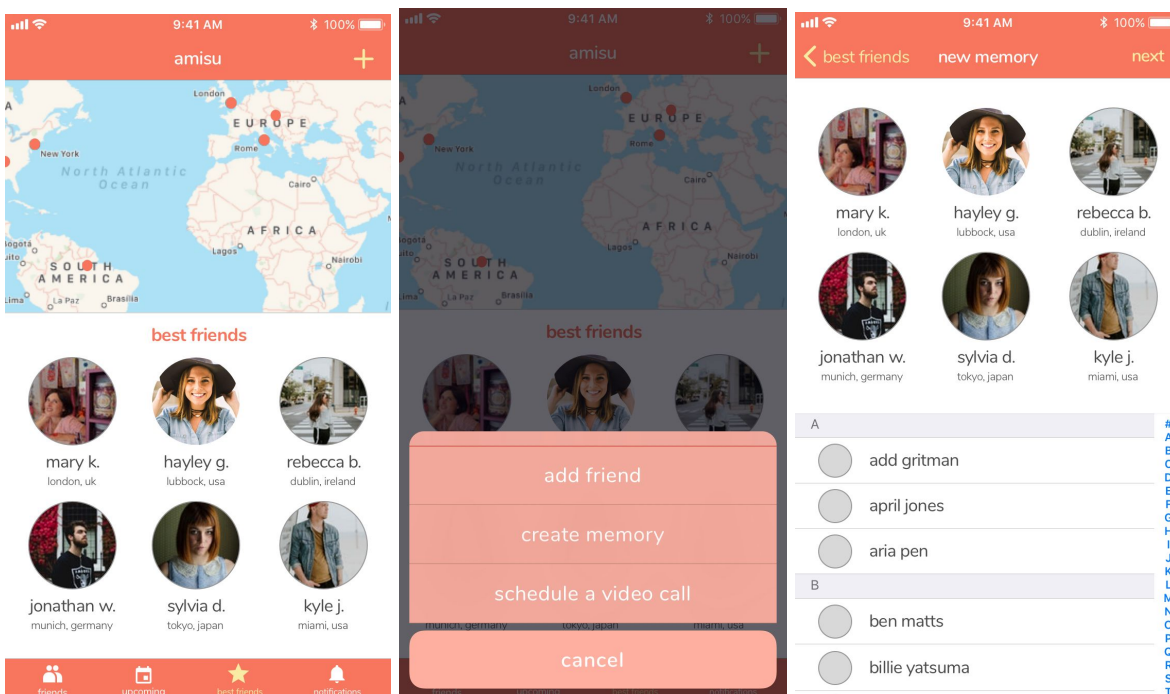
Once you enter the video call, you can click "end" on the bottom right corner. Depending on where you started, you will return to that screen.

Changes

The "end" button is now a low opacity circle button that takes up less space of the video call.

Task 2a: Create a Memory

Tapping the plus sign on the right top corner pops up a set of actions: "add friend", "create memory" and "schedule a video call". Clicking on "create memory", you must select which friend to create a memory with. The screen is split by your best friends and other friends in alphabetical order. Once the friend is selected, you click next.
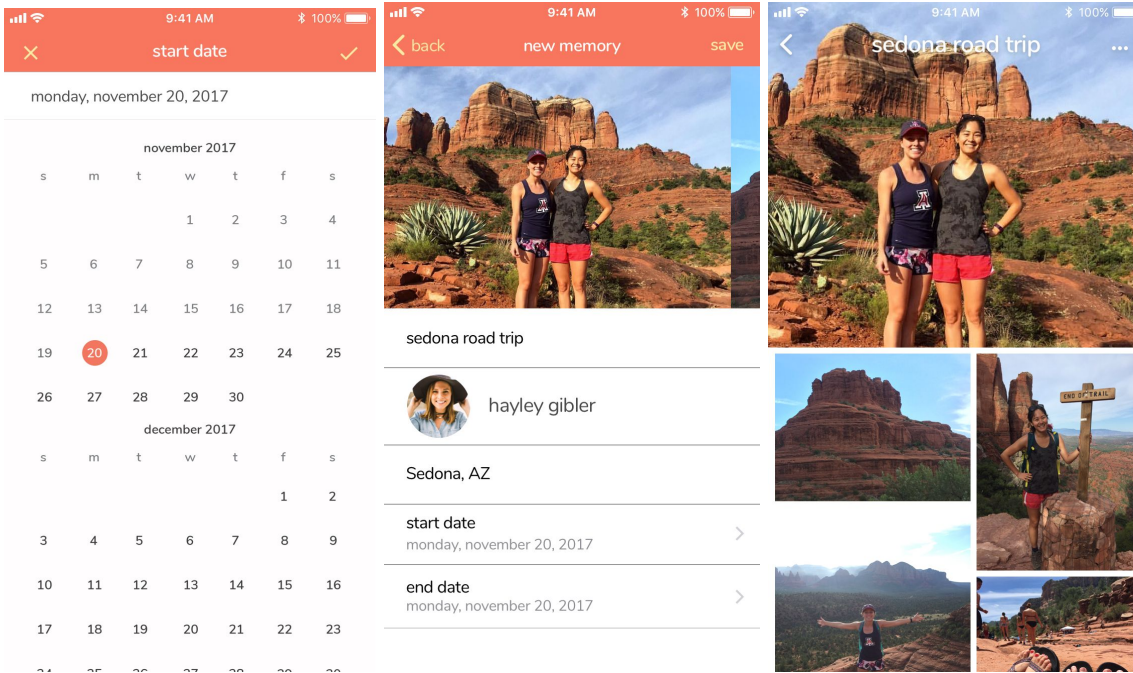
Changes

Instead of having the pop up on the top right corner, we decided to have the pop up take up bottom part of the screen as a more familiar interaction to our users.
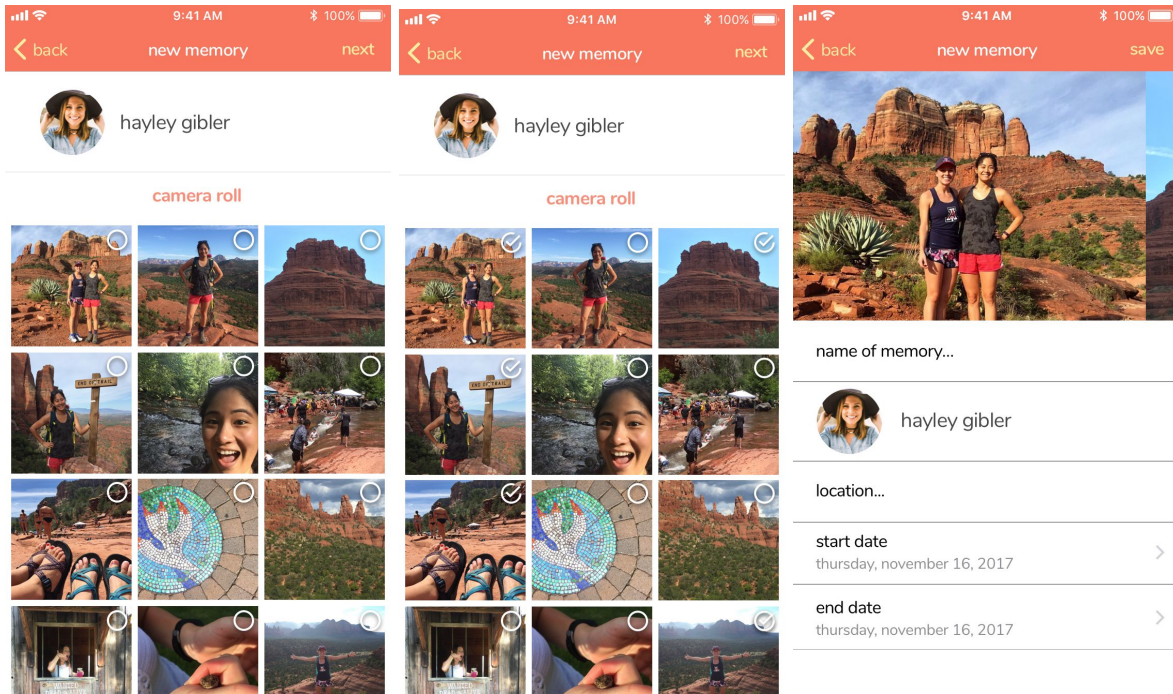
Using your camera roll, you can select pictures to be added to your new memory. Then you are taken to your new memory information page where you can name it and give it a date.

Changes:

When selecting photos, there is no longer one main photo because we wanted to solely focus on the selection. In the right screen, you can now swipe through the photos as a review of what you've selected. Again, we added the day of the week to the date as a full reminder for when the memory happened.

The date is selected in the first screen, and the new memory is then saved and created as seen in the last two screens.

Changes

We had the time and battery information added to the top of the last screen for iPhone protocol, and we moved the header to the top as a static so when you scroll through the memory the top bars stay static.
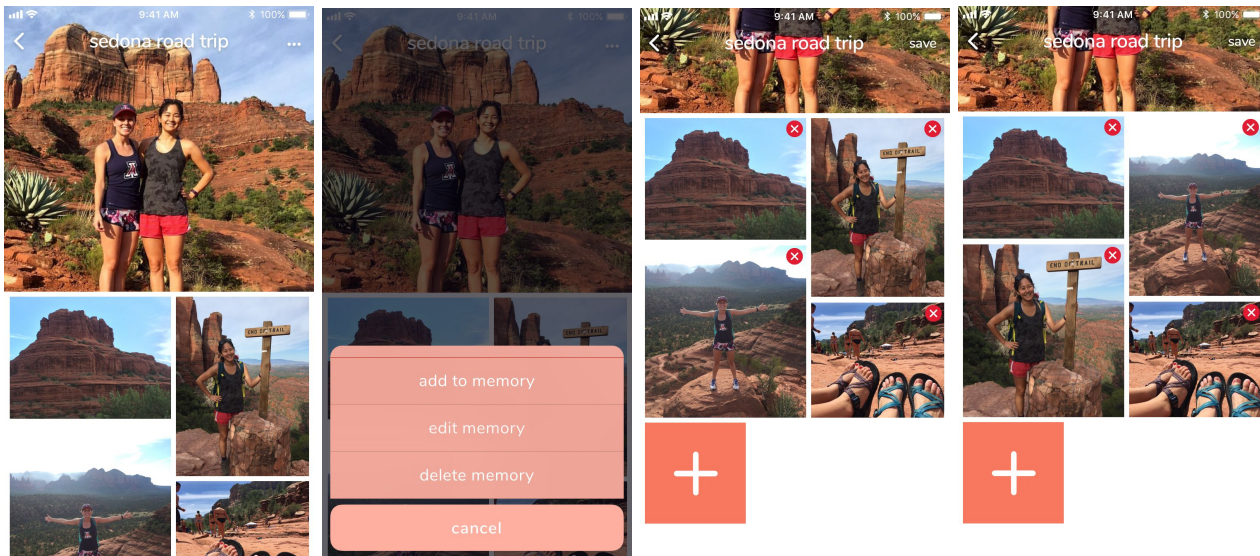

Clicking on the three dots on the top right corner, a pop up appears with the ability to "add to memory", "edit memory", and "delete memory". Tapping on "edit memory" the pictures start to wiggle and "x"s appear on each. Press and holding the top right picture and dragging it over to the left bottom, the pictures switched places.

The three dots replaced the the "edit" and "delete" buttons at the end of the memory. These actions were expanded to include the word "memory" at the end and the "add to memory" was added to the list of action as another option to add pictures. The format of the picture layout was changed to give pictures

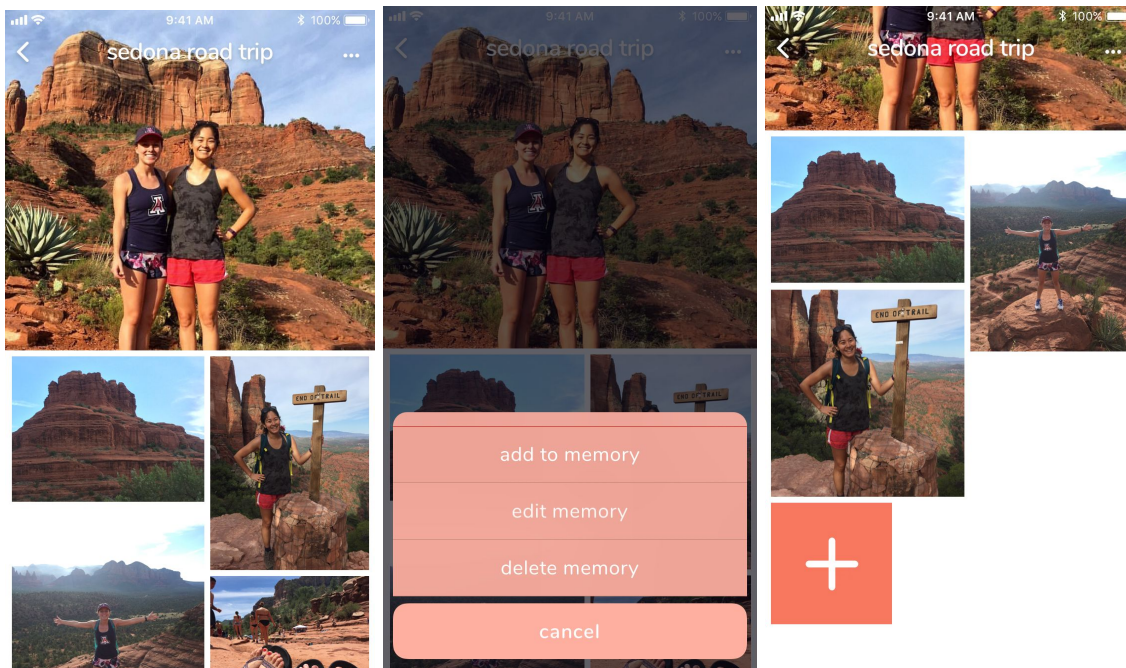## Task 2b: Edit a Memory/Delete Photos from a Memory
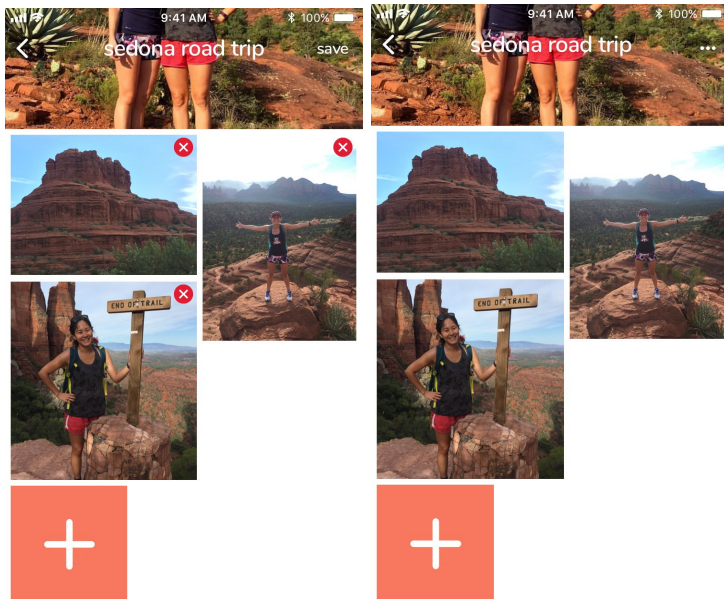
Tapping on the circled x on the bottom left corner deletes the picture. When you hit save on the top right corner, the edit state is disabled.

Changes

The "save" button is moved from the bottom to the top right for consistency.
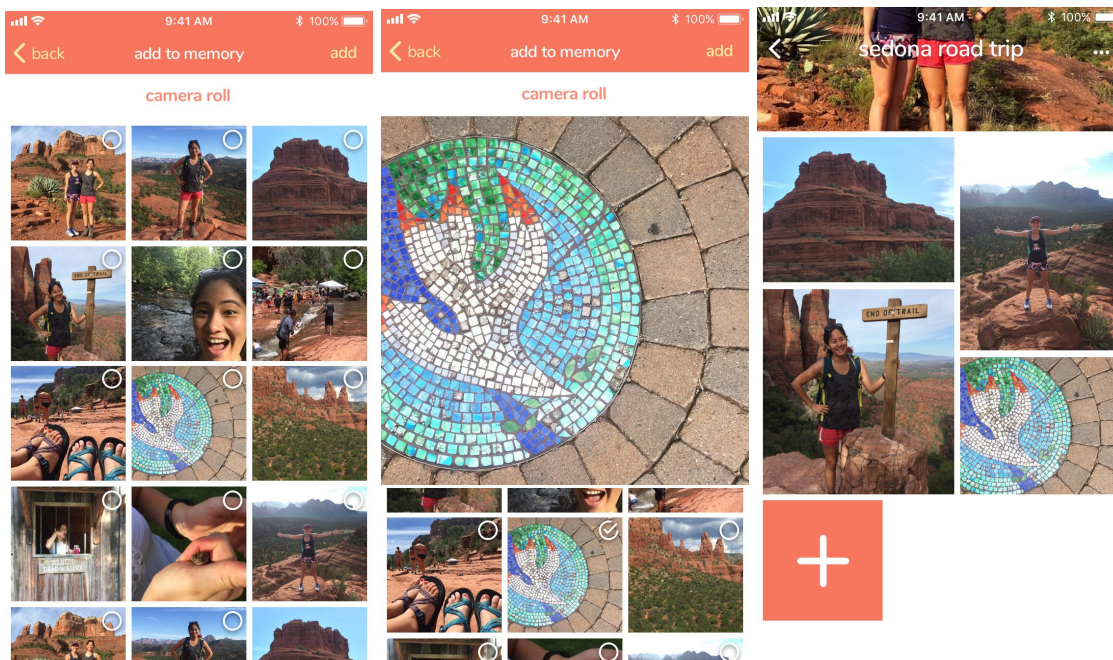
Task 2c: Add to Memory

Tapping on the three dots brings up the actions and "add to memory" is selected. You can also scroll to the bottom of the memory and tap on the add block.

Changes

We included the action "add to memory" just to have it as another option to fulfill the task.

Within the "add to memory" screen, a picture is selected and added into the memory.

Discussion

What did you learn from the process of iterative design?

We learned that iterative design helped define the problem space that we were tackling. After interviewing eight different people, we discovered similar struggles of maintaining long-distance friendships. Once we knew what we hoped to solve, we brainstormed for solutions. Thinking outside of the box helped us generate an abundance of ideas in how to solve the problem. By thinking of any and every possible opportunity, we were able to ponder upon some of the best solutions. Through a series of refinement, we narrowed down our design and created a paper prototype out of it. Through usability testing, we pinpointed the cracks in our solution and improved it substantially. At each and every phase, iterative design allowed us to improve our solution to fit the problem space we uncovered.

How did the process shape your final design?

It definitely influenced many of the functions involved with the design. The process reinforced the tasks we were to accomplish and we did have to remove a feature. Mostly towards the end, the critiques unveiled small details and forced light upon problem points that we did not necessarily see as so.

How have your tasks changed as a result of your usability tests?

After conducting our first heuristic evaluation, we decided to forgo the video messaging aspect of our design. While it is a "cool" feature, we knew we need to focus on the actual task of reflecting on a friendship. By paying more attention to memory creation, we believed that this was the more valuable task to accomplish.

Do you think you could have used more, or fewer, iterations upon your design?

We could have used more iterations at the very end to fine tune our final design. As we compiled our final digital mock up, we noticed some areas where certain screens required further tweaking. But due to the constraint of time, these iterations were good enough to flesh out our design. They turned out to be more than amazing in our opinion. Otherwise, we would never end the process which is true for most companies.
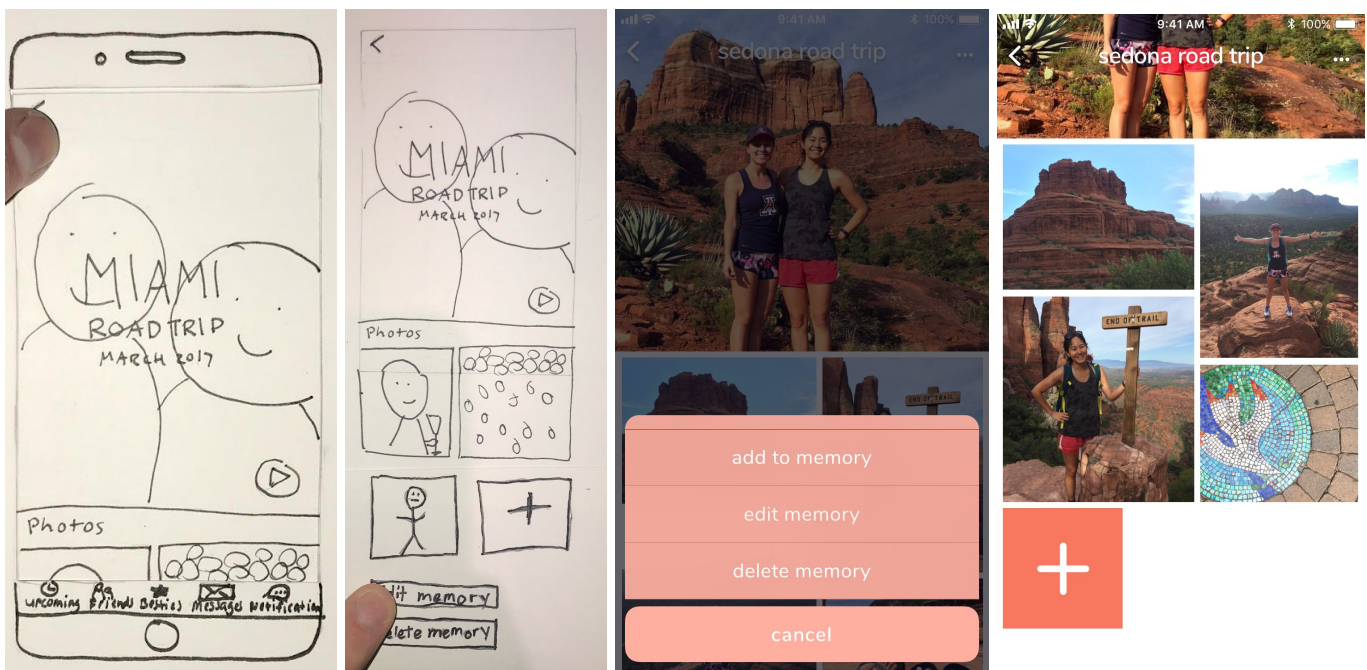
Appendix:

Usability Testing Instructions

1. Schedule a video call with Yang
2. Edit a video call with Yang
3. Start a video call with Yang
4. Create a new memory with Yang
5. Edit the memory
6. Delete a picture from the memory

Critical Incidents

Memory Add Function

When the participants were testing out Memories, users wanted to be able to add more pictures to a memory. They also questioned what happened when you deleted all pictures within a memory. In response to this, we added a square with a "+" sign to allow for additional photos. We also decided that memories could be empty, and the only way to get rid of a memory was to click on the "Delete Memory" button. There could be the possibility that one friend could create the memory, but not upload any pictures because they other friend has all the photos on their phone. Or one friend could have uploaded the wrong photos and need to delete all the photos and start over.

Change of Button Placement on Friendship Page

We originally had buttons in the forefront, but at one point during our testing, we resolved to insert a plus symbol on the right corner instead and have have the actions pop out. But then all of our users had difficulty scheduling a video call. To fix this, we decided to remove the "+" symbol on the right side, and bring back the three actions: "Schedule Video Call," "Start Video Call," and "Add Memory". We felt that having our main features as visible as possible would assist in users completing their tasks more easily.
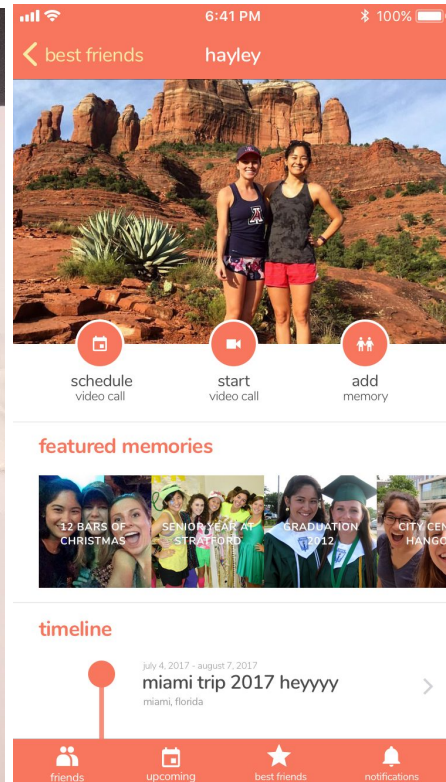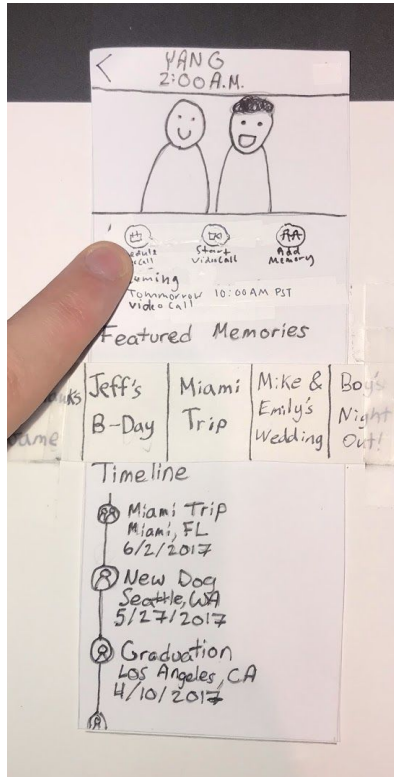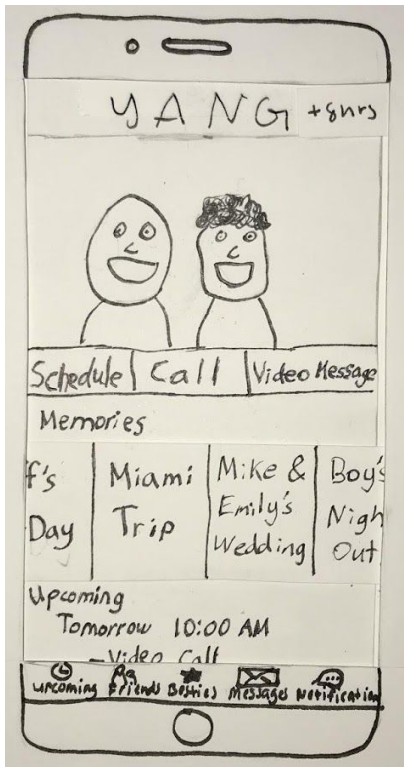
Location Option in Scheduling
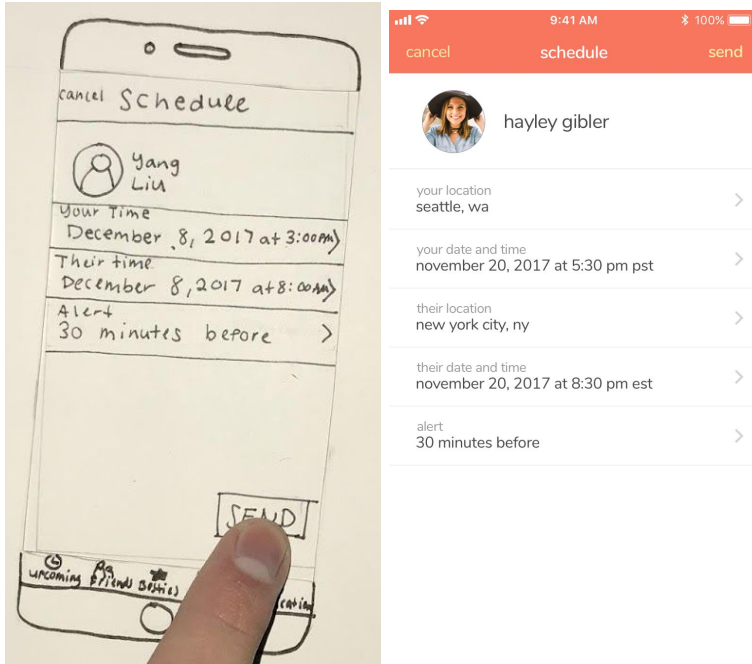
When scheduling a call, users can now change their location as well as their friend's location in case either person will be in a different area for the call. The default will always be their current location as that is most likely going to be where they will be calling from. This edit will allow our users to schedule their calls from anywhere, regardless of where they will be when they schedule and when they call.

Date and Time Picker
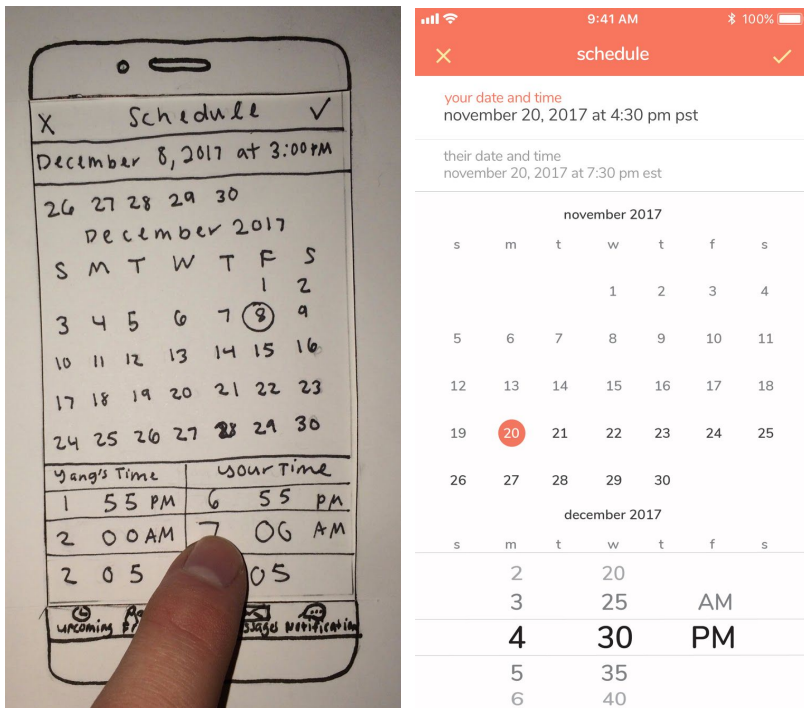
The two time pickers (your active time and their passive time) was consolidated to just one active picker. As you go about picking a time for you, the second row is updated to present you with your friend's time.