Logera.

Team Members

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Problem & Solution Overview

The problems facing travelers are as diverse as the travellers themselves. Everything from the purpose and means of travel, to the travel destination shapes a travelers experience and puts upon them differing needs. One problem we have found through our research, however, that remains consistent across these different dimensions, is the need and love to document travel through photos and collection of data (such as where they visited, where they ate, etc…). As we heard frequently, it is import to travelers that the way they document their trip information not interrupt the experience of living in the moment. To address these problems and needs, we have designed a smart camera with a built in smart assistant. We chose a physical, stand alone camera because it is both a familiar device to many, and does not come with the burden of constant notifications that smartphones do. This enables our users to still exist in the moment during their trips while using our device. As for the smart assistant, it allows for a more interactive documentation experience that feels as comfortable as speaking with a close friend. We believe that these key aspects of our design will meet the needs and desires expressed by our participants during our extensive design research.

Design Research Goals, Stakeholders, and Participants

Goals

The goal of our research study is to understand how travelers - both current and former - document and log memories, details, and mementos from the trip.

Stakeholders & Interviewing Techniques

The desire to document trip details and reminisce on past travels is applicable to nearly every traveler - both current and previous. Therefore, our research methods will involve two main groups of people: those currently traveling and those who have traveled in the past. Our primary source of research will be through interviewing. We believe that interviewing our participants will enable us to gather the most insight in the most convenient amount of time (asking travelers to spend part of their vacation on an extensive study would likely be ineffective). Our goal is to interview a diverse set of individuals who travel for leisure.

Stakeholders & Participants

For our initial design research participant we interviewed **Rachel Hunter**. Rachel is a student at the University of Washington, hoping to study business with a focus in marketing. For this interview, we spoke with her in the comfort of her own home, and we had no trouble establishing a rapport with her because Maegan already had a connection with her.

We conducted a structured interview with **Tim** (age 61) and **Katie** (age 58) **Jones**. We interviewed them in their own home. Tim and Katie provided a unique perspective in our research process. They are the oldest participants that we interviewed, and although somewhat tech savvy, are the interviewees least comfortable with technology.

Our group went to Pike Place Market to find and interview people visiting Seattle on vacation. We split into pairs and were able to collectively interview **three separate groups** of tourists. The first two people we interviewed were two men in their late twenties from Atlanta, and were visiting downtown Seattle after a snowboarding trip up to Snoqualmie Pass. The second group of individuals we found while wandering Pike Place was three individuals (from Columbia, Mexico, and Germany) who are currently living with host families here in the Seattle area. The third individual was a man in his mid 40s, traveling for business to Seattle for the first time.

Design Research Results and Themes

By conducting our research with participants from a variety of demographics and perspectives, our team was able to identify foundational themes and tension points across all participants.

A major theme across all participants was the importance of photos when reminiscing on a past trip. The majority of the participants in our research used their camera phone to document their experiences while travelling. When asked to recall a trip, many participants scrolled through their photos and associated memories of the trip with specific photos. Modern camera phones automatically groups trips by date and location, and provide meta information such as geolocation and exact time. Participants liked this organization, and leveraged it to conveniently group photos from trips they had taken.

Another major theme was the importance of sharing experiences of a trip with friends and family. The reason for sharing took two forms. Many participants wanted to share experiences merely to reminisce and share stories with friends and family who were not on the trip. Additionally, participants often wanted to share certain aspects of a trip with friends and family to recommend certain experiences they had while travelling. These types of sharing had fundamentally different motivations, and required sharing different types of information, but were equally important across our research.

A key point of tension we identified in our research was linked to participants documenting their trip using their camera phone. Although camera phones are convenient because they are high-quality and portable - they are accompanied by a host of email and text notifications which can take the participant out of the moment and pivot their focus towards their phone. Many participants wanted to capture photos of their trip, but did not want to be distracted by their phone.

Our group also identified that many participants were unable to recall the specific names of restaurants or hotels they stayed out. After conducting our research, we settled on this as a key theme and a concept we wanted to focus on. However, after some discussion as a group, we came to the realization that we had projected this desire onto our participants, and asked questions which lead to this theme.

From our research we gathered that participants want to remain in the moment, while still capturing meaningful and memorable photos of their trip. Although they are interested in location and date, they are often not interested in specific names and companies.

Task Analysis Questions

Who is going to use the design?

People who are currently traveling and wish to document their travels, as well as those who have the desire to reminisce on previous trips may be interested in using our design. It is primarily targeted toward people who log trips via photographs, and have some interest in journaling their thoughts regarding their travels, regardless of whether or not they have experience doing so in the past.

What tasks do they now perform?

Currently they document their trip to some degree, however minimal. They most likely take photos of their travels, and may even log specific restaurants or hotels they visit. Some keep physical things such as maps, tickets, and other mementos which correlate to specific places and experiences. When reminiscing on previous trips, many people use their phones to scroll through photos and recall specific memories.

What task are desired?

The user has the desire to more cohesively and conveniently document their trips. They hope to continue to use photographs to document their travels, but to be able to do so in a way such that they are able to compare different trips that they have taken, and share with close friends or family. However, they do not want this documentation to be time consuming or detract from the trip itself. They also hope to find a way to recall more detail of an experience corresponding to a photograph without having to take the time to do physical journaling.

How are the tasks learned?

The tasks are learned through a combination of craft skills and technical knowledge. Depending on the type of artifact they wish to create, either of these (or both) may be relevant. Some of the tasks may be obvious to users that are familiar with taking photographs using basic cameras, but others that do not align with the typical use of a camera may be taught via tutorials or trial and error.

Where are the tasks performed?

The tasks are performed on a camera while the user is on a trip. The user performs the photo documentation tasks wherever they would typically take photos with their phone or camera. The audio journaling can happen in the moment when the photos are being taken, or after the fact when the user is back at the hotel at the end of the day, or at home after a trip.

What is the relationship between the person and data?

At the moment the person is responsible for the generation of most of the data to varying degrees. This affects the significance of the relationship between the person and the data,

depending on what type of data we consider. For example photos, a significant piece of data in the context of our project, is closely tied to the person as the person decides when the photo is taken, where it is taken, how it is composed, etc. Other types of data such as location come naturally and therefore the person has a less personal relationship to that type of data.

What other tools does the person have?

The person has a number of other tools which allow them to document their trip. The primary tool is a camera phone which allows them to conveniently take high quality photos. Additionally, they are able to track places they have visited through receipts, confirmation emails, and plane tickets. Another tool which may be considered is a diary or journal for logging their events, thoughts, and emotions. However, some of these tools become unnecessary for the purposes of these tasks if our design is used.

How do people communicate with each other?

The design allows people to communicate with individuals and small groups via sharing photos or audio logs. A user may choose to share a photograph immediately after taking it, along with a quick spoken description, or filter through photos later on to share. Sharing may happen with those on the trip with the user, close friends of the user, or family members.

How often are the tasks performed?

The documentation tasks are performed every time the user travels, whereas the recollection may be more sparsely used. We expect recollection tasks to occasionally be used just for sentiment, and otherwise for the purposes of sharing experiences in a social context.

What are the time constraints on the task?

One constraint would be that individuals generally do not want to spend too much time collecting memories from trips. It may be hard for participants to set aside a small amount of time each day while traveling as travel schedules can oftentimes be busy and tiring. Another constraint, after the trip, would be that individuals do not want to spend much time curating their photographs but want to have them accessible without having to take the time to organize them.

What happens when things go wrong?

When things go wrong, individuals may lose valuable memories of a trip in the form of their photos and diary entries. Another dimension where things could go wrong would be with sharing: accidental sharing to an unintended recipient may result in a breach of privacy or possible confrontation. Also, our design is more effective with repeated use, so if our design is not convenient enough, our user will not be inclined to continue using the product for future trips.

Proposed Design Sketches

Design One (Smart Camera)
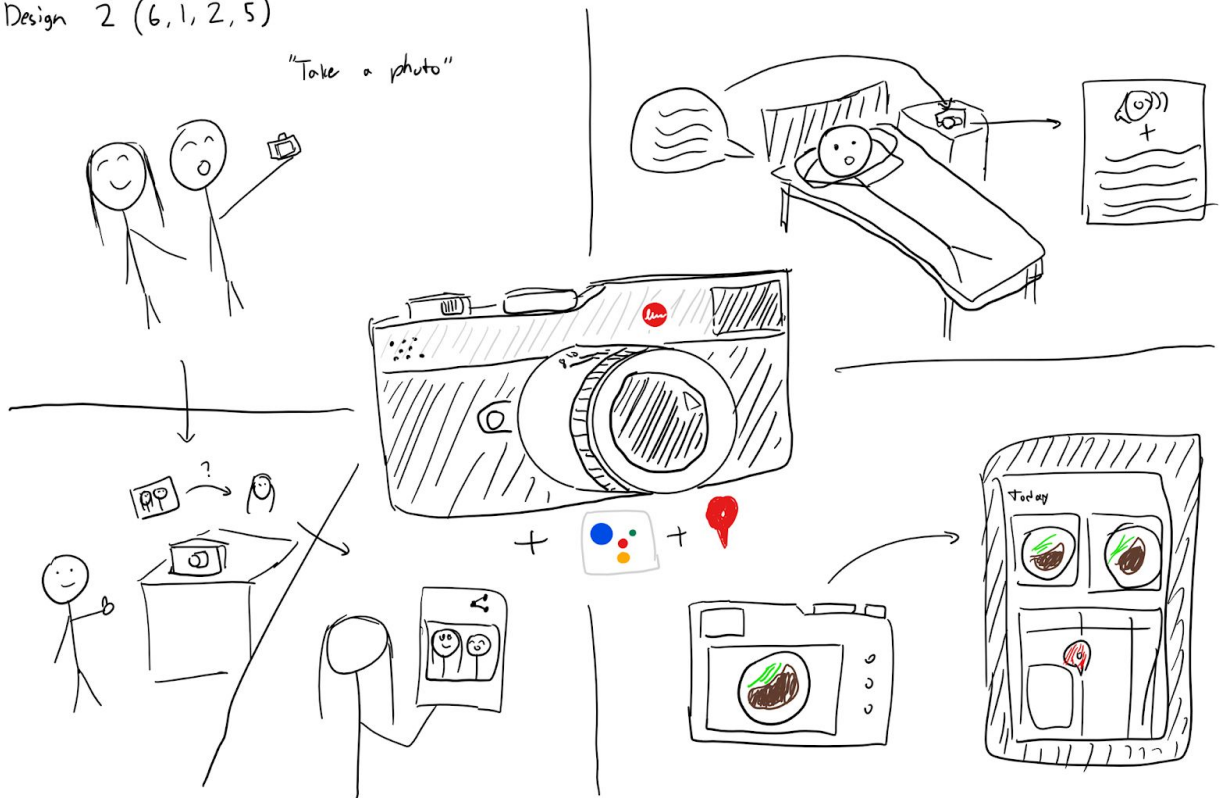
This design is focused on how images can be captured with some of their surrounding context. By connecting to other devices/services upon taking a photo, the smart camera would transmit the photo to a digital cloud storage space. Apart from just "storing the picture", from interfacing with apps such as GPS and Google Earth, the smart camera would log location, the subject's photo, nearby restaurants/landmarks, and other pertinent information upon storing the photo. In addition to capturing these extra details, using a built in assistant would allow the "smart camera" to take and handle various voice commands. One example of this could be interactive audio travel diaries, using the smart assistant to record a vocal diary/recollection of the day. Our camera would then link this audio with any pictures or other information gathered that day. This "smart camera" would also allow for sharing of images with friends and family members. A traveler can ask the camera to directly send a specific photo to a friend, family member, or other contact. A smart camera design maximizes what a traveller hopes to document from a trip, without the constant attention-grabbing interference of a smartphone (social media, messages, notifications, calls, etc...).

Design Two (Automatic Tracking)

This design primarily focuses on giving people a tool to look back on the details of trips they have taken in the past, without forcing them to log it themselves throughout the trip and thereby preventing them from "living in the moment". When this app detects that the user is in a new location, the app automatically tracks the location of the user via the phone's GPS (after prompting the user for permission to start a new trip), and documents a daily itinerary of places they visit and restaurants they stop at. This essentially creates digital breadcrumbs that can be viewed later to confirm or modify locations, see photos that were taken at a particular place, or take note of especially exciting or interesting places. The user can choose to review this daily, if they want to make sure the information being recorded is accurate, or they may choose to not update it during the trip and just trust that the information that is collected is an accurate enough documentation. After a trip is over, the user has the ability to see the places around the world they've visited through a map view, look back on specific trips they've taken, and share trip recommendations with close friends.

Design Three (AR Memento Recollection)
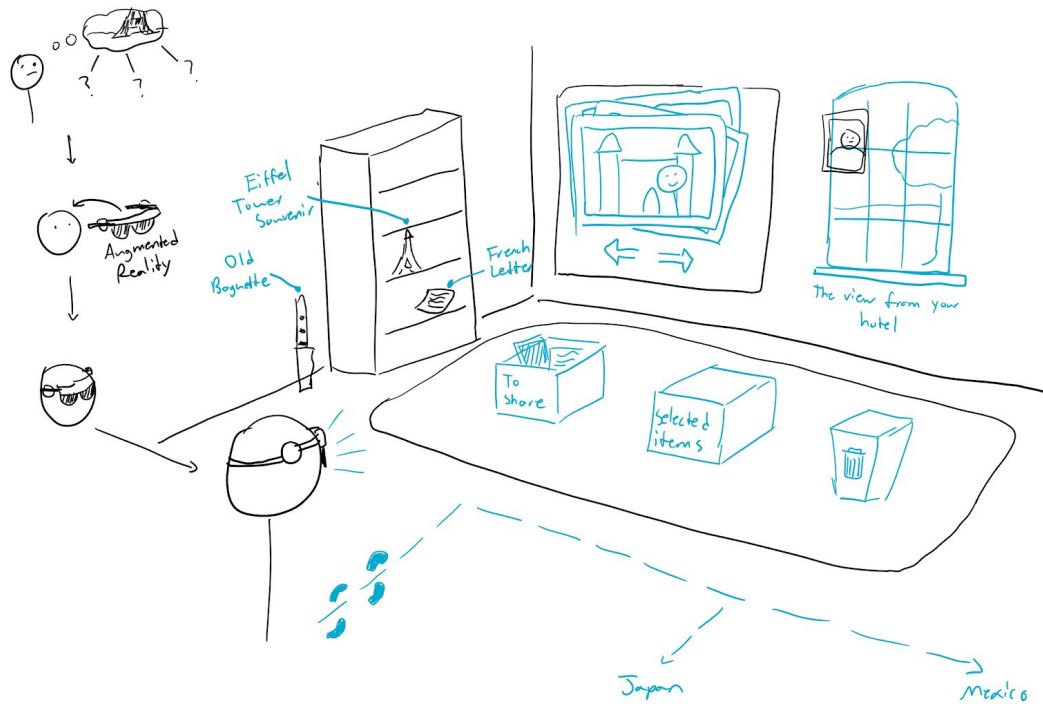
The idea of this design is to give people an opportunity to reminisce on physical mementos they obtain during their travels, in addition to the digital documentation they already have. We use augmented reality here to explore a trip within a physical space, turning a household room into a 'travel room' of sorts where the headset can display digital mementos while highlighting physical ones that may be stored in the room. The participant can then move through the physical space, picking up objects to learn more about them or interacting with virtual displays to reminisce on a past trip. Other fun elements such as ambient audio from a location or virtual 'windows' into a trip could also create a more immersive experience. A user could also choose to set up their physical rooms so that certain rooms are decorated with artifacts from certain trips. In the sketch, AR elements are represented in blue ink while physical elements are in black.

Design Choice

The design which seemed to intrigue us the most during refinement was that of the Smart Camera. This device out of all the potential designs seemed to speak the most to that of the avid traveler: a new take on the common travel companion, the camera. Camera's are already taken by many on trips for the sole purpose of taking beautiful photos and capturing memories in the moment, so why not take this already successful device and enhance it's documentation capabilities. This led us to think of how to change how one interacts with the smart camera. The tasks which we focused on for this design, mainly were to improve the quality of in trip documentation as well as add another layer of documentation capabilities for the camera.

First and foremost cameras are naturally made to take pictures, but that's all there is to it. The smart camera would allow for a more intimate photo taking experience. Users would be able to live caption photos, using vocal recording, with their own phrasing to capture the in the moment emotions as well as trip details which photos themselves sometimes fail to capture on their own. On top of this location data, along with timestamps, and other important logistic items would be logged with the photo to create a much more insightful trip artifact with many layers of related information.

Since the Smart Camera would contain an automated assistant, another aspect which the device would focus on is guided travel journaling. While photos capture many snapshots of ones travel experience, they fail to stitch together a cohesive tale of one experiences even an entire day of travel. The information one can ascertain from a single picture is much different than that of a journal entry. Thus, the journal aspect would allow users to have a vocal account of a day's experience at their leisure, without the time intensiveness that may deter many from journaling in the first place. The Smart Camera would elicit journaling in a variety of friendly ways. One interaction would be presenting a photo to the user and asking if they have further thoughts about it, allowing the individual to elaborate on the experiences which were behind the makings of the photograph itself; what was happening before during and after the photo and other circumstantial in the moment pieces of information. From another aspect, the Voice Assistant within the camera would also prompt the user with many light journal prompts at the end of a day of travel shenanigans such as, "Did you have a favorite place you visited?", "What was the best part about today", "Did you try any new foods", "Anything out of the ordinary occur?", "Who did you spend the day with?" etc.. Journaling itself can be a very daunting task, although with effective visual cues as well as open ended but also specific journal prompts, the user can be guided and enticed to capture a personal account/recollection of the numerous experiences they have in a day of travel. The ease of the journal task would allow for a perspective which many are dissuaded from capturing due to time resources, to become something of low input requirement but in the end high personal/sentimental value.

Scenarios

Task 1 Scenario: Using digital photos to document moments during a trip with rich contextual information.

Janet and James are on their honeymoon trip through Europe and are currently visiting Paris. After a rousing traditional french dinner, they head to a rooftop terrace to take in the sunset. The two are greeted by a spectacular sunset with a gentle pink-orange-purple-blue gradient, and James pulls out his phone to snap a picture. As he taps to focus, a message pops up from a friend in the US who has just woken up and needs advice. Frustrated, he types up a quick response but doesn't want to get tied up with the conversation during the sunset. He apologizes and explains to Janet, who laughs and reassures him that the message can wait. She asks him to pose in front of the sunset and Eiffel Tower and then pulls out her *Logera* to take a pic. As she focuses, a red light on the camera lights up indicating that it is now recording audio. (Panel 3, Task 1 Storyboard) She takes the pic while saying "James in front of a Parisian sunset after a wonderful dinner!" (Panel 4, Task 1 Storyboard) The camera captures the picture and records her caption then adds on the time and location to the photo. By the end of their trip, they have a collection of photos with detailed captions and information which helps them reminisce about the places they've been.

Task 5 Scenario: Journaling thoughts and experiences after a day of traveling

Lisa is currently backpacking through Asia on a post-graduation trip. She is trying to travel light and so has opted to not bring any journaling materials which would take up valuable space. At the end of the day, she relaxes on the couch of her Airbnb and reflects on the day's events before calling it a night. Her *Logera* notices that they are back in a lodging space and lights up, asking if she would like to start a new voice journal entry for the day. (Panel 2, Task 5 Storyboard) Lisa responds with "yes" and the camera auto-dates and geotags the entry. After doing so, a red light on the camera lights up and a sound plays, both indicating that the camera is ready to listen. She talks about some of the events from the day and eventually comes to a long pause. During the pause, the camera asks if she would like to see and hear some of her photos and captions from the day. (Panel 4, Task 5 Storyboard) After confirming her voice, the camera starts shuffling photos and captions on its screen. It also sends a notification to her devices, allowing her to view her photos from those as well. After she finishes her entry, she quickly reviews it from her phone and then saves it. She finishes her trip with a digital diary of each day accompanied by the photos from the corresponding days.

Storyboards

Task 1: Using digital photos to document moments during a trip with rich contextual information.
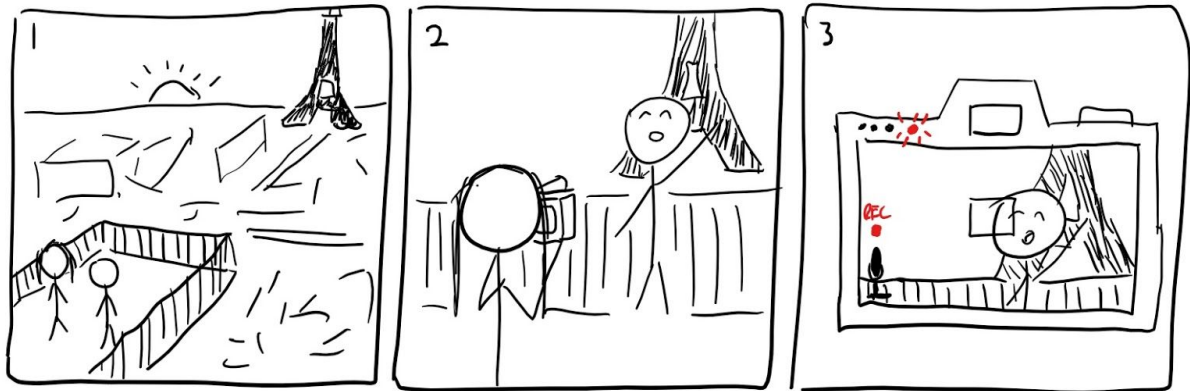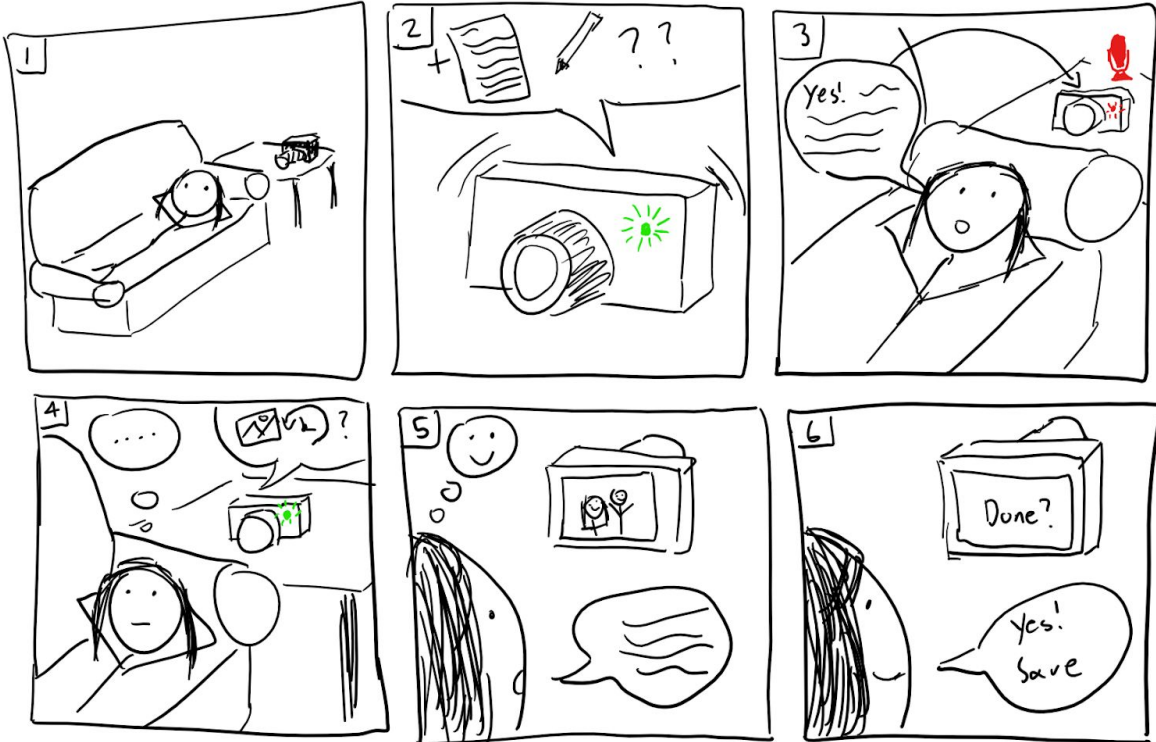

* Records voice snippet for photo
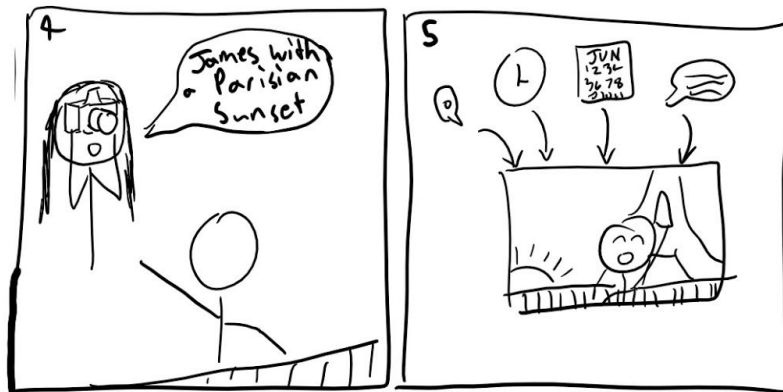
* Caption

Task 5: Journaling thoughts and experiences after a day of traveling

Contribution Statements

- Maegan: (25%) Rewrote/revised task analysis questions and design descriptions ("Task Analysis Questions" and "Proposed Design Sketches")
- Alex: (15%) Wrote scenarios and updated storyboard, double checked document for consistency
- Nick: (15%) Wrote design choice along with task selection section
- Justin: (20%) Rewrote/revised the "Problem & Solution Overview" and "Design Research Goals, Stakeholders, and Participants" sections in final report. Also created title page.
- Dylan: (25%) Wrote Design Research Results and Themes and reviewed final document.