

Project Overview

As avid travellers ourselves, we have had to go through much pain in planning our trips. There is even a whole industry surrounding trip planning (travel agencies), and some apps that help you plan your trip, but we have yet to find one that addresses the struggles of planning in a group. We have encountered the following problems:

- Problems with collaboration: when planning trips with friends, we are forced to either meet up in person, or use existing collaboration platforms, none of which are specifically catered towards travel. For example, using Google Docs, a common collaborative platform, it is difficult to visualise the itinerary as blocks of time spent in particular attractions. This is possible using Google Calendar, but it does not support easy access to attraction information.
- Problems with travel planning: When researching attractions, there are often numerous pop-ups and advertisements. Additionally, the information itself is also presented in a highly cluttered way, which creates much friction for users scouring these websites trying to find the best attraction.
- Problems calculating and tracking travel expenses: When planning trips with friends, we also found that splitting costs and paying for things with only one credit card was a responsibility people did not want to take on, as collecting debts with friends is often a hassle and can cause rifts

This is why we wanted to create weePlanner. Our aim is to create a one-stop application, with special focus on collaborative planning, that tries to gather as much of the required information as possible in a complete yet unobtrusive way.

User Study

weePlanner's user population is constituted by all youths (ages 18-30), as they tend to travel with groups of friends a lot. Based on this, our sample is formed of university students (generally aged 18-26).

When deciding which methods to resort to in this user study, we decided to conduct indirect observation, asking participants to recount their experiences – namely, through surveys and individual interviews.

Although we tried to be as unobtrusive as possible, the survey was more about finding out how users behave and think based on an existing framework we had come up with, whereas the interview was more about capturing things that are naturally prominent to the user, and discovering aspects we had not thought of before. Insights from both were extremely important:

in the survey, we included as many categories as we could think of to give the participant more choice. These included categories that we had not yet fit into our current mental model of a travel planning app.

We decided against group interviews, since we didn't want the answers of each interviewee to be too affected by someone else's answers. Instead, we wanted a more personal recollection of experiences in the particular travel groups they have been in.

The recruitment of our participants was done on a convenience sample basis.

The allocation of tasks to group members was as follows:

- Laurent: Conducted one interview, designed survey questions and flow, developed persona, created scenario, assembled user journey map, shared the survey
- Pedro: Conducted one interview, designed interview script, created scenario, assembled user journey map, shared the survey
- Ryan: Conducted one interview, developed user persona, shared the survey
- Debang: Conducted one interview, designed survey questions, assembled user journey map, survey data analysis, shared the survey

Survey

Rationale

Our survey is sectioned, moving progressively from understanding a participant's basic profile, to their past group travel experience, to information they plan for, to how they engage with this information during the trip, and finally to their idea of collaboration. The flow of the survey moves almost chronologically through a participant's experience planning travel as a group, then asks them specifically about features they would like in our app at the end.

When creating questions, we wanted to first establish that our participants would be identified users of weePlanner. Next, we wanted to ask which tools and devices they currently use to plan in order to decide whether weePlanner would be a web or mobile app.

Additionally, the survey had different sections on pre-trip planning and engagement with this plan during the trip, to help us find out when users would be using weePlanner the most, and decide if we should center the experience around planning before the trip or during the trip.

One of the most important things we wanted to find out through the survey was which information we needed to help users plan for. The categories of such information came from ideas that we wrote in the proposal, which were inspired by research findings on common travel habits by the UK government's Foreign and Commonwealth Office[1]. For these categories, we tried to be as expansive as possible, beyond what we personally thought was important, to allow users to select what was actually important to them. These specific categories of information would better help

identify user tasks, and the availability of a wide range of choice would build empathy with the survey participation.

Beyond this, we also wanted to gauge the response to potential features that we thought would be expansions to our app, once key tasks are effectively delivered. One such question was asking participants if they do not mind travelling alone (to test if a functionality where they could find travel buddies through the app would be well-received.)

Apart from travel planning, we wanted to find out what users' current idea of digital collaboration would look like.

Most of the questions were asked on a Likert scale, to allow participants to clearly rank their preferences.

Recruitment

With our survey created, we had to decide what platform to conduct the survey on. We decided on Google Forms, as it easily allows collaboration, is easily accessible and trusted by survey takers, and also bears a lower monetary and environmental cost compared to paper surveys.

In order to recruit people who were within our sample to do our survey, we approached people through a few different channels - sending the survey out to group chats for all NUS students (thereby receiving a good mix of respondents across different faculties and backgrounds), as well as through reaching out to university students through our social media. We received a sizeable number of respondents through the first channel – at least 25 responses came from this method, before the survey was shared on social media.

Before the survey questions, we made sure participants gave us their informed consent to participate.

Analysis of Survey Participants

We collected 53 survey responses. The average age of our survey respondents was 21.1 years old, and only 11.3% has not travelled within the last 6 months, but 100% of participants travelled within the last year. Moreover, 92.5% have planned trips in a group. (We think this number is high enough such that we do not need to filter out responses of those who have not.) Based on this information, we derived that our participants fit the sample we were looking for – university students who have previously travelled, and will plan trips collaboratively – even those participants who have not planned trips collaboratively in the past could potentially plan trips collaboratively in the future. Thus, at least 92.5% of our participants are potential users.

Findings

Our survey respondents reported taking an average of 3 and a half hours to plan a week-long trip, and say they mostly follow their plans with some deviations (3.41 out of 5 for "How much do you end up following the original plan?", where 5 is "step by step"). They mostly travel in a group and collaborate on the plan (64.2%). They mostly use their laptops to plan (86.8%) and they store their plans digitally though more often offline than in the cloud.

Regarding trip planning in a group, the survey helped us determine that the most frustrating experience when planning a trip with friends, is about balancing budget and comfort. In our understanding, this directly links to the fact that people have different preferences. Striking that balance is immediately followed by deciding on the date and period, and reaching consensus on the destination. Referring to the plan while on the go, receiving suggestions and deciding what to visit did not seem to be as problematic in the current way they are done.

People rated their overall experience planning in a group as 3.26 out of 5 (where 5 is "enjoyable", and 1 is "frustrating"), so there seems to be some considerable room for weePlanner to improve it. Currently, Google Docs seems to be pretty much the way to go for collaboration as 84% of participants who mentioned they collaborate online cited it as their chosen platform.

Regarding the information researched before departure, they ranked the importance of our suggested categories as follows:

1. transportation
2. expected expenses
3. accommodation
4. attraction reviews
5. guides and local recommendations
6. weather/rain
7. attraction opening hours
8. health and safety
9. ticket availability for shows, resorts, etc
10. laws and culture
11. currency exchange

After departure, while on the go, there is a slight adjustment:

1. transportation
2. Directions
3. attraction opening times
4. guides and local recommendations
5. weather
6. attraction reviews
7. initial plan
8. accommodation
9. overall budget
10. ticket availability

The most requested feature for a collaborative travel planning application is to have a shared itinerary and schedule that people can edit on and make suggestions, followed by having a map representation of it, and a document to collaborate on, which is not surprising given the popularity of Google Docs.

Some tools that respondents currently use are: Hopper, RA guide, Airbnb, Skyscanner, Rome2Rio, Hitlist, Lost in, Hotel tonight, Splitwise and TripAdvisor.

A majority reports that at least sometimes they do not go on a trip due to the lack of travel buddies.

We analysed our data quantitatively using Google Forms' built-in charting functions, calculating the percentages of responses over total respondents, as well as calculating the average scores for options that we included in a Likert scale.

Some takeaways from the survey

Initially, our survey included more open-ended questions asking the user for their pain points and positive experiences when planning. We decided to remove these questions from the survey, and ask them in the interview instead. This turned out to be a better decision, as our participants tended to not want to answer open-ended questions in surveys. We kept an open-ended question asking for any suggestions as our last question, and only received 1 suggestion, out of 53 responses.

Moreover, the inclusion of such open-ended questions would have disrupted the flow of the survey, which would be quite jarring for the participant.

However, if we had kept the open-ended questions about pain points and positive experiences, it would be categorised under "Your group travel experience". Having long open-ended questions at the end of the first section asking them questions beyond their basic profile, and then moving on further to more multiple-choice questions, is extremely incongruous and jarring, creating much friction for the user.

Likewise, we got a joke response for one of our open-ended questions.

We realised from this that a fine line needed to be tread between guiding the user's reflection, and manoeuvring them to a particular answer. For this particular question, our options probably covered enough bases, and the participant could probably think of a next best choice if their answer was not available among the choices. There was no need for us to include an "other" option. Thus, in future surveys, we would minimise the inclusion of an "other" option unless absolutely necessary.

Similarly, we realised more guidance was needed on our part for another question. We asked which collaborative platform users usually plan their travel on, and left it as an open-ended question with a blank for users to fill in.

An overwhelming majority of people answered “Google Docs”, but with different variations of spelling so it showed up as separate responses in the bar graph. Although there were answers that we didn’t think of beforehand, and people used a variation of different platforms, we could have had options for common collaborative platforms, as well as an “other” option to account for other cases. This would make it more frictionless when participants to key in their response.

Before conducting our survey, we assumed that being able to view the travel plan on-the-go would be important to the user, since it seems important to have a constant point of reference on the trip. We decided to test this assumption by asking users which device they usually use to plan their trips, and whether being ready on-the-go was an important feature to them. Surprisingly, 86.8% of respondents said they planned on their laptops. This still does not imply that users do not refer to their trips on-the-go, as information might be transferrable from one’s laptop to one’s mobile devices. More conclusively, being ready on-the-go received a mode of 2 out of 5 by our respondents. Our assumptions were effectively challenged and we decided to remove being ready on-the-go as a key task and completely refactor our key tasks based on our interview and survey results.

Similarly, we were surprised to find out how important tracking overall travel expenses was for the users. Based on our survey, users ranked the importance of tracking travel expenses an average of 4.02 out of 5. During preliminary discussions of what our app would include, this was not one of the key features we thought of, but we added this option in when thinking of as many relevant features as possible.

Interviews

Rationale

The interviews were performed one-on-one, in a private and casual setting, and the audio was recorded. Upon listening to the recordings, notes were taken about the conversation.

After doing some research and reading an article on interviews[2], we have decided to focus the interview mainly on understanding the pain points of users, making use of a semi-structured approach.

We start by trying to convey our idea of what weePlanner is about. This is because we expected that people have not come across such an application.

After a basic profile of each interviewee, we attempt to ask about critical incidents, and we planned to have them perform card sorting to help us organize potential features. However, card sorting

ended up being dropped, as we concluded the idea is not developed enough, and users are not informed enough to group features at this stage of design.

Finally, we wanted to know what mental model of weePlanner users had formed throughout the interaction, so we ask what they thought it was about. According to the article mentioned above, this should be what interviews are best at: capturing user's general attitudes towards ideas and brands.

Findings

For our interviews, we went with the flow of the interviewee's responses. This allowed the interviewees much more freedom to discover aspects of their planning on their own, which then gave us a better picture about what aspects of planning we should cover. The uniqueness of each interviewee's response also made it clear that while there were some overlaps between responses, planning is an individualized experience. Interestingly, some of the overlaps in responses also corresponded with the majority opinion as reflected in our surveys – these helped greatly in constructing the characteristics of our primary persona.

From the 4 interviews conducted, we have sensed that the main recurring pain points when planning group trips, are about negotiation (in terms of determining where to go, checking everyone's timetable, and what to visit), and about splitting the bill, as a single person often pays for the flights or accommodation for the group.

Our interviewees also confirmed that they mostly use their laptops to plan. It was mentioned that having information consolidated in a single place would be very useful, and the attitude towards having the possibility of finding a travel buddy was very positive.

It was mentioned that websites like SkyScanner and Booking.com are effective and get the job done well. For that reason, we will not focus on changing the way flights and accommodation are planned.

None of the interviewees was aware of any collaborative trip planning app.

Interviewees also gave us some suggestions, which we adapted into part of the solutions presented later.

Summary of the User Journey

It is now approaching winter break! Ros would like to get out of NUS and explore the world with her friends. She begins planning during the semester as a break from studying and because it's easier to meet her friends during the semester. As a travel enthusiast and Geography major, Ros wants to be extremely involved in the planning process and make sure that she and her friends get to enjoy the most beautiful natural landscapes.

Scenario 1 - The Idea is Born

During one of their lunches after class together, Ros and her friends decide to go on a trip during their winter break. Everyone is excited! They want to start planning the trip right away to have something to look forward to for the rest of the semester. Even though they have not yet decided exactly when during the winter break, or where, Ros would like to create a new trip project on weePlanner to help them decide, and facilitate the start of their planning process.

Scenario 2 - Starting an Itinerary

After some time of negotiation, Ros and her friends have decided to go to Bali! They would like to begin planning by deciding which flight to go on. They do some research and end up booking an early morning flight. To make sure everyone is aware of this, they add it to their itinerary.

Scenario 3 - Developing an Itinerary

In the middle of planning their Bali trip, the plan is constantly in flux as Ros and her friends find better places to go to, or discuss which places most of them would like to visit. Ros and her friends would like to make changes to the itinerary accordingly. Also, more of Ros' friends have expressed interest in joining this trip, and Ros would like to collaborate with them as well on weePlanner.

Scenario 4 - Time for Budgeting

It's now close to the final stage of planning! Ros and her friends now need to factor in their budget.

Key tasks

- Negotiation of where and when to go
- Managing travel expenses
- Choosing an interesting attraction
- Sharing current plan with friends
- Checking information about destination

Based on the survey results and our interviews, we identified the above five key tasks, which users find more relevant and seem to be at the core of our app. We also identified that some of the tasks are more likely to appear in a collaboration scenario, while others will be worked on individually.

Solutions

After listing the key tasks, we have brainstormed solutions to alleviate pain points of users, as well as improvements and potential features that do not relate to current pain points but will

improve the experience and add value to our application. We have decided to put our focus on the user experience before departure, based primarily on the insights from the interviews.

Our general idea of the app

For each trip, users can create a new project, and invite their travelling buddies into it. The project has its own dashboard, collaborators, itinerary, timeline, documents and shared files. Once a destination is associated with the project, the user can also browse a section with the most relevant information about such destination, as well as community recommendations, reviews and tips. Collaborators can add and remove things from the itinerary, vote on suggestions, save useful links, keep track of budget, and comment on each others' edits and suggestions

Addressing the pain points

Meeting: We identified that our users have to meet up for forming a group, which is discouraging for people living far away from each other. One way we think we can address this is by providing functionality such that users can create a project for each new trip and invite their friends to collaborate on the plan they can all access. If the collaboration experience we create is seamless and trustworthy, such that the number of meetings is kept to a necessary minimum.

Negotiation: While we will try to minimize the number of meetings, we also understand that the majority of our users meet up for important issues. For better negotiation, especially on destinations, budget and time, we are considering features such as voting, shared calendar, instant messaging, shared documents and support for comments and suggestions.

Collaboration: We have observed that communicating through Google Docs and instant messaging services from different platforms it is very easy for some of the members in the group to lose track of what is going on. We mean to redesign this old methodology into a structured project where elements of planning are in a fixed accessible place as a dashboard. There could also be notifications of new changes from the group.

Budgeting: We understand our users' great concern over budgeting, as most of them are students. First of all, we want to implement an automatic calculator for splitting expenses. The expenses are calculated based on users' plan, where the items can be either selected from built-in sources or imported with an estimation of price. Secondly, if someone makes a payment for others, we can help send out reminders, which can be potentially integrated with other payment apps.

Thirdly, each attraction would be associated with an expected expense. This expense would be visible within the attraction's time block in the itinerary, and an addition of all the day's expenses would be shown with each day's view. For each week, there would be a total expected expense.

Other improvements

If we could find a feasible way to aggregate some of the core information, and selectively link to useful resources, we can help alleviate information overload and fragmentation when the user ends up visiting countless websites while researching about a destination.

Scoping features

Main features (must have):

- Inviting other users to collaborate on an itinerary, allowing them to propose suggestions or make definitive changes, and record information found elsewhere on a trip notebook
- Itinerary building, including scheduling and prices for transportation and accommodation, as well as attractions and restaurant bookings.
- Laws, customs, visa, health and safety summary and wiki for each country.
- Helping to split expenses when a single person books and pays something for everyone.
- Being able to customize the trip dashboard, perhaps with widgets.

Low priority features (nice to have):

- Potential functionality for finding travel buddies for a given itinerary.
- Seamlessly sharing trip photos
- Instant messaging
- Currency exchange information, and some partner provider of this service
- Users could base their itineraries off any public itinerary, using it as a template.
- Community contribution, such as attraction rankings and viewing popular itineraries for inspiration and sharing ideas.

Features put aside, at least for now:

- Smart recommendations based on what similar users enjoy and seek.
- Professionally curated itineraries, potentially paid, and including expert tips and recommendations.

User Study Summary

Through more than 50 survey responses, and 4 in-person interviews, we were able to capture our target audience's frustrations and opinions on both solo and collaborative trip planning. A constant concern is how much things are going to cost and how the costs are split up. That is why we have come to the conclusion that a budgeting tool would be very valued. Some of the other pain points we discovered were reaching consensus and splitting expenses.

This provided us with a basis on top of which to prototype, giving us a sense of how we needed to build weePlanner in order for it to address the frustrations that come with the current solutions.

Initial Prototyping

Our prototyping phase started very much in an *ad hoc* manner. For assignment 2, each person individually tried to externalize their mental model of weePlanner, without concerns in terms of consistency between the different outcomes. We believe this was beneficial at this initial stage as it helped us comprehend each other's ideas and establish a common language in of what we are chasing after. Indeed, we discovered, or rather confirmed, that we had very heterogeneous ideas, and the process allowed us not only to validate them with users and evaluators, but also to put the team in sync.

In terms of media, each of us also resorted to different strategies, and we had a more schematic and visual low-fidelity paper prototype (Laurent), one mobile app low-fidelity paper prototype (Debang), and one Adobe XD prototype with limited interactivity (Pedro).

After having looked through the feedback of the first round of evaluations, we moved on to combine what worked into a high-fidelity Figma prototype. Our rationale for using Figma was to have a platform where everyone can collaborate in the browser without installing software. However, we came across the difficulty of the free version only allowing two accounts to edit at any given time.

In the beginning of this combined prototype we were also being explorative, and we split tasks such that each member would handle a different set of pages. This also facilitated going around the limitation of two editors, as we could work on different files and assemble the results later.

Unfortunately, due to being inexperienced in working with these tools, we realized, slightly too late, that using some sort of design kit, or at least a set of reusable components is perhaps as important as keeping code well structured, commented, and decoupled in a software engineering project. For that reason, we developed a design kit and settled some assumptions regarding our visual language, such as the fact that orange should mean action, among others.

The kit was implemented in most of the pages, but some parts had already grown in complexity too much, such that this sort of "refactoring" would take a very long time, which made us leave them as is. For that reason, our prototype still has some slight incoherences in spacing and alignment of certain elements, but we consider this to not disturb its purpose of representing how the user experience is going to be.

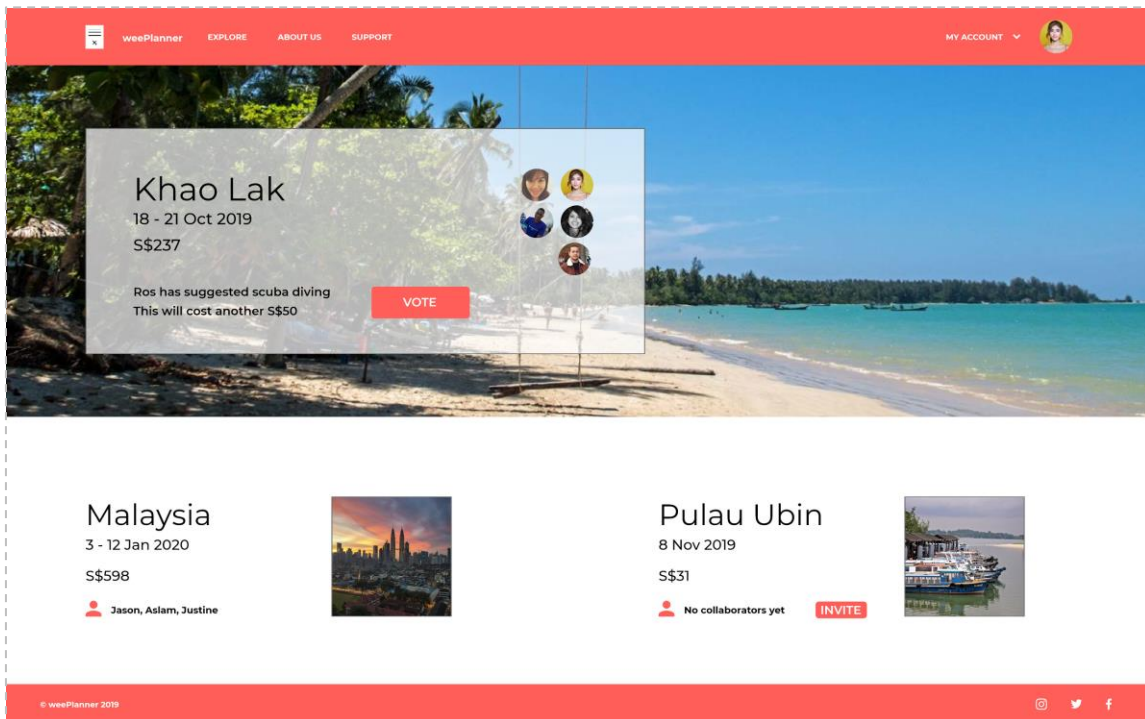
The results of each stage of this process are presented in the following pages.

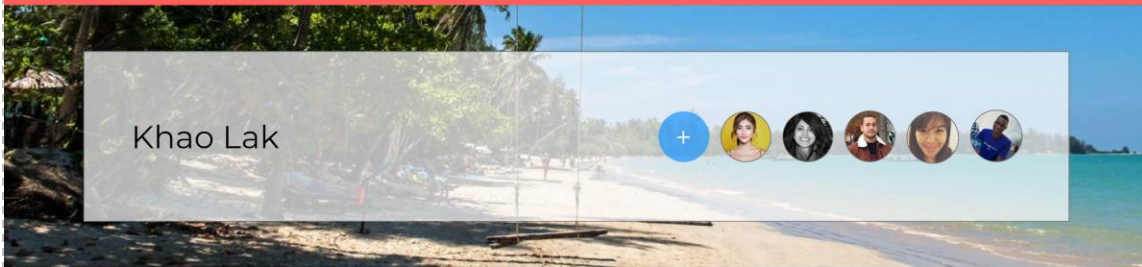
Assignment 2 Individual Prototypes

Prototype 1 - Pedro

This prototype was developed using Adobe XD, and tried to follow a visual language resembling the user study report. It also included some links to external resources, such as the travel advice of the Singaporean Ministry of Foreign Affairs, but those are not shown here as they are not part of our design.

There are only 3 views, the user dashboard, where we can see all the active trips, the trip dashboard, where the user can see what is going on in the trip, and the budget view, where the user can see a budget breakdown, as well as vote on pending proposals to be added to the budget.





Khao Lak



BUDGET

S\$237



Mike: +S\$50 Scuba diving



ITINERARY

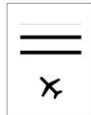
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TRIP NOTEBOOK



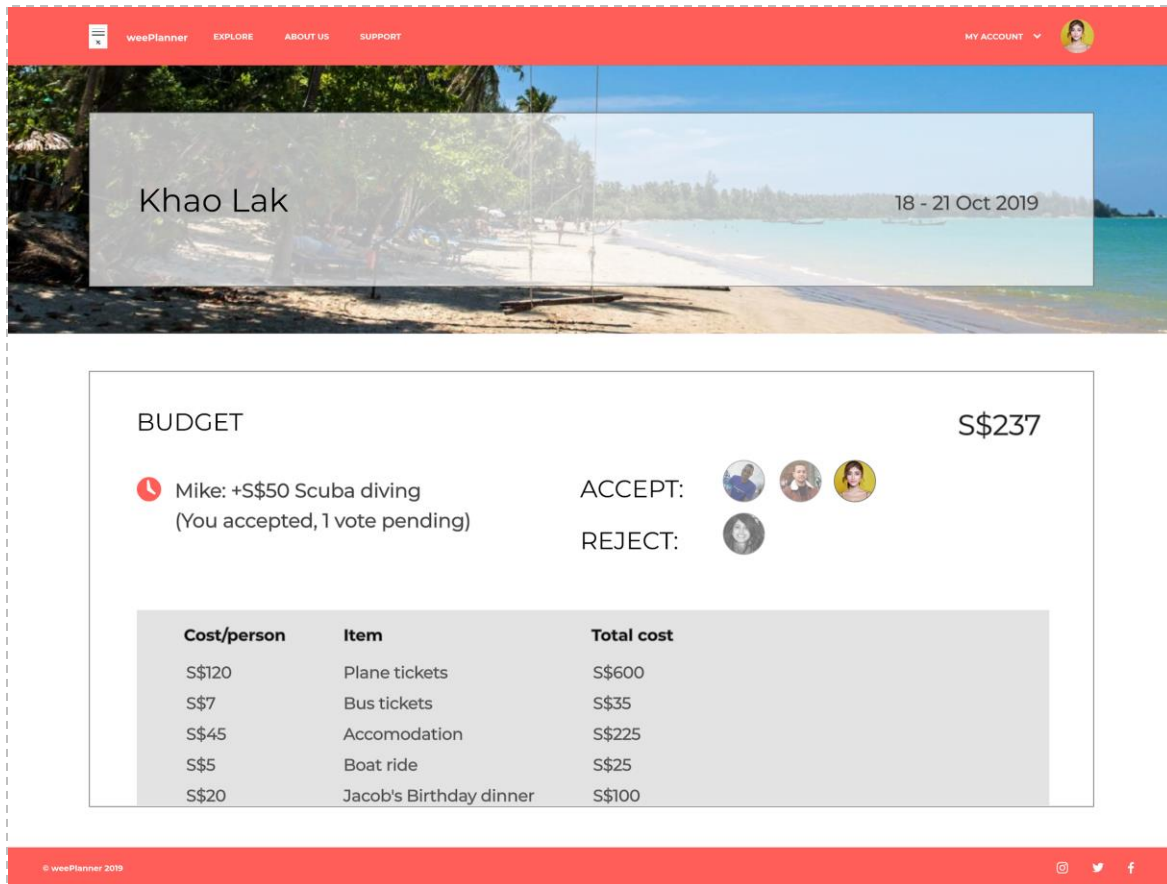
ABOUT THAILAND



TRAVEL ADVICE

COMMUNITY TIPS





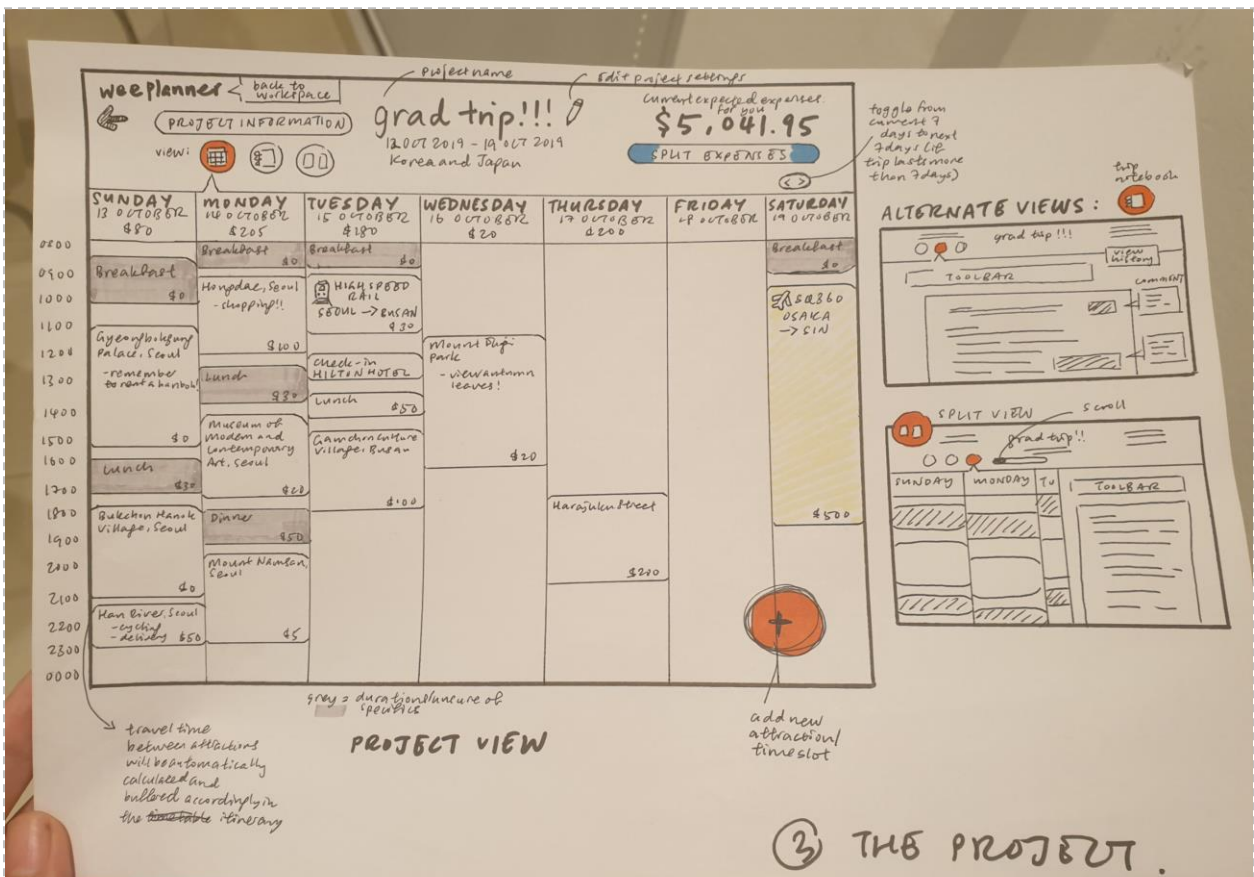
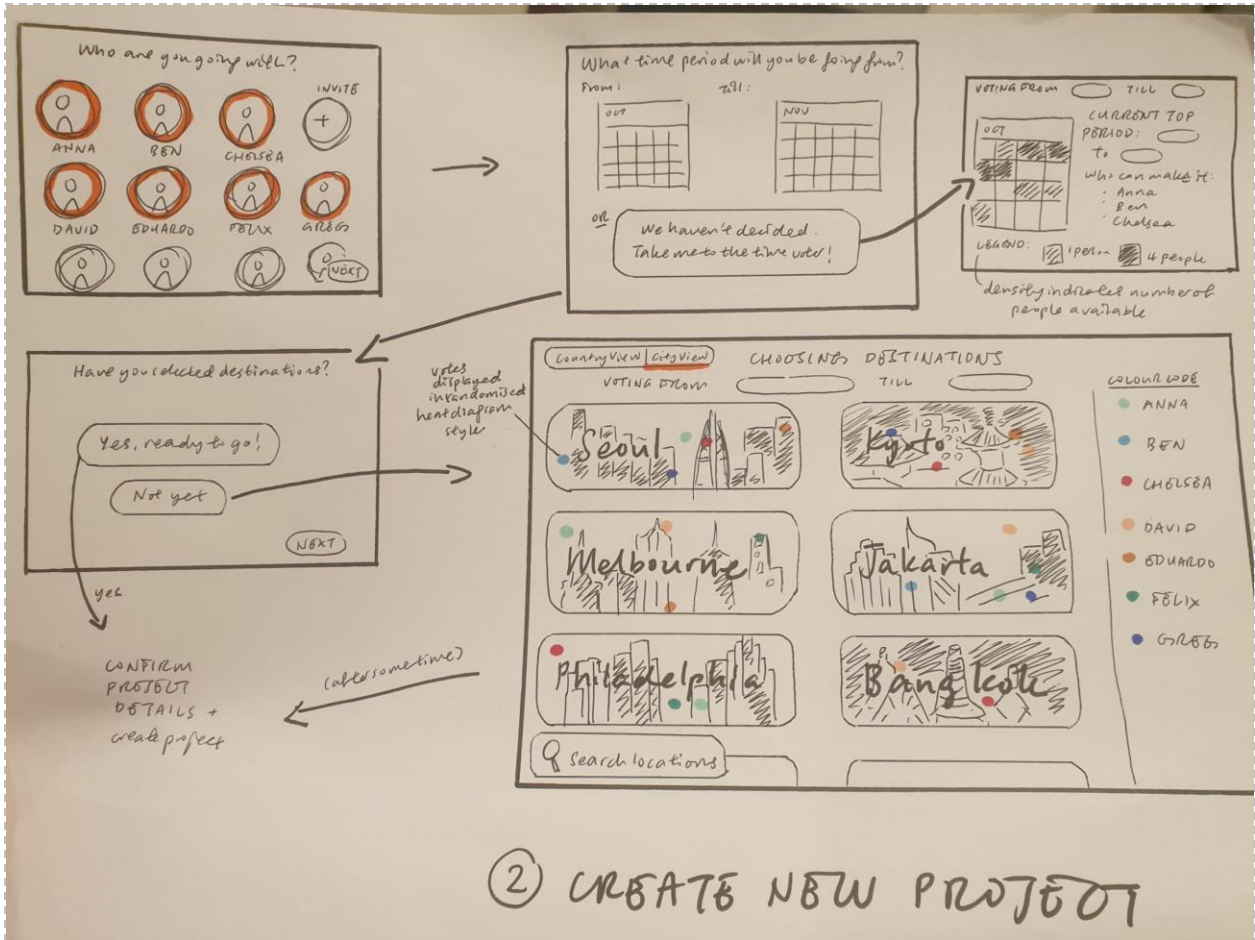
Prototype 2 - Laurent

This prototype was focussed on the itinerary - all other elements converged upon the itinerary. The itinerary was considered one of the most integral parts of travel planning. This prototype also thought of each trip planned as a project, and creating a new project as a process instead of simply keying in details, since we wanted weePlanner to help users negotiate and decide on trip details as well, such as the duration of the trip and the location.

This prototype included 4 views - the main dashboard showing all the user's trips, Create New Project, the project, as well as Add New Itinerary Module (later renamed to Schedule).



From the main homepage, users will then navigate to specific projects. Information at a glance chosen for the homepage included the trip name, trip locations, as well as when someone last edited the trip.



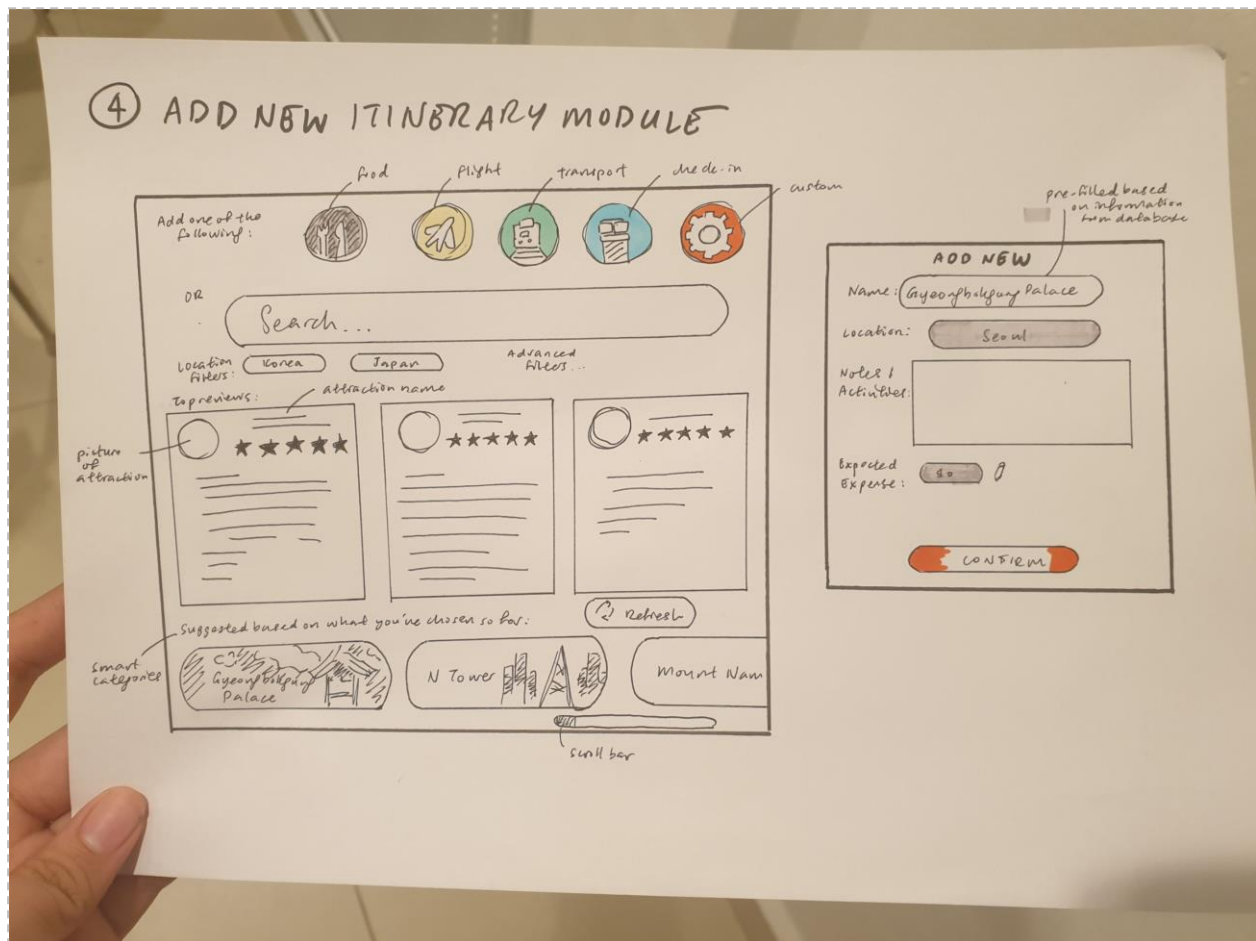
③ THE PROJECT.

Create New Project allowed users to click if they have already chosen a destination, and vote if they have not, and likewise for the duration of the trip. Users' votes on destinations would be displayed like a heat map, scattered randomly in coloured circles across the buttons for the locations they chose.

Once the project was created, users will then reach the project homepage.

The project had three alternate views, one with just the itinerary, another with the trip notebook, and a third with a split screen between the itinerary and the trip notebook.

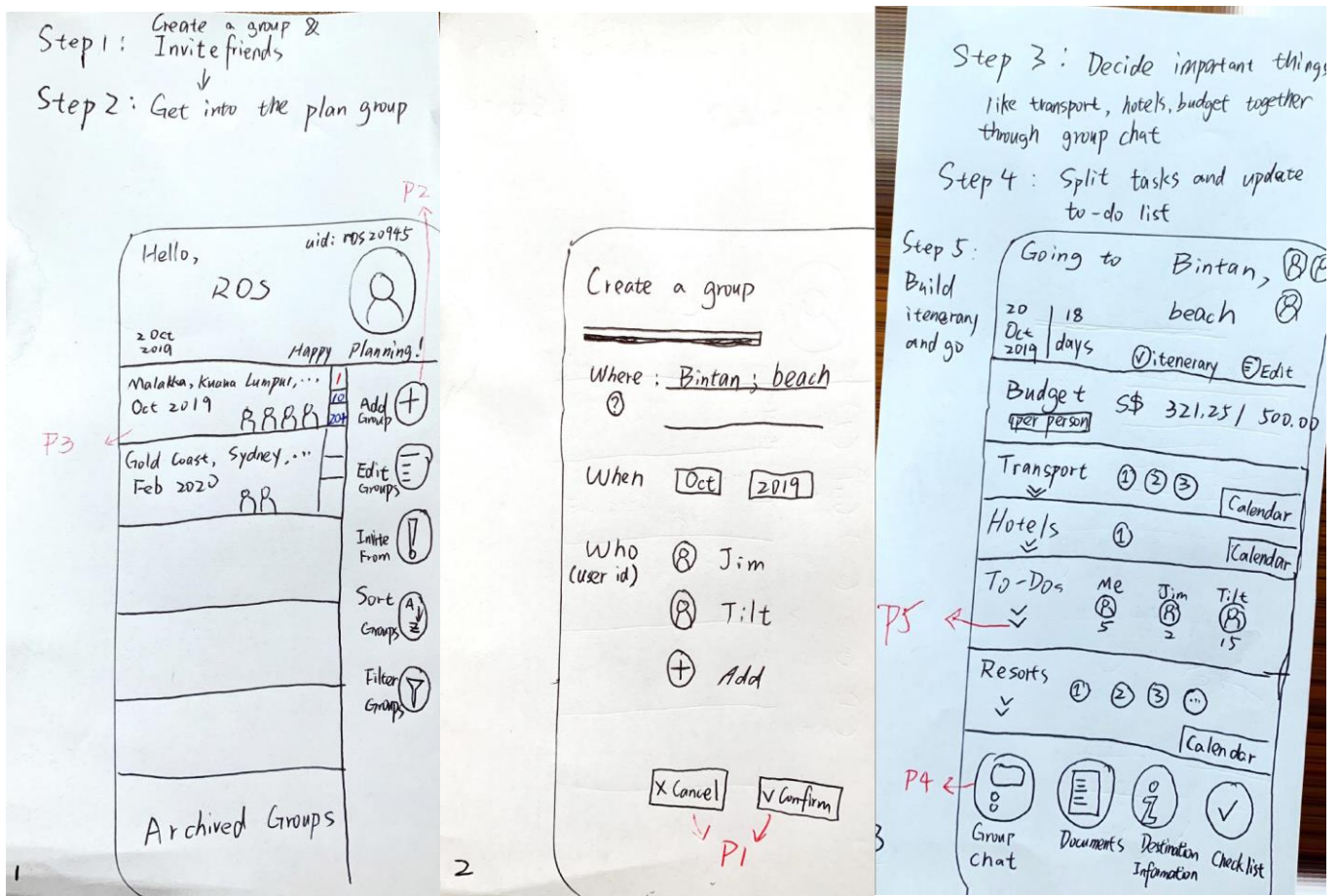
Clicking the "+" icon at the bottom of the itinerary would bring users to Add New Itinerary Module.



When users are adding something to the trip, they can immediately see suggestions on where to go.

Prototype 3 - Debang

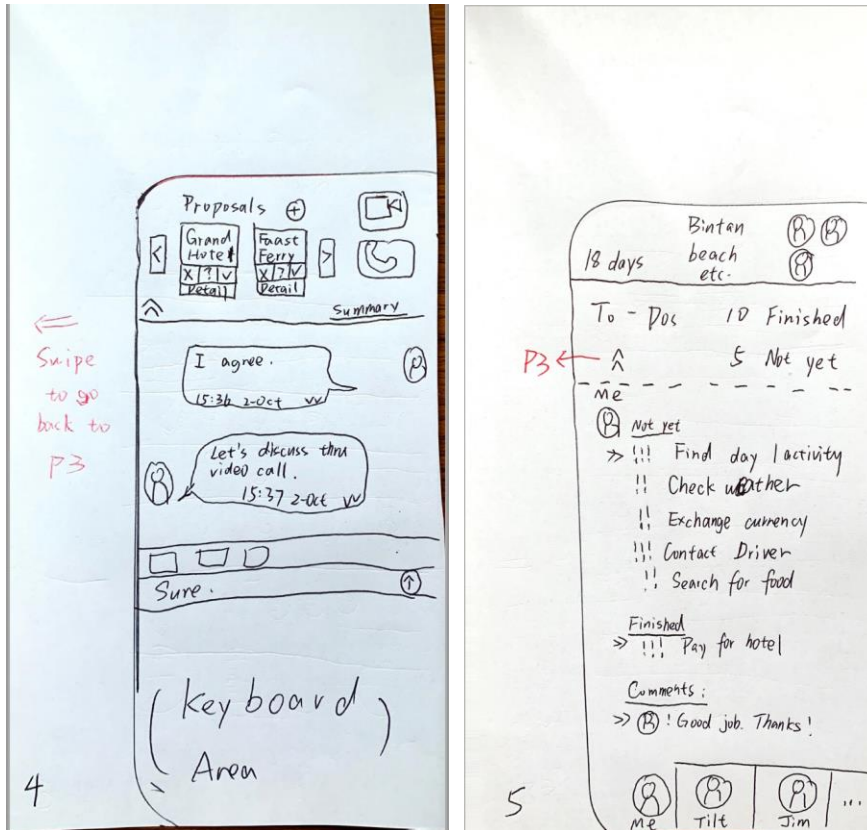
This prototype is created by Debang. It is a paper prototype. Because we initially wanted to develop prototypes of multiple platforms, this prototype is designed to fit for mobile users. It has five views --- main page, create group page, project summary page, group chat page and to-do list page. The prototype focuses on the important information that will be included in the final version of the software. The prototype also follows the discussed user interaction flow. Although this prototype is not entirely aesthetic, the functionality is well rounded.



On the main page, you can add a group, enter existing groups and see other details.

On the create group page, you need to specify the place, time and people of the trip, after creation, you will go back to the main page.

On the group summary page, you can see the trip details, budget, transport, hotels, to-dos, resorts, and other tabs in a summarized way. More information can be viewed after clicking on the expand icon.



On the group chat page, you have a combination of chat and voting.

On the to-do list page, you can see the summary of to-dos, as well as tasks assigned to individuals.

Evaluations

Round 1 - Assignment 2 Evaluations

Our Process

For this initial round of evaluations we were fairly relaxed with our approach. We did not specifically define what evaluators had to do. We presented the idea of what our application is about, asked if they needed any clarification and then just let them “play” with the prototypes, ask questions and discuss any suggestions.

Because the prototypes were low-fidelity or not very complete at this stage, it was not helpful to have a task-based evaluation strategy. We think that this more exploratory approach could better suit the stage the project was at.

The feedback we collected in this round was not used to modify these prototypes, but rather kept as guidance for the new combined high fidelity one. Likewise, we did not think that assigning severity ratings was of use at this point.

Our Findings

We will start by presenting a summary of the feedback on each prototype and then some general remarks that we think were particularly important for proceeding to the next stage of prototyping, as well as some of the suggestions received. For more details and our full notes from the evaluations, please consult the design notebook (Phase 2 section).

Debang

This prototype was both praised and criticised for the collaboration features it offers, with some users saying it had a strong collaboration component and others saying it would not really add much to the current solutions. This controversy was the reason for our decision to leave the instant messaging function out of our final prototype.

The fact that it was a mobile app was well-received. However, according to the survey, users would still prefer the web version, as they mostly use their laptop. We questioned if the fact that they use their laptops may be due to not having better mobile solutions, but ultimately we can only focus on one of them and we felt that the web app was a safer bet, as it is supported by a larger number of users.

It was also pointed out that it is not clear how tasks can be assigned to group members, so we tried to address this by showing this operation in the final version.

Most screens present a very compact view, and this was mentioned as overwhelming several times. The lack of colour also contributed to this issue. Since the complexity of our idea required a lot of information to be visible and easily accessible, we tried to pay close attention to this, so we could strike the right balance in terms of being useful but not overwhelming.

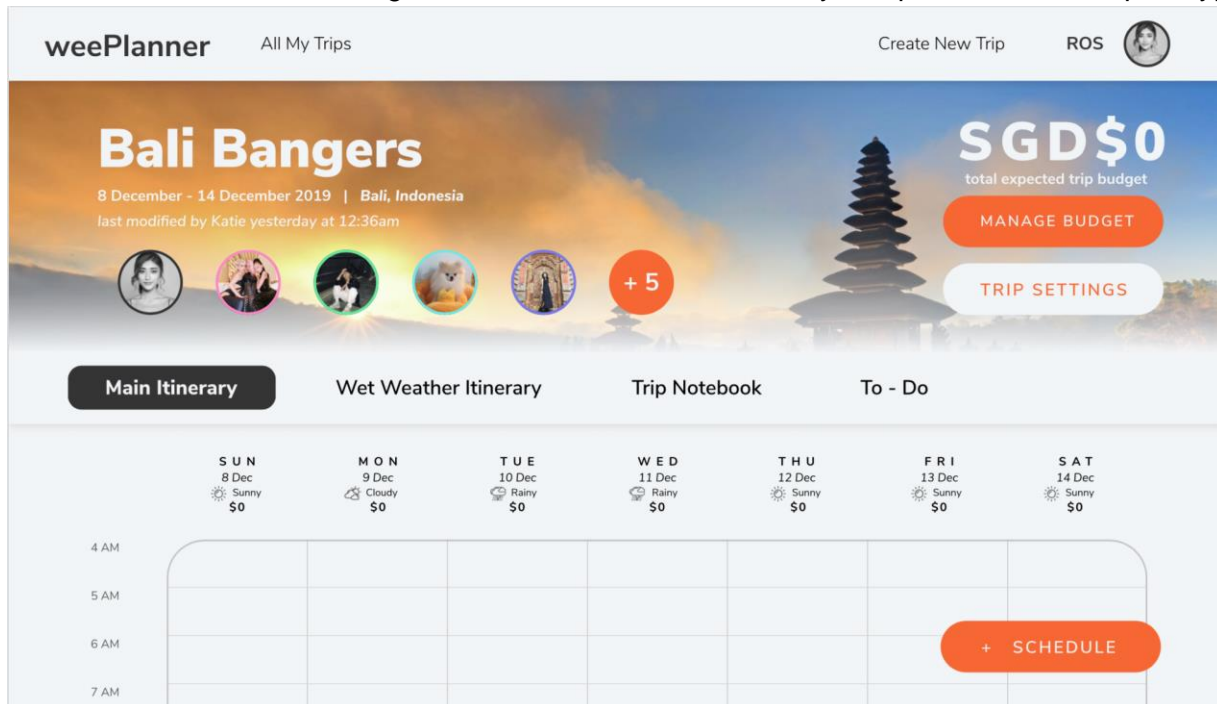
The tasks assigned to each person are presented in different tabs, and there is no way to see them all at once to get a holistic perspective of what is going on. This motivated our decision to express responsibilities in a way that allows for this kind of perspective in our final prototype.

Certain UI elements, such as the exclamation marks used to express priority in the To-Do lists, as well as the circled numbers used to express the different transportation required, were confusing for our evaluators. For this reason we tried to keep our usage of icons and similar UI elements only in situations where they are already more or less standard practice.

Laurent

Everyone seemed to be very pleased with the beautiful visuals. This is something we leveraged for our final prototype by using many of the same UI elements and style, or at least the digital equivalent of it, as this was a paper prototype. Additionally, the general opinion seemed to be that it makes good use of space.

Another important aspect was that everyone seemed to understand that this prototype is built around the main itinerary view screen, and this was pointed out as a positive thing, as it provides a base that the user knows to get back to. This was also, in a way, adopted into our final prototype.

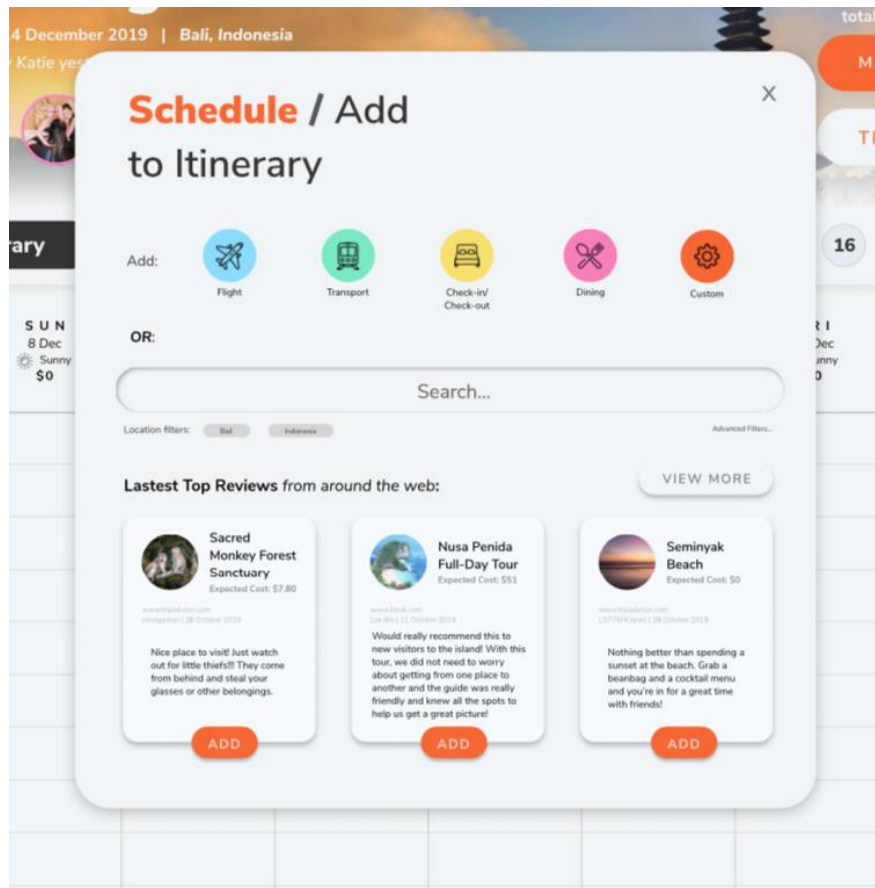


Adoption of design elements and main itinerary view in our final prototype.

The itinerary view, as an element that most users can recognize was praised for providing a great general view of what is going on with the project. However, at the same time, we were advised to be careful not to make it too overwhelming. We kept this in mind, but we believe the familiarity of the calendar element will give the user enough cues to navigate the site smoothly.

One thing that people liked and that was directly used in our final prototype as well, was the option to vote on the destination and time before creating the trip.

The scheduling feature also received positive feedback - evaluators liked that it could show suggestions for locations while choosing what to add to the itinerary. This would be a main differentiating factor between weePlanner and other potential collaborative planning apps, drawing the link back to travel directly while users plan. This feature was likewise adopted into our final prototype.



The design for Schedule did not change much from the lo-fi prototype.

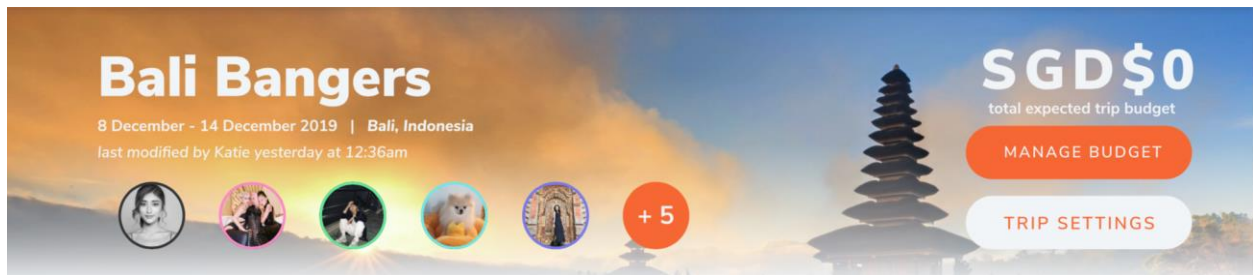
Colour coding each member in the group has received mixed feedback, so we were more careful with the way in which we applied it in the final prototype. We now believe that the main problem with this was that the way in which it is done for destination selection requires too much memory from the user. The heat map voting element, in particular, had very mixed reactions - some people found it interesting while others found it confusing. Hence, we decided to leave it out of the final prototype.

Finally, we took note that the distinction between past trips and upcoming ones needs to be seamless in the user dashboard, and so we have decided to make the pictures of previous trips black and white in our final prototype.

Pedro

Overall the main strong points of this prototype seemed to be the simplicity of the interface, and the general approach of how budgeting and suggestions are done even though both needed to be further clarified. The main shortcoming was that it left too many aspects undefined which caused us to get a lot of questions about how certain operations would work.

In terms of visuals, there was too much whitespace, but everyone liked the idea of a banner with an image of the destination, so we used this in our final prototype.



The idea of linking to external websites and services made users feel an inconsistent experience, and so we abandoned it.

Regarding budgeting, as mentioned above, it was not clear enough if the numbers referred to the costs per person or overall, and how the suggestions would be reflected once approved. For this reason we included an explicit message about the values being per person, and we moved the approval of suggestions to another page. It was also pointed out that any budgeting tool needs a spending limit, which we have addressed.



Improved budget display.








General Remarks

- Because of the collaboration element, we need to be clear about what the budget numbers refer to
- Colours, and making consistent use of them will be an important part of guiding the user
- Having a good flow and hierarchy is usually an indicator of good usability and user satisfaction.
- It will be important that we consider naming carefully, as it became apparent that certain terms in this domain can be confusing, which can easily become a source of frustration for the user.
- We must consider how simultaneous editing is handled. We cannot show it in our prototype, but the idea is that simultaneous editing is handled as in Figma, where each user has a different colour cursor, that everyone can see, at least in the itinerary page. We believe this would require real testing with a functional example.

Suggestions Received

- Link invitations are probably a good way to allow people to edit without requiring them to create an account: we adopted this.

- Having a chat would be nice: we believe there are plenty of good chat options out there and that there is no need to reinvent the wheel with yet another
- Packing list: we think this can go into the trip notebook. If it's not collaborative then there is no point in including it in our app at all.
- Currency converter: one of our lower priority features from the user study. We did not have time to include it in our prototype, as it is not clear how it could be well integrated.
- Itinerary needed to show how many days someone is staying at a particular accommodation: we thought this was a good point, and decided to take that into account by including the option to choose to add an Accommodation block in our Schedule function. Although this feature is not shown in our final prototype, it would be possible for users to add a date and time for when they check in, and out of accommodation, making this clearer for their planning processes.
- Alternate itineraries/ weather: One evaluator raised that the trip might split off into multiple sub-groups who want to do different things, and proposed the creation of alternate itineraries. He also suggested having this for alternate plans, such as wet weather plans. This was similar to another evaluator's suggestion, who questioned why we did not include planning for weather in our prototypes thus far. We decided to factor weather into our final prototype, as it was also an element that users found important in our user study.

Main Itinerary	Wet Weather Itinerary	Trip Notebook	To - Do
S U N 8 Dec  Sunny \$0	M O N 9 Dec  Cloudy \$0	T U E 10 Dec  Rainy \$0	W E D 11 Dec  Rainy \$0
			T H U 12 Dec  Sunny \$0
			F R I 13 Dec  Sunny \$0
			S A T 14 Dec  Sunny \$0

Hence, we included a tab for a Wet Weather Itinerary, and displayed the predicted weather for every day in the itinerary. Although this functionality is not shown in our final prototype, when navigating to the Wet Weather Itinerary tab, users will be prompted if they want to import all the activities they scheduled in the main itinerary for non-rainy days, leaving the rainy days blank for users to plan an alternate wet weather plan, or create a wet weather itinerary from scratch altogether.

Our considerations for other alternate itineraries will be explored in the next section.

Round 2 - High-Fidelity Combined Prototype Evaluations

Our Process

For the combined high-fidelity prototype, we used task-based evaluation. At this stage, the idea, structure and even features were refined enough that it was helpful to test our flow in a more restricted way, by asking the evaluators to perform a sequence of tasks. If the previous round was mostly about the “flare” stage, this time we recognized we were in the “focus” phase. As such, our

evaluations were mostly summative, although we made improvements based on evaluations afterwards.

During the evaluations, we used the naturalistic method of observing users, encouraging users to think aloud. We specifically asked each evaluator to perform the tasks in a given order, such that we can avoid implementing the numerous transitions that our application would require for free exploration. While doing so, we silently observed evaluators, allowing them to figure out how to use the prototype on their own, only stepping in when they kept making the same mistake without knowing how to proceed. This was to limit the intrusion of the experience, and adequately simulate how a user would navigate the app and make mistakes, but find out how to use the app in the end.

It is also important to note that even before going into evaluations, we found it useful to just take a step back, look at the key tasks we defined, look at the task flow we are aiming to support and try to find problems. Alternatively, just getting feedback from each other either in person or through the commenting functions in Figma also produced a similar effect. Both these strategies prevented obvious mistakes even before getting to any evaluations and we think it was very important to regularly attempt it. The main factor that we think has made this successful is that by having each person working on a different page, we could look at another page mostly without the bias of having built it.

This round consisted of six evaluations, one of which was with the tutor, and two of the remaining conducted with the same user, before and after certain problems were fixed. Four different users evaluated the prototype, and all evaluations were conducted face-to-face. In the last evaluation performed, which was after we attempted to resolve all known issues thus far, no usability problems were pointed out, and only some suggestions received.

After receiving feedback, we categorised the problems identified based on Nielsen's Heuristics, and assigned severity ratings accordingly.

Task Sequence

Below is the sequence of tasks we asked users to complete. Before conducting the evaluation, we explained shortly what weePlanner is about, then provided them this sequence of tasks, allowing them free reign to explore how to complete these tasks through our app.

Scenario 1 - The Idea is Born

During one of their lunches after class together, Ros and her friends decide to go on a trip during their winter break. Everyone is excited! They want to start planning the trip right away to have something to look forward to for the rest of the semester. Even though they have not yet decided exactly when during the winter break, or where, Ros would like to create a new trip project on weePlanner to help them decide, and facilitate the start of their planning process.

1. Login
2. Create a trip

3. Name the trip
4. Add the 3 suggested people
5. Set your date preference and start a vote closing on 25 November
6. Set Bali as destination preference and start a vote closing on 25 November

Ros and her friends have voted on their preferences. They now just need to confirm what they have decided on weePlanner and start planning their trip properly!

1. Check progress of date vote
2. Choose the majority option
3. Check progress of destination vote
4. Choose the majority option
5. Rename the trip to Bali Bangers and go to the main itinerary

Scenario 2 - Starting an Itinerary

After some time of negotiation, Ros and her friends have decided to go to Bali! They would like to begin planning by deciding which flight to go on. They do some research and end up booking an early morning flight. To make sure everyone is aware of this, they add it to their itinerary.

1. Click decided and autofill the decision for both date and destination
2. Add a task to choose the best flight (don't schedule it yet!)
3. View all tasks

Ros and her friends have decided on a flight and are ready to confirm it in the itinerary.

1. Mark the task as completed and then go the main itinerary
2. Schedule the flight in the itinerary

Scenario 3 - Developing an Itinerary

In the middle of planning their Bali trip, the plan is constantly in flux as Ros and her friends find better places to go to, or discuss which places most of them would like to visit. Ros and her friends would like to make changes to the itinerary accordingly. Also, more of Ros' friends have expressed interest in joining this trip, and Ros would like to collaborate with them as well on weePlanner.

1. Remove Nusa Penida from the itinerary
2. Add a comment to the flight to Bali
3. Paste links in the trip notebook
4. Invite Karen to the trip

Scenario 4 - Time for Budgeting

It's now close to the final stage of planning! Ros and her friends now need to factor in their budget.

1. Check the budget page

2. Increase personal budget limit
3. Pay Katie from the reminder
4. Split the flight expenses
5. Check the reminders you have sent
6. Check budget details
7. Add a personal expense
8. Delete the personal expense you just added
9. Go back to the main budget page
10. Vote on Sneha's scuba diving suggestion (takes you back to the polls section)
11. Go back to the main itinerary and see the proposal reflected there.

Our Findings And Solutions

We organised usability problems identified from our evaluations based on which page it was about: in particular, the Create New Trip, Main Project Page and Budget page. Other comments are placed in the Other section.

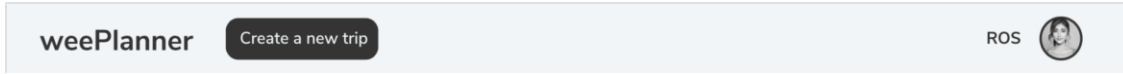
In the first evaluation of this round, with the CS3240 tutor, we discovered a lot of small mistakes that were caused by details we forgot or broken transitions. We addressed this, as explained above, by trying to check our work with each other before the remaining evaluations, and that has helped us not only save time but also keep the evaluations focused on the real usability problems of our application.

In general, after making many changes based off our first evaluation with the CS3240 tutor, users we evaluated with found that the prototype was comprehensive, and relatively easy to use. Multiple users also feedbacked to us that they enjoyed using the prototype, and could see themselves actually using it to plan trips.

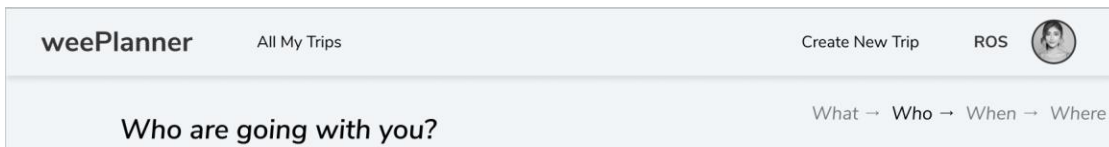
Create New Trip

Usability problems identified through our evaluations are as follows:

- Regarding the flow when creating the new trip, we realized we had not defined what would happen before everyone has voted and agreed on the destination and time. Intuitively not more planning can happen yet, but our pages just seemed to assume that the user could proceed as if all other group members instantaneously voted. This would mean that it was not possible for users to continue and try and start a vote for a new destination, if they had not previously finished voting for the time - furthermore, how would users access other features from this screen, such as go back to the landing page and see this vote ongoing? It was suggested that the user should be able to proceed although with very limited features. This is reflected in our final prototype. Severity: L4.
- Upon our first evaluation, when creating a new trip, the header looks very much like a button, which can make users want to click it, causing frustration when nothing happens. Heuristic: H4 Consistency and standards. Severity: L2.

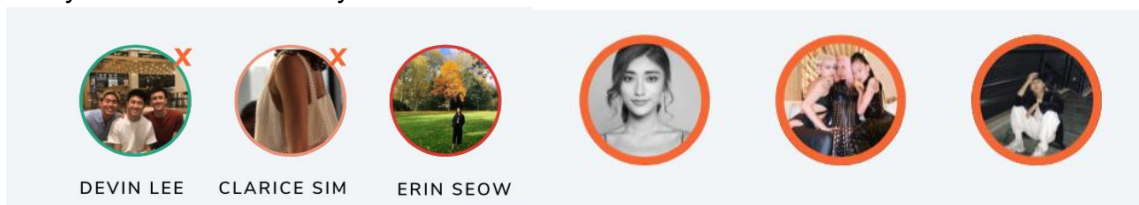


Initially we wanted to inform the user of their progress through the Create New Trip page, since it is not that intuitive to users that there will be multiple steps involved when creating a new trip, including the voting of options. However, showing the progress this way reduces the consistency of design. To solve the problem, we used a consistent header for all pages, while adding the user's status below the header. Note that the user is currently deciding "Who", while *All My Trips* and *Create New Trip* are shortcuts on the header.



After revision.

- Our fifth evaluator was confused when adding friends to the trip. After adding a friend, an "x" shows in the corner to undo adding the friend, without showing that the friend has actually been added. He found that interaction hostile, as there are more visual cues for removing than for adding, which is contrary to the collaborative nature of our app. Although the system status was visible, it was done in the wrong way. Heuristic: H1 Visibility of system status. Severity: L2



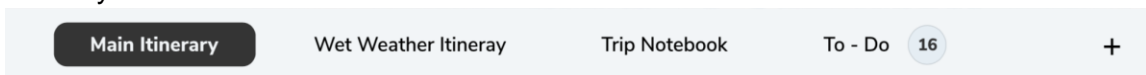
Left: Before change, Right: Visibility of selecting friends under "Create A Task"

We decided to change this such that an orange outline would be shown over the friends once selected. This would be consistent with the visibility of the system status when selecting a friend under "Create A Task" in the *To-Do* section, as shown on the right. Although this is not shown in our prototype, when choosing to not add a friend, the user can click the friend's icon again, and the orange outline will disappear.

Main Project Page

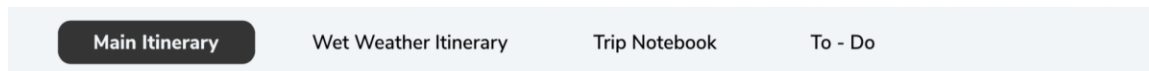
Usability problems identified through our evaluations are as follows:

- In the tabs displayed in the main project page, the "+" sign seemed to suggest the user can add some new tabs, but since we did not show this, it becomes confusing. This problem was pointed out by the tutor. Heuristic: H6 Recognition rather than recall. Severity: L1.



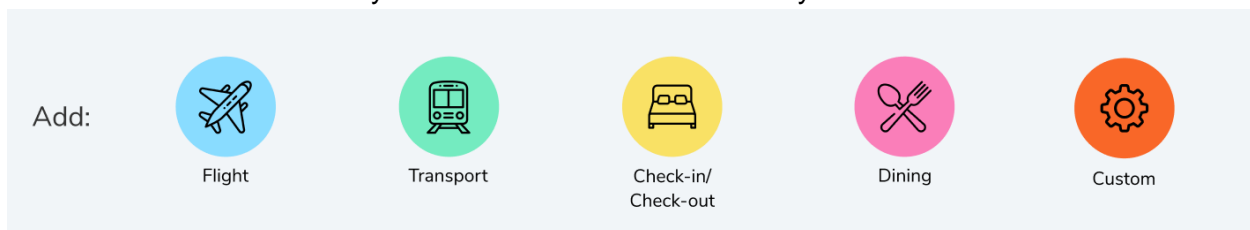
This was because we initially wanted to give the user the ability to create alternate itineraries, but did not know how to display this effectively, since the toolbar also had the Trip Notebook and To-do sections next to the itineraries.

Eventually, we removed this “+” sign. If different groups of people wanted to go on different activities, these two activity blocks would be shown side by side, occupying the same space on the calendar grid.



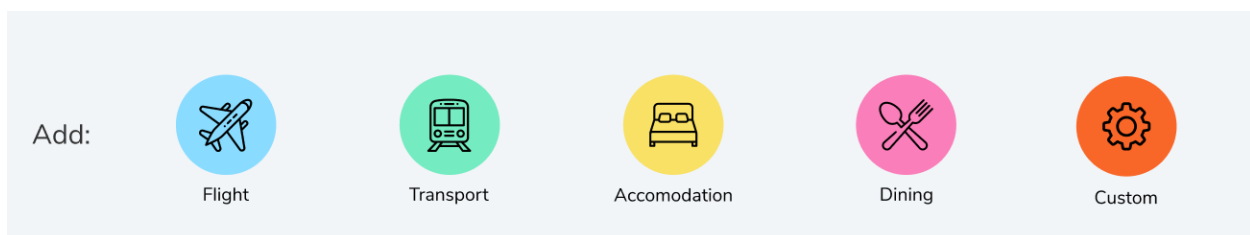
After removal.

- Some language problems were identified. For instance, when adding things to the schedule, one of the options is “check-in/check-out”. This was intended so that users can select time blocks in the calendar for doing check-in or check-out, but for our evaluators there seemed to be no clear reason why it is not simply called accommodation. Heuristic: H2 Match between system and the real world. Severity: L1.



Before change

This problem is rather easier to rectify. We simply change the original wording to a simpler and more appropriate one.



After change

Budget

Designing the budget section was particularly complex due to having to present a fair amount of information, and also helping the user split expenses and approve other member’s suggestions. Additionally, we also kept in mind that the suggestions that are currently being voted must have clear impacts once approved, but we were not yet sure how to achieve this at the beginning of this round of prototyping.

Usability problems identified through our evaluations are as follows:

- After the third evaluation, we realised we had not considered how people can have individual expenses and still be able to factor them in in the same tool without having to separately keep track. This is a feature that needed to be introduced. Severity: L3.

Total cost	Cost Per Person	Cost per Person Per Day	Description	Author
2570	257	-	Plane Tickets	You
2100	210	30	Food (general)	Sneha
1680	168	28	Hotel	Katie
500	50	-	Katie's birthday dinner	Vivian
220	22	-	Airport transfer	Vivian
150	15	-	Scooter renting	Johnathan
150	15	-	Surf boards renting	Johnathan
70	7	1	Bottled water	You
30	3	-	Temple donations	You
Personal expense	20	-	Souvenir for mom	You
Personal expense	0	-	Add a description	You

- During our evaluation with the CS3240 tutor, we discovered that the poll shown in budget is not consistent with the polls shown in the To-Do page. Additionally, the causal link between them is non-trivial and the user should not have to figure this out alone. Heuristic: H4 Consistency and Standards. Severity: L3.

Mike: +\$50 per person for scuba diving
Sneha, Jacob and Vivian have agreed

SEE FULL POLL

Poll on budget page

Voting

You have no polls pending.

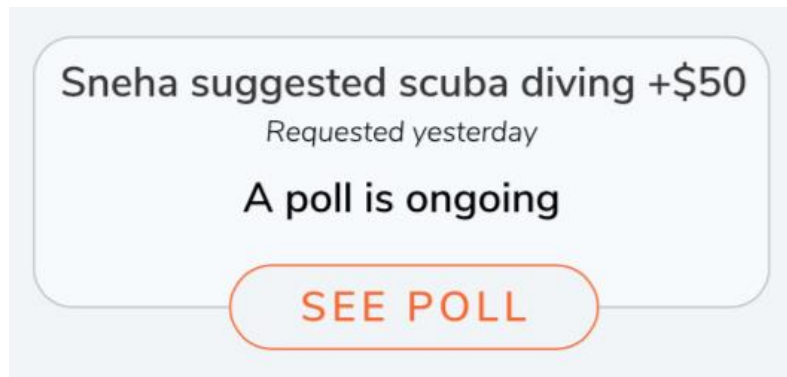
START A POLL

Poll on the To-Do page

Initially we considered budget an important part that should have its component separated from others. However, after our prototype evolved to a more complex stage, the

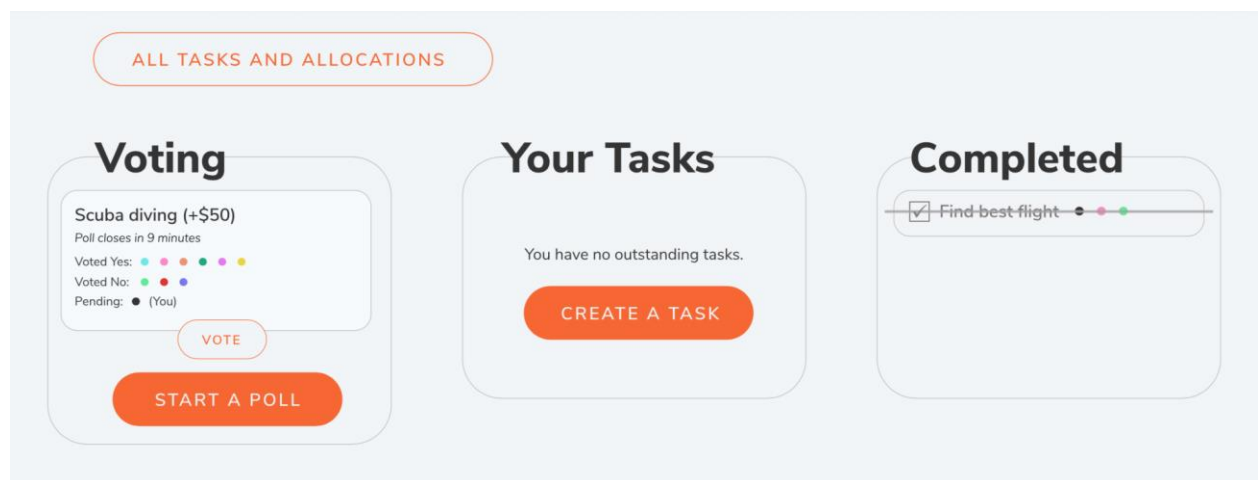
synchronization between voting on a general topic and voting on the budget page becomes a pain. Thus, it loses the consistency.

In the end, we decided to delete the separated polling function for budget page. Instead, we show the status of polling page for polls related to budget. In this way, the original budget polling becomes a reminder, which links to the To-Do polling.



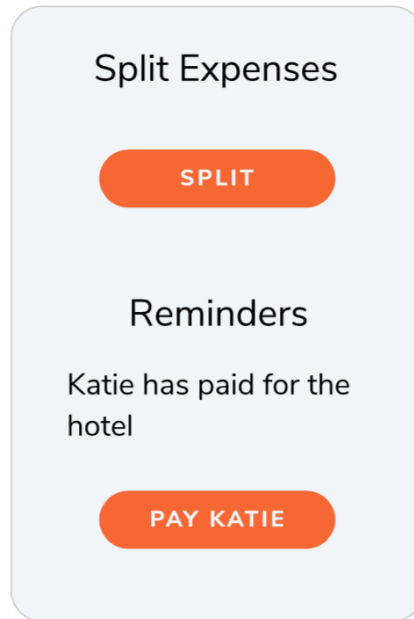
Final version.

Clicking “See Poll” would then bring users to the *To-Do* page, where the poll would be visible under the “Voting” section.

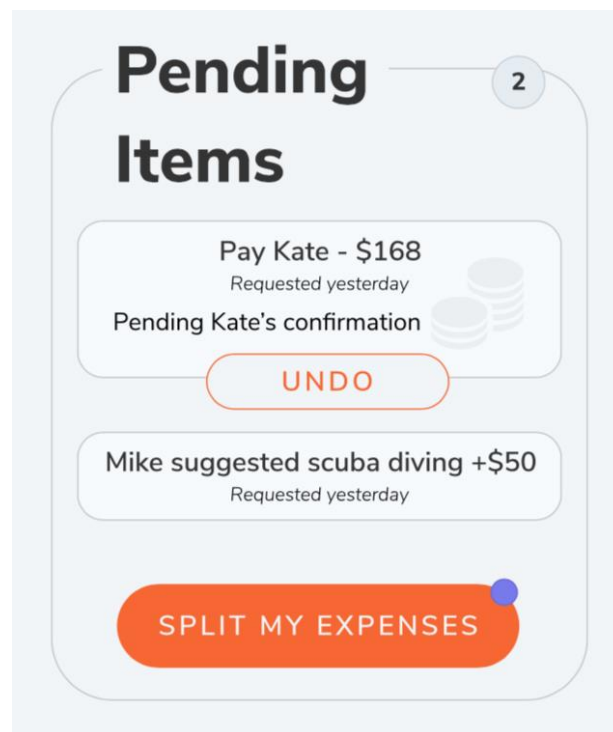


Scuba diving poll in the To-Do section.

- Another evaluator found that the reminders and splitting expenses section in the budget page is confusing, and the button labels are not clear. We think the only way to fix this is to rebuild the element completely. Heuristic: H1 poor visibility of system state. Severity: L3.

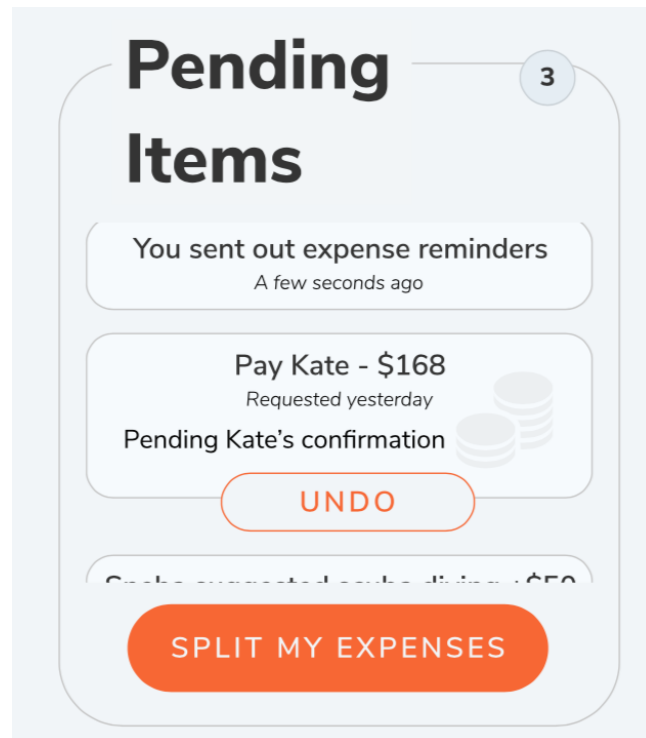


This was reworked into a single section called “Pending Items”.



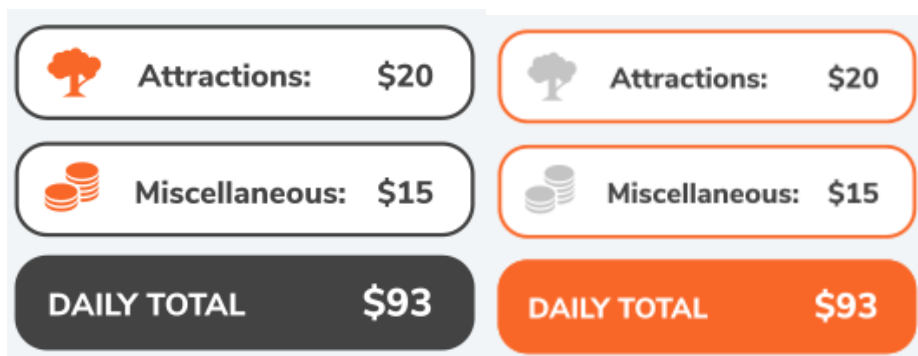
- Following this, another evaluator raised a problem she found regarding the blue dot in “Split my expenses”. The expense reminders sent out were represented by a dot, resembling the notification dots we all are familiar with from our phones. However, this had the shortcoming that it did not give the user a clear way to see what had been done, which could very easily result in people sending the same reminder multiple times. Heuristic: H2 Match between system and the real world.

Severity: L4. Following this, we scrapped the blue dot, and gave users better feedback when they chose to split expenses.



- The boxes under “Daily Average” and a “Trip Total” look very much like buttons, and we had users trying to click them during the evaluations. Heuristic: H4 Consistency and standards. Severity: L3.

This was because we had consistently used orange in the rest of the prototype when prompting an action from users, so we decided to change the buttons to black instead to better reflect this change. Orange would only be reserved for clickable things.

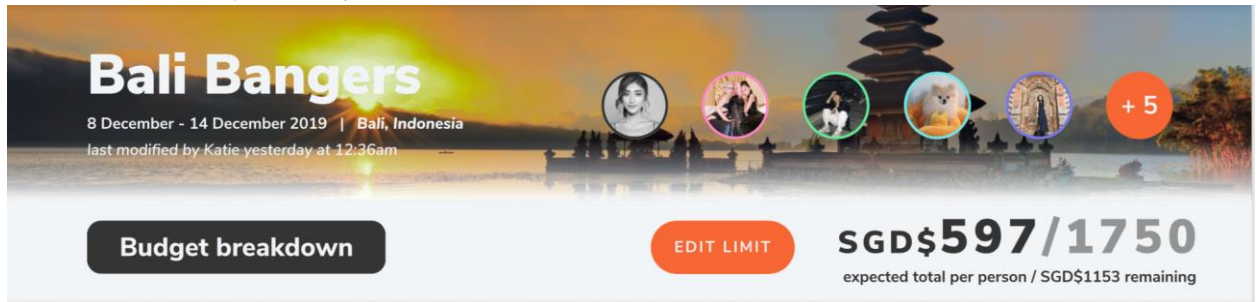


Left: after, Right: before

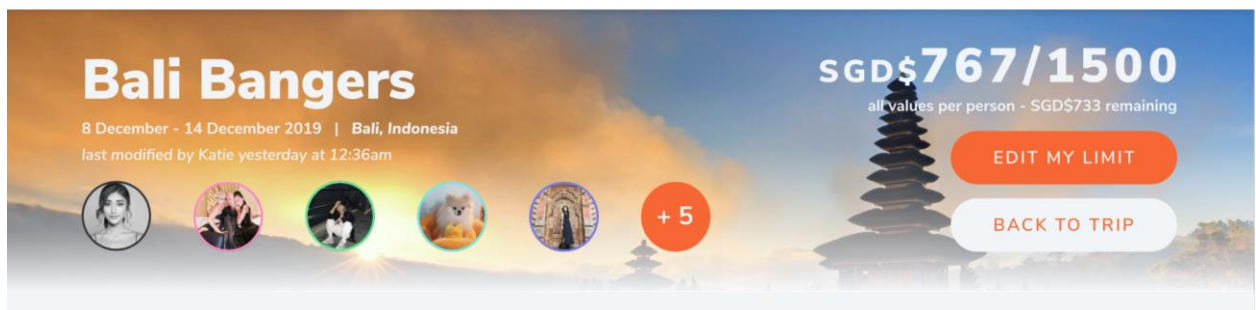
- Our first evaluator commented that the “Budget breakdown” dark box looked like the tabs in the main project page, but it was just the title of the page. This was identified as a source

of confusion, as it may make it look clickable as well. Heuristic: H4 Consistency and standards. Severity: L2.

Furthermore, the banner at the top of the page differs from other pages in the trip. This was originally intended as a way to have more screen space free for the main content of the page, but by readjusting certain other choices we were able to make it consistent and still have an acceptable layout.



Before



After

- Some overlays used a very small font size. Heuristic: H1 Visibility of system status. Severity: L1.

Other

Usability problems identified through our evaluations are as follows:

- When initially designing the site header, there was an option named “Explore Attractions” which would do the same as the “+ Schedule” button in the main itinerary. Our tutor evaluator commented that this duplicated interaction ought to be removed. Heuristic: H4 Consistency and standards. Severity: L2.



After removal.

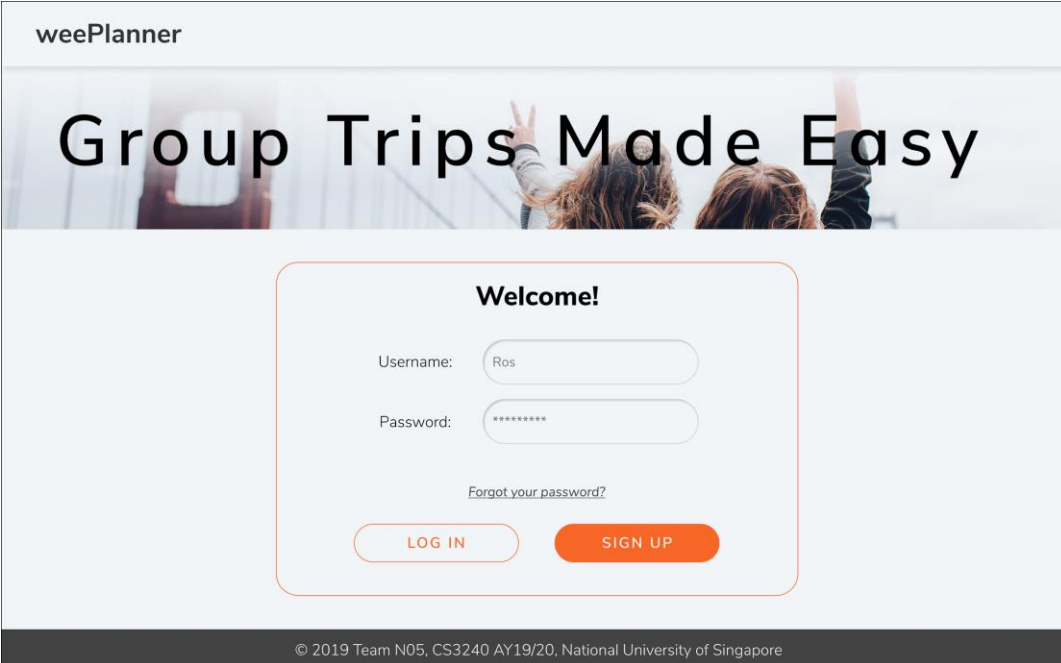
- When pages include scrolling we must carefully consider whether to maintain the scrolling position on transitions or not, as this was causing people to not read the top part of the

page, and therefore get lost in the task, without fully understanding what the screen is about. Severity: L3.

Final Prototype

As mentioned before, this prototype was developed using Figma, and the transitions do not allow for free exploration, but only a specific sequence of tasks, which can be found in the guide. All tasks are shown from the point of view of Ros, our persona, who is the “owner” of the trip project. We chose this model of owner as it is already proven in many other applications, one of which is Figma.

We created a login page such that the user conception in our prototype is emphasized.



weePlanner

Group Trips Made Easy

Welcome!

Username:

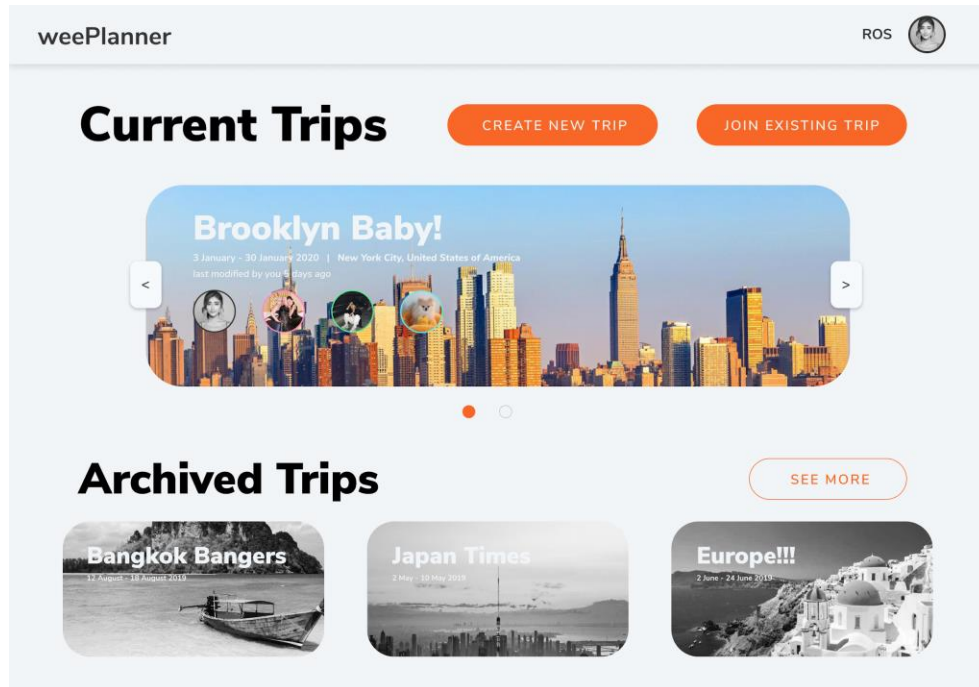
Password:

[Forgot your password?](#)

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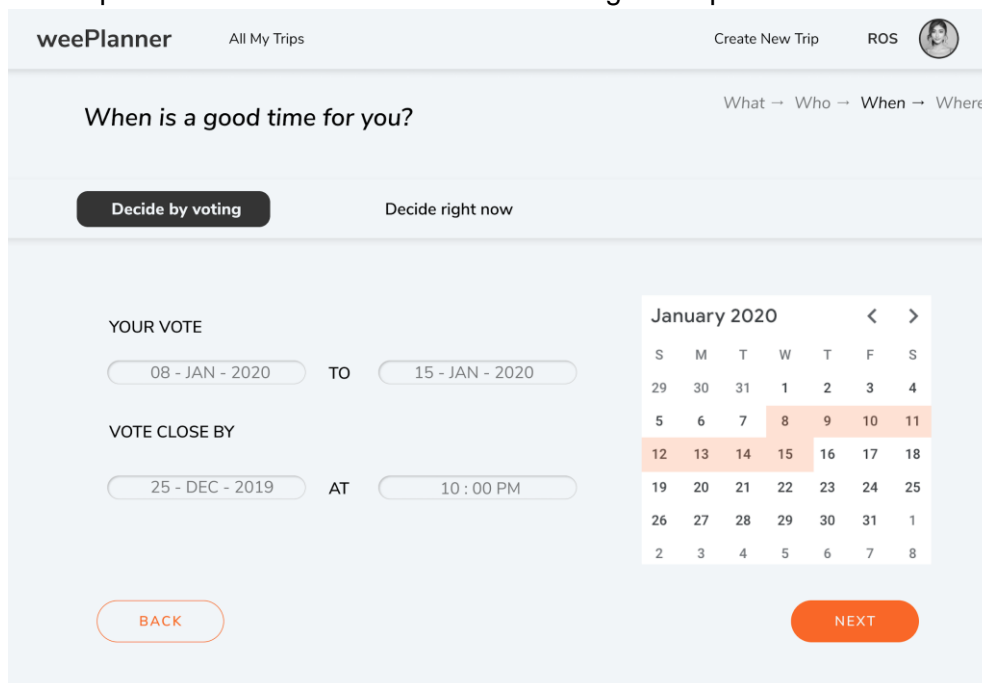
Login page

We updated our main page. Not only is it more aesthetic, but the current trip and archived trips are separated as well. And the layout is generally more intuitive.



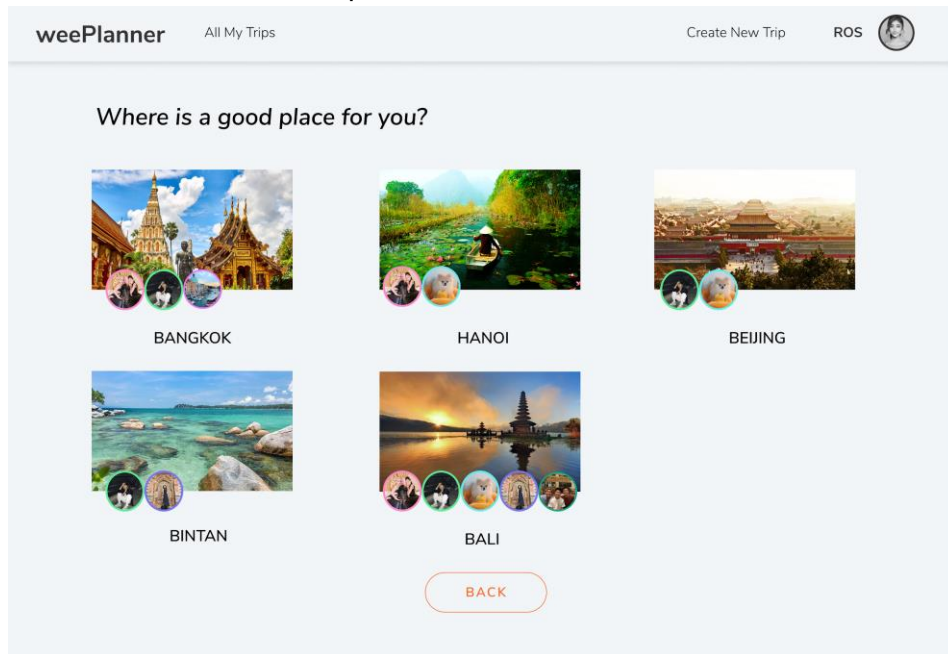
Main page

We changed our logic in specifying the date and destination. It can be determined either by voting or immediately without a voting. If by voting, the creation page will take the owner's vote input as well as a close date for the voting to keep users on track.



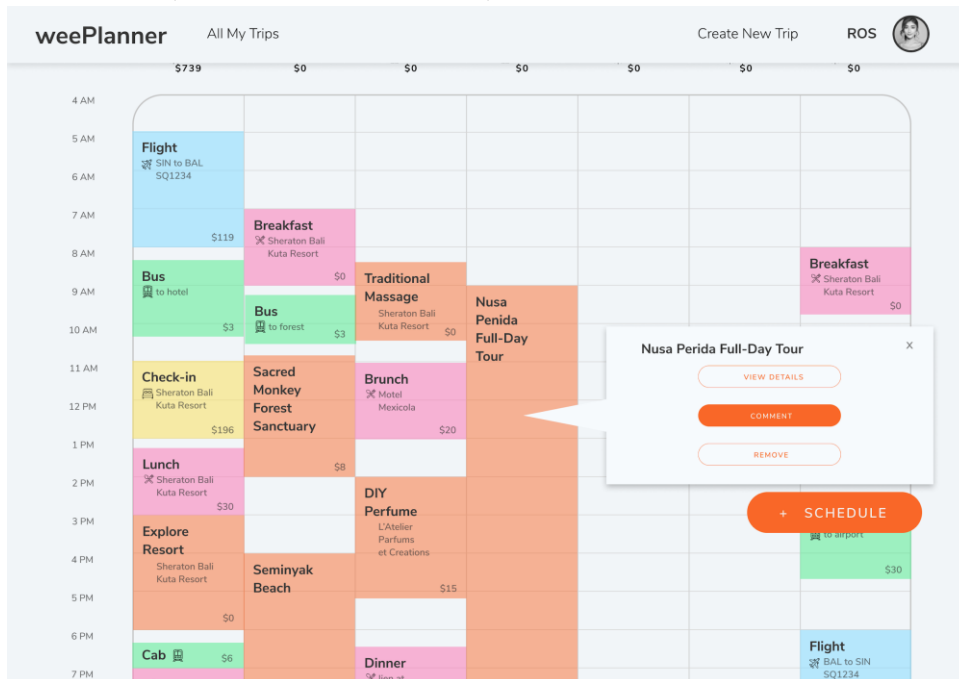
Decide time by voting

Afterwards, when users are formally enrolled in the group, they can vote on the time and destination. All members can see the poll status.

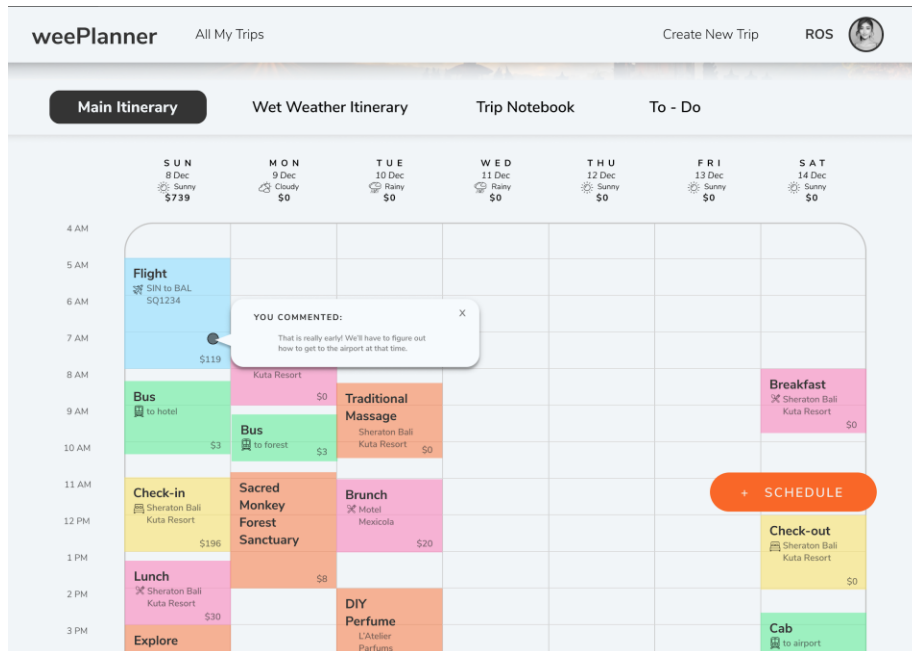


Voting status for destination

Our main itinerary is filled with more components to be more visually attractive and intuitive. For each component added, a user can view details, comment or remove.

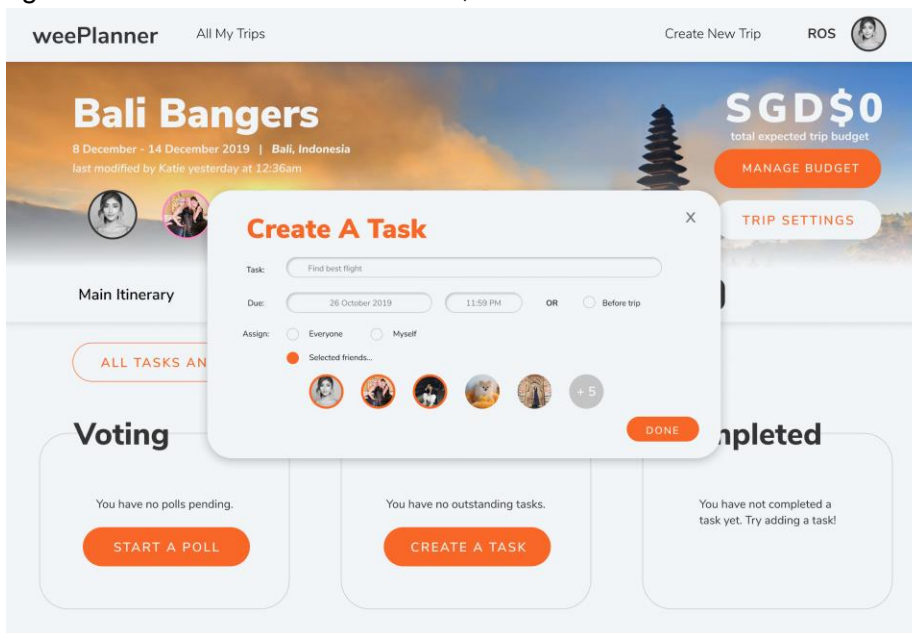


Itinerary page

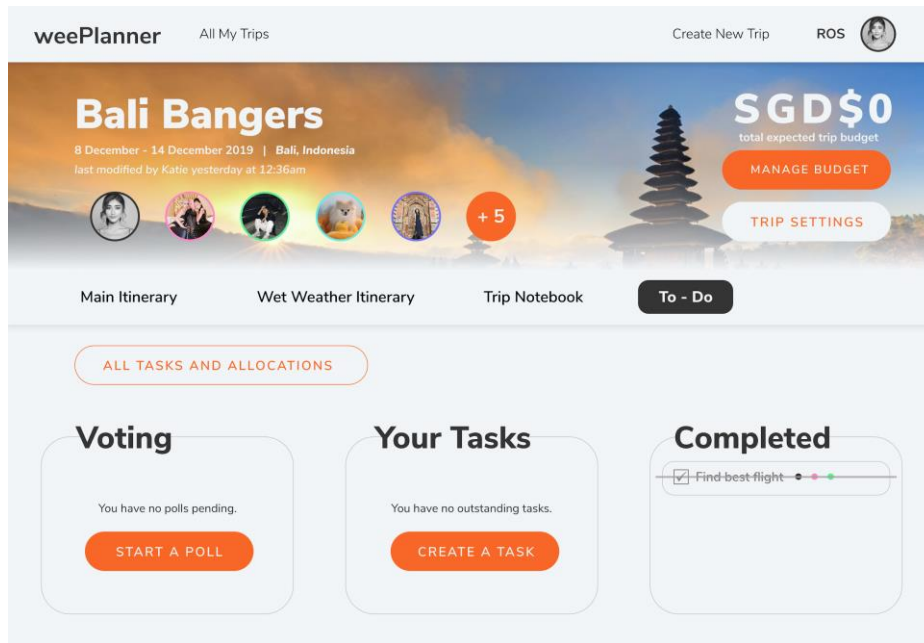


Itinerary page with a comment

Our To-Do page enables users to create a task, follow the task status and mark the task done.

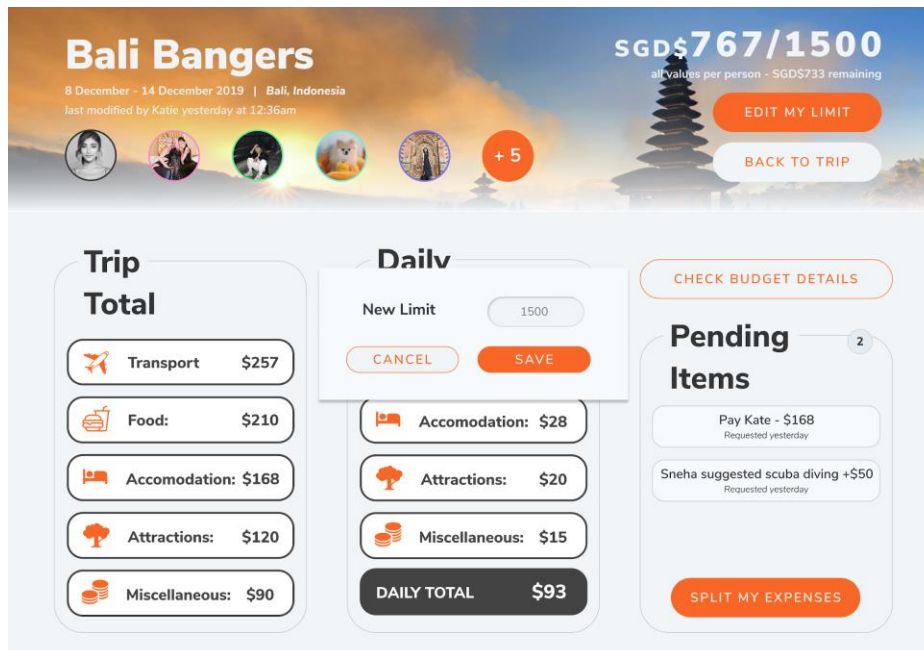


Page to create a task



Page the task is completed

The budget page is for users to manage their spending, as it is the most concerned area from our user study. In the budget page, the spending can be managed through total limit, trip spending categories or daily spending categories. New spending are suggested through voting, and will be shown on the *Pending Items* column. A budget details function is also provided. To ease the pain of splitting the money, a user can simply click *Split my expenses* button to notify others.



Budget page with set new limit

weePlanner All My Trips Create New Trip ROS

Bali Bangers

8 December - 14 December 2019 | Bali, Indonesia
last modified by Katie yesterday at 12:36am

SGD\$767/1500
all values per person - SGD\$733 remaining

MANAGE BUDGET
TRIP SETTINGS

Main Itinerary Wet Weather Itinerary Trip Notebook To - Do

ALL TASKS AND ALLOCATIONS

Voting

Scuba diving (+\$50)
Poll closes in 9 minutes
Voted Yes: ●●●●●
Voted No: ●●●●●
Pending: ● (You)

VOTE

START A POLL

Your Tasks

You have no outstanding tasks.

CREATE A TASK

Completed

Find best flight

Voting on budget reflected in the To-Do list

weePlanner All My Trips Create New Trip ROS

Bali Bangers

8 December - 14 December 2019 | Bali, Indonesia
last modified by Katie yesterday at 12:36am

SGD\$767/1500
all values per person - SGD\$733 remaining

EDIT MY LIMIT
BACK TO TRIP

Trip Total

- Transport: \$257
- Food: \$210
- Accommodation: \$168
- Attractions: \$120
- Miscellaneous: \$90

Split my expenses

Title: Pay Ros for the flights - \$237

Message: If you could do a bank transfer it would be great. My account number is: SGCC38920476946

CANCEL SEND REMINDERS

Pending Items

A few seconds ago

- Pay Kate - \$168
Requested yesterday
Pending Kate's confirmation
UNDO
- Sneha suggested scuba diving +\$50
Budget not set yet
SPLIT MY EXPENSES

Accommodation: \$28

Attractions: \$20

Miscellaneous: \$15

DAILY TOTAL \$93

CHECK BUDGET DETAILS

Send reminders to split my expenses

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EDIT MY LIMIT
 BACK TO TRIP

Budget details [BACK TO SUMMARY](#)

Total cost	Cost Per Person	Cost per Person Per Day	Description	Author
2570	257	-	Plane Tickets	You
2100	210	30	Food (general)	Sneha
1680	168	28	Hotel	Katie
500	50	-	Katie's birthday dinner	Vivian
220	22	-	Airport transfer	Vivian
150	15	-	Scooter renting	Johnathan
150	15	-	Surf boards renting	Johnathan
70	7	1	Bottled water	You
30	3	-	Temple donations	You
Personal expense	20	-	Souvenir for mom	You

REMOVE SELECTED [ADD PERSONAL EXPENSE](#)

Budget details

Reflections

Some thoughts for further expansion:

- Consistency is key: we should have started the design kit first thing, as it would have made it much easier for everyone to create buttons, text boxes, tabs and other common elements.
- Just like spaghetti code can become a huge issue in software engineering, design projects have a similar issue, except it is in the opposite way. In code, you want elements to be decoupled from each other, whereas in the design we want instances to be coupled to their master components such that changes can be performed safely without manually updating every single instance of an element. Additionally, layers, groups, and frames should also be wisely managed, and in hindsight we believe that setting a standard would also have been helpful in the same way coding style standards are helpful.
- Designing good usable interactions can be about much more than just good visuals. In our final prototype, many of the issues we had to fix were related to making the user understand certain operations, guiding them, and communicating clearly. Visuals are simply a means to this end.
- Beware of any assumptions: for instance, when trying to create a new trip we started by assuming that all members in the group would just instantly vote and the user would be able to proceed. In reality this is very unlikely, and we did not even realize until it was pointed out in evaluations.

- One of the regrettable limitations of Figma is that it is difficult to go back when a user has made a mistake. This hindered the task flow during some of our evaluations - although we tried to rectify this to the best of our abilities, we were ultimately limited by the software.

Appendix A – Design notebook

The design notebook can be accessed at:

https://nusu-my.sharepoint.com/:o/g/personal/e0445760_u_nus_edu/EvTE7pQbqnlLvQLEUBNjo1gBqP8jgc6AaQrQb3jMFQgbhQ?e=Ztxf9Q

It contains notes of evaluations, notes and audio recordings of each interview, as well as many other sections we used to articulate our thoughts and produce this document.

Appendix B – Survey

The survey ran is available at:

https://docs.google.com/forms/d/1vmUycOJZX6FpTqeRMyo57IsxS_tJQVG9aY2aUM_7g5c/edit?usp=sharing

To access the responses, please refer to:

https://docs.google.com/spreadsheets/d/1YHN-LG4FcmkCFhsDJCEKBTjX-Z6S_rp9K4d5BwVorkY/edit?usp=sharing

Appendix C – Interview script

Interview Plan (Semi-structured)

Guidance: Italic means a note for the interviewer. Blue sections are to be interpreted and explained as it comes naturally rather than read. Black may be read directly. Highlights are the

core of what the interview can provide that our other alternatives can't so they must be developed as much as possible.

Consent

We value your privacy. We will not ask for anything that could personally identify you. All information will solely be used for our product design without any redistribution.

Just some paper stating what the interview is about with their signature will do. Otherwise get them to email you and saying that they consent to the interview.

Introducing our idea

It is very important that people understand what our idea is about. They don't need to know how we are going to solve the problem, though. Before proceeding, make sure they can ask any questions about the idea.

WeePlanner aims to offer a user-friendly platform, for you to plan trips collaboratively. We noticed that the whole process of planning before embarking on an adventure can easily become a hassle, especially if you are going with friends.

For that reason, we aim to provide a user-friendly platform for you to plan trips, with easy access to the information you need, and collaborative planning of things like how you travel, where you stay, where you eat and what you visit.

Main interaction

*"Whenever you do ask users for their opinions, watch out for the query effect: People can **make up an opinion about anything**, and they'll do so if asked. You can thus get users to comment at great length about something that doesn't matter, and which they wouldn't have given a second thought to if left to their own devices."*

Keeping the above in mind, feel free to use the following as a guidance and ask for more details if some interesting cue comes up! This is semi-structured so the whole point is to follow the conversation, while still making sure we get the following main point.

1. Can you tell me a little bit about yourself as a traveller?
 - Travel frequency
 - Alone, family, with friends
 - International trips (yes/no)

- Time spent planning (how much time they spend on each particular task e.g. checking attraction opening hours, checking weather, etc - ask them what they plan for and ask accordingly)
 - Device used for planning
2. Have you planned any group trips? Tell me about what the experience was like.
- Tools used and how they helped (or not)
 - Critical incidents:
 - § point out a particular difficulty you experienced and why
 - § a situation that went particularly well and factors that contributed to it
- Need them to talk about their whole journey travelling as a group - from: how do they decide to go for the trip? Where is the starting point - do they decide the time first or where to go - who do they decide this with - how do they then go about planning (each person takes one part of the planning? etc) - ask about every part of the planning process (*i.e. how often do they meet to plan? Is this after some collaboration has been done digitally?*)
 -when did they collaborate digitally? And their whole planning process so we can get out whole planning process, what features would you want??

3. What are the main things you need to look up when planning, and why do they matter to you?

4. Time for Card sorting

Explain this activity properly! Categorise each card according to what you think goes together, name each category. Explain your categories afterwards. Jumble up cards with every iteration?

- Public/shared/private itinerary sharing options
- Viewing other curated itineraries
- Seeing previous edits of your itinerary
- Making notes on travel research
- Suggesting changes instead of making actual changes
- Map view
- Day/week/month calendar view
- Ability to see who edited which segment
- Visualisation of travel routes
- Information about attractions
- Information about accommodation
- Booking of restaurants or attractions through the app
- Information on transportation options and prices
- Find a travel buddy
- Weather information
- "Survival tips" on social customs
- Laws and visa information
- Currency conversion
- Attraction recommendation

- Categorisation of attractions
5. What do you think about the current aggregator websites (expedia, skyscanner, booking)?
 6. Tell me what you think WeePlanner is about?

Concluding

Ask if they would like to add anything else, or if they have more questions for you.

Ask if they would be available for user testing later in the process.

[1] <https://www.gov.uk/government/publications/travel-habits-2018>

[2] <https://www.nngroup.com/articles/interviewing-users/>