**Green Tourism**

Team: Pending

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# 

# Introduction

The project focuses on the adverse effects of tourism on local communities, social and environmental protection issues. Through the exploration of this field, the possible solutions to this challenge are proposed. The motivation of the project is to find a suitable method, exploits social and mobile computing to improve and innovate to help them solve or alleviate their problems. There are three things we expect to achieve in this semester's study and research. Firstly, it is necessary to deeply understand the social status quo of tourism for tourist destinations (attraction spots), such as their common problems (uncivilized behaviours of tourists, cultural conflicts, resources consumption), needs or requirements. Secondly, find out an appropriate feasible method to help them solve or alleviate the problems they are facing now. Finally, explore the potential defects of existing technologies such as tourism software, social platform, and other systems, and consider and implement the potential possibilities to fill in some gaps in our design.

# Domain/Problem Space

With the rapid development of tourism and economy, the number of tourists is gradually increasing. Tourism is one of the fastest growing industries in the world. According to Our World in Data statistics (2019), in 1960, the number of international tourists was about 69.4 million, and in 2000 it rose to 10 to 682 million. By 2018, the number again rose to 1.4 billion. With such rapid growth, in 2008, tourism contributed 5% of the world's GDP, and the total value of transnational tourism consumption was about 944 billion US dollars. Although this brings huge profits and prestige to tourist cities, just like other forms of development, tourism also brings serious problems.

For example, local resource consumption and cultural influence. Based on the analysis of Winston Ross (2015) in the field research, Venice has about 20 million tourists visiting each year. During the busiest hours, about 120000 people visited the city, which has only 55000 permanent residents. Tourists consume a lot of water and other resources and destroy the fragile buildings of Venice. Overtourism also overloads infrastructure, destroys nature and threatens culture and heritage. These unfavorable factors have created a series of social problems, leading to the dissatisfaction of local residents, because their living costs, overall welfare, and lifestyle are suppressed (can only develop on a single tourism industry) and tighten the infrastructure.

Although Bangkok Post (2020) states that there are many strategies to mitigate conflict such as dual-pricing systems, the expensive one for the tourists, the lower one for local residents. However, it is clear that these double standard strategies are unfair to tourists, because the European treaty requires “all citizens to enjoy freedom of movement and equal treatment”, which further aggravates the misunderstanding between tourists and local people and lead to deep conflicts. Through reading a lot of news and domain research, we find that the existing approaches of government and local community to solve these problems are oversimplified. At present, a more effective and widely accepted solution is needed to solve these problems. Before forming initial requirements and design, it is necessary to deeply analyze the impact of tourism on the destruction of human environment resources and cultural conflicts in the local society, so as to determine the aspects that the project should focus on.

On the other side, in order to find out the defects of the existing systems / programs, a number of researches have been analyzed and opinions have been obtained. London tourism officials published a free mobile game application "Play London with Mr. Bean". (Dan peltier, 2018) After users download the game, they collect user mobile data through traffic to understand how tourists are doing in London. The application shows users different attractions around London. When visited, these attractions allow users to earn points to redeem vouchers and discounts, helping to spread tourists to the entire London. Unfortunately, after the last update of 7.23.2019, This game has been removed from Google play and App store, and user reviews have also been closed. In visits to the official information about this game, I found that the official website play.London has been banned. There is reason to believe that this game has ceased operations. Over the entire online resources, I only found two YouTube demo videos. By watching the game demo, I found that this game has a single gameplay, there is only a matching 3 puzzles game. I believe it is difficult for players to keep the heat to play a normal matching game in such a game world. Secondly, Mr. Bean has not much interaction with the entire game, and even only uses the name Mr. Bean as a marketing advertising method. It is not much different that the name can also be changed to Play London with James Bond. Therefore, we know that there is such a precedent. Although it is not successful, what we have to do is to take the essence and remove the dross, and create a suitable mobile computing software to solve the current problems.

# Design Opportunity

As mentioned above, resource consumption, cultural conflict and environmental pollution are the main causes of conflicts and local protests. The lack of usable policies and auxiliary measures is the main reason for uncivilized tourism behaviour. After discussing this issue in the group, we will focus on the second issue on the project for discussion and research. Therefore, this project aims to promote the relationship between residents and tourists and improve tourism uncivilized behaviours. This project is going to research existing strategies and potential solutions to solve the problem, and how to use technology in this case.

Mobile technology has spread throughout the world. In our project, we should use mobile technology to implement the project. Ballve. M (2013) found that although mobile devices have smaller screens, people still prefer to watch video on the mobile phone or tablet. They just reduce boredom and waste free time just like the reason they play games or listen to music. According to Brown C’s (2018) research, product review videos are the most popular video type on YouTube. Because in the recent society, a trusted comment is important for customers, people often look at other people’s comments and videos before deciding whether to buy. That is one of the reasons we choose mobile technology to implement our project, users want to get reliable feedback from other users through the text, pictures, videos. For businesspeople, time is everything, they do not want to waste time on somewhere which will make them regret. Smith A and Anderson M (2018) claim that ‘Some 88% of 18- to 29-year-olds indicate that they use any form of social media.’ Our product satisfies most of the requirements of this age bracket. Because of the COVID-19, it is hard to go for other counties, the product provides a platform to help them visit online. On the other hand, most of these people are willing to travel, but they do not have time because of work or study. They can visit any scenic spot in the world from our products, it will not take too long, the product saves them time and money and protects the environment. There is an attempt named hostelworld, it has the same concept with us, it has to say it does good, but it‘s disadvantage is too commercialized. Our product is a non-profit platform, users can comment and watch videos and pictures when after registration.

# Concept & Conceptual model

There are four types of audience:

* Tourists：

Tourist who like to share travel experience

Tourist who wants to know travel destination

Tourist who want to maintain high quality in the process of tourism

* The local community
* Tourism organizations

**Tourist**

**Tourist who like to share travel experience**

Audiences use social media such as Instagram and Facebook more frequently, and their interest lies in sharing travel experiences. Compared with these social media, our concept focuses more on sharing experiences between tourists - tourists, tourists - local communities. We have narrowed the scope of the audience, enhanced communication between users in the tourist destination, enhanced channels for tourists to understand the local cultural environment and eased cultural conflicts between tourists and local communities.

**Tourist who wants to know travel destination**

Audiences of this type may be unfamiliar with tourist locations; they do not know any special precautions (e.g. custom, rules, religion) in the local area, or they have experienced many activities that are not suitable for them. Hence, they want to know what activities are their favorited. This concept can meet this requirement by browsing the tourism introduction videos, users may learn about the tourist destinations and select which activities are suitable according to preferences, to enhance their emotions and vision for the tourist destinations.

**Tourist who want to maintain high quality in the process of tourism**

This type of users who care about the local environment and respect the local culture. They do not want to disrespect the living environment of any local residents because of their uncivilized behaviours. However, due to cultural differences and ignorance of local cultural customs, they are not clear about what should be done or prohibited in tourist destinations. In our concept, users can watch the official short video of the attractions to understand the precautions in the local community (e.g. dressing requirements, garbage storage requirements, keep silence) and correct behaviours. Therefore, by browsing the video, they can understand cultural differences and how to travel correctly during the journey

**Local Community**

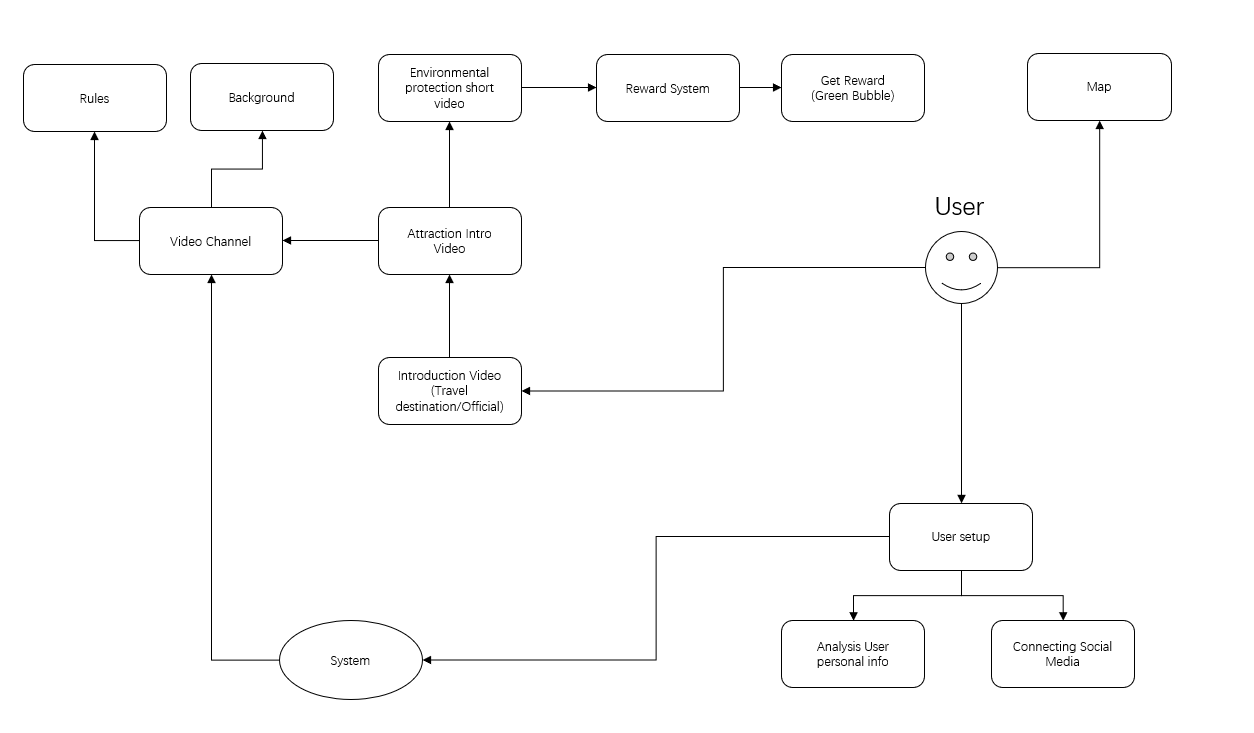
Local communities will benefit from different aspects which attract more tourists and promote local economic development without negatively affecting the natural environment and cultural buildings.

**Tourism Organization**

It is necessary for the government and official tourism organizations to promote relevant policies, guidance and awareness for tourists to protect local culture and emphasize the importance and consequences of tourist actions. In our concept, tourism organizations may publicize relevant policies, combine local environmental protection volunteers and the local government to develop environmental friend tourist attractions, and remind local tourists to contribute to environmental protection.

With all the information we have learned, we have come up with a concept that can create green and civilized tourism as a mobile application. The app connects tourists, residents and the government to provide them with information, notification and convenience.

**Model:**



**One sentence statement**

This is a mobile application that via interactive videos and virtual journey of the travel destination, the system provides users with the culture, diet, and activity preferences of the tourism destination according to their selection, all the information mentioned is introduced in the form of video, the purpose for this is to establish and strengthen the user's emotion and awareness of the travel destination with direct vision and display appropriate content in the video to enable users to express themselves to be more environmentally friendly.

**Middle level description of how the system works**

This Mobile application creates and allows users to edit personalized interactive videos for tourists, local retail businesses (stores, market, restaurants) and politicians. Moreover, users obtain green bubbles in the use of the application, which can be redeemed for goods in local stores, and discounts at attractions (offers). By creating interesting business opportunities in this way, it also brings possible potential sources of income.

**Tourist**

First of all, for tourists, each video introduction shows them a story and situation. Users can directly understand the content shown to them through the first vision. For example, when tourists choose to visit Byron Bay, they will search then enter Byron Bay Video Channel, the first screen they see is a general introduction about Byron Bay. Tourists do not need to watch the complete introduction video. When the video is played to an intersection, such as the introduction to Cape Byron Lighthouse, a new window will appear on the screen for users to click to jump. If users click and jump, they are currently jumping to the Cape Byron Lighthouse introduction video. By analogy, one video followed by another video until the introduction video of Wategos Beach. At this time, a pop out video the user will see is a warning about the environmental protection of the beach, "We found a lot of garbage brought by tourists on Wategos Beach" with a video and voice announcement. Of course, users can choose to skip the video, but after watching the full video in 15 seconds, they will get 1 point of green bubbles in the account. Green bubbles can be obtained by watching the complete environmental warning video and completing the event in the App. Users might enjoy local preferential policies though obtaining a certain amount.

**Local retail businesses**

For local business users, they can use this app to customize their store. For example, a restaurant owner can take films of the restaurant’s theme, history, culture, and popular cuisine, and also shoot a 10 to 15 seconds introduction video for a single dish, then upload it to the video channel of the restaurant for tourists to browse. The app will benefit the local community because it can not only increase awareness and policy formulation to address the threat of cultural conflict, but also increase the marketing activities of local businesses, thereby educating tourists, improving their emotional connection with the local area, and promoting the local economic development.

**Organization UNWTO & GSTC**

The World Tourism Organization (UNWTO) and Global Sustainable Tourism Council (GSTC) are the UN agencies responsible for promoting responsible, sustainable, and universally accessible tourism. Our app can assist organizations achieve their goals, and they will benefit from the app including: directly managing the video channel of the official account of local tourist destinations, shooting professional warning videos to call on tourists to protect biodiversity and environmental resources. Respect the local community culture and preserve traditional values and cultural heritage. Pursuing sustainable tourism to achieve green tourism by increasing the awareness of a wide range of users.

# Inspiration

As mentioned above, in order to find out the defects of the existing systems/programs. Play London with Mr. Bean is the first official promotional mobile game to alleviate overtourism in travel destinations. Through video demo and a few player comments after playing online, we know that the oversimplify gameplay and the younger age of audience users are the reasons the game cannot maintain the long-term operation of active users. In addition, regional limitation is one of the weaknesses of this game, there is only one tourist destination for this game-London, the user loses all the functionality of the game after leaving the city of London. Therefore, it is necessary to support multiple languages in order to expand the scope of regional use, we should achieve the annual age orientation at the user level. By summarizing the failure experience of Mr. Bean, in addition to the main functions introduced in the short video, we need to launch and improve more additional functions in the follow-up, such as share visited experience. After tourists get experience in the attraction or local shops, they can take short videos for feedback, and upload them to the application community, other tourists can visit and click like this video, the poster may get a certain number of likes to exchange for green bubbles. In addition, users and the official staff of local tourist attractions can also create green events, tourists follow the route to complete the mission and get green bubbles. As for the reward mechanism of green bubbles, it needs further user testing and feedback in the later stage to draw better conclusions and add diversified user reward. According to the discussion in the previous part, we understand that due to the success of TikTok and the popularity of short video content on social media, we take the form of video background as the general application structure. Back to play London with Mr. Bean, its graphic design and background music, the click effect is the key to the success of this game at the beginning. Therefore, the production of official video introduction by a professional team is needed. This application requires a professional short video production team using the formal video and background music editing to design the interface. Fortunately, now that the Internet is well developed, youtubers and travel influencers on Instagram frequently post some vlogs about their normal life or travel experiences. They can be the pioneers of our application, make videos and lead tourists to be green tourists, which can increase their popularity, and also earn additional income for generous publicity.

# Plan of Work

**Initial Requirements & Design (Week 8)**

The first step is to understand the needs and requirements of the target users. After reading and analysing the existing solution and software, several initial requirements can be constructed. The following initial requirements are mainly divided into two parts.

**Users requirements:**

We divide target users into the following groups according to their identities and formulate corresponding requirements.

a) Tourist

Tourists who arrive at a tourist attraction for the first time are considered new users. For them, it is required that caters to their needs in order to promote our product.

1. Convenient operation includes step-by-step prompts ：When tourists use the product for the first time, clear tips are particularly important, which can help them quickly learn how to use this mobile application. And visitors can move to the video they want to watch only by clicking on the prompt that appears on the screen.

2. Each required input should be brief – the shorter it is the more likely it is to be remembered

3. Obtain clear information: The mobile application can not only provide detailed introduction videos about scenic spots, but also videos related to environmental protection of scenic spots. Visitors can clearly understand the scenic spots and related environmental protection knowledge by watching these videos.

4. User decisions should be made from a small set of options. The more of a selection the app offers, the harder it is to choose. For example, when visitors see a warning video about the environmental protection of the island, our product only provides a skip option. In addition, when the user logs in to the mobile application for the first time, the interface will pop up three options for the purpose of using the product, namely personal, business and government. And then, users can choose according to their own identity.

b) Organization UNWTO & GSTC

1. It could have the authorization to directly manage the local tourism account or video channel.

2. It should have a specific type of video upload process pool, which is for the professional warning and environmentally friendly videos. When many users upload videos at the same time, the process pool can help the server to quickly process the request.

3. It is required that a core ideology centred on environmental protection.

c) Local business users

1. Shoot and upload videos about business. Local store users can shoot promotional videos about their products.

2. Provide a platform that can exchange green bubbles. With their accumulated green bubbles, visitors can go to the store to exchange for rewards, such as attraction tickets, discount coupons, and prizes.

3. The style of the online store can be adjusted based on the needs of business users. For example, a merchant selling souvenirs on the beach can set the interface of the online store to blue to correspond to the sea. Novel and interesting store styles can attract consumers, which is conducive to the economic benefits of business users.

**Functional requirement**

Video function：

This is not a simple video-play function (UDP protocol-based network) in the normal blog website. A stream computing architecture should be implemented; hence, the continuous network transmission can be guaranteed. As a result, this mobile application can support a high-distributed, robust and continuable video function. One of the relatively important points to make the video continuous is that there is a video embed link. This can be generally realized by Ajax or Axios time polling.

Locate function:

The software should be able to locate the user. Every time when a user opens this application, the locating functionality will be directly called, and response in less than 0.5 second. This should be mounted in the ‘background’ of the system, even when the interface of this application is turned off, so that the location data will be updated regularly (e.g. 3 hours/update). The specific boundary of this requirement should be focused on the interruption to the user, this means this function will fail if the user feels interrupted. The specific user group is everyone who uses this application.

Map function:

Different from the locate function, this map function focuses on the real-time street view projection. Similar to Google Street View, this software should be able to let users interact with the position by looking at the map and zooming in and out. The response delay of this interactive map functionality should be controlled within 1 second. This function is aimed to let the user feel convenience when using this software by clearly understanding their location. The precision of this requirement is mainly the actual distance, which means the position offset should be controlled within 10 meters. This is based on some specific scenarios (e.g. on which side of the road is it on).

Distributed function:

This requirement is mainly kept robust by this software. The specific software architecture will according to the user base. Popular distributed system architectures (e.g. Hadoop, Spark) are required to be implemented at the beginning of the software development. By using distributed functionality, the system can support a large number of users at the same time. The detailed distribution design will be conducted at the initial design.

Cacheable database function:

The software should contain different types of database. This cacheable functionality is mainly constrained by the retrieval needs (e.g. retrieve different articles related to the specific cultures in different tourist attractions under several large databases). Since it is hard to get responses in a limited time without cache technique, the architecture of database design should divide into cache and storage, and the connection between them is refreshed and backed up every 24 hours. The specific maintainers of this function are the system architect and the software developer. The privacy of users’ data are protected by multidirectional encryption algorithms,

Retrieval function:

This requirement is mainly focused on the speed and accuracy of information retrieval (e.g. retrieve different articles related to the specific cultures in different tourist attractions). The overall evaluation criteria is the response time and accuracy, which is specifically at the platform of mobile terminal. Once the retrieval operation was triggered, the response time should be limited within 1 second. The accuracy of the retrieval relativity will be recorded.

In addition to reading and analysing existing solutions and software, we modelled the user needs and requirements based on these cases and discussed the different user groups separately. In addition, we also read some novel literature, summarized some relevant research conclusions, and added these special needs to user needs. The main approaches of this initial design is by interviewee specific different user groups. Due to CODID-19, Our group got in touch with the environmental protection departments of some companies at the environmental protection forum, and then our group interviewed travel companies online and designed the following questions. The main approaches of this initial design is by interviewee specific different users.

Introduction of the Interviewee:

This interviewee is mainly divided into different user domains, including normal users, enterprise, and environmental protection organization. Under this purpose we have done 5 interviewees across these three different user domains. The detailed testers are introduced below:

1. Dr. Zhang is a second-year employee in the SH Institution of Biotechnology. He is an aficionado of tourism and has an annual travel budget of US$ 20,000.

2. KEN tourism limited company is a median sized tourism company, and the main business is by integrating the local tourism resources.

3. China Zhejiang environmental NGO is a non-government organization located in China. This group is a very influential environmental organization in the local area.

4. China Shanghai environmental NGO is a non-government organization located in China. This is the third largest environmental organization in the China Yangtze River Delta Urban circle. The organization is founded by several local industries.

5. LT tourism limited company is a private enterprise in Shanghai. The registered capital is more than US$10,000,000 and the main business is mainly oversea tourism.

Functional:

1. Do you feel distributed when giving the location authorization to this application?

2. Is this locating function fast to respond?

3. Do you think the map function is specific in response to your real location?

4. Is this map functionality fast to respond?

5. Can you successfully zoom in and out using the map?

6. Do you never feel stuck or delayed using this software?

7. When using this application, do you think the data loading is fast?

8. Have you never experienced the data loss?

9. When using this application, do you think this cultural recommendation, or the search result is accurate?

Non-functional:

1. Do you think this software generally meets your needs for tourism purposes?

2. Do you think the step-by-step prompts are useful?

3. Can you quickly learn how to use this prototype?

4. Do you think the input is meaningful? Or is that easy for you to understand?

5. Do you think the video introducing local attractions is nice?

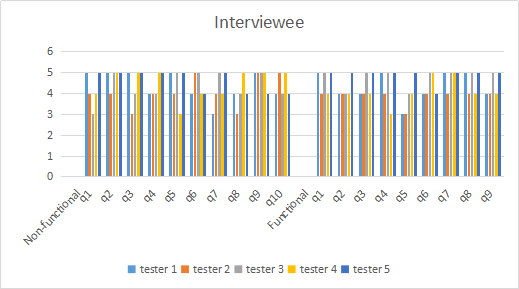
6. Can you operate this prototype smoothly? Or by other means is that controllable?

7. Do you think this embed link at the end of each video is necessary?

8. Imagine that you are an expert in this software domain, do you think this prototype is concise, or not redundant?

9. Do you think the short video is attractive?

10. Can you generally reach everywhere you need in this prototype within 3-click?



General analysis:

1. The test question that gets the highest average score is the 9th question in non-functional requirement. This means almost every tester is aware of the importance of having an attractive short video. Thus, the primary task of designing this app should be focused on the realization of this short video functionality. A main task now is how to make it efficiently and with high quality, and most significantly, robust.

2. Some of the testers do not think the software can meet the needs of tourism. The possible reason for this might be the over dispersed functionality. That is, splice these heavy functions (e.g. short video, online shop, tourism) together to form a perfect system. Thus, the inspiration of this point is to leave an emphasis when designing and developing the software.

3. Most of the users are satisfied with the prompt, which is the general popular software functionality in daily life. Thus, the entire distribution of the design is good.

4. Most of the non-functional requirements are reasonable, this can be found as almost all non-functional requirements have a high score (more than 4 out of 5).

5. The operation of this system is generally smooth and makes sense. This means the general business logic of this mobile application is reasonable.

6. The embed link inside the video is widely supported. Hence, the idea of clicking a specific link to continue watching videos could be a good idea.

7. Almost all the functionality requirements achieve high scores, this means the overall technical logic is feasible. However, there is another possibility, which is that the testers are not well educated in technical fields.

8. Some of the testers are not sure about the functionality of the zoom function, inside the interactive map functionality. Thus, it might need some changes.

9. By using specific data cache and storage techniques, the users are confident enough about the speed of this software.

10. Most of the users agree with the accuracy of this software. Thus, it is needed to consider the algorithms.

**Prototype & Initial Evaluation (Week 10)**

Result of evaluation:

Based on the results and evaluation of the previous section, we will form some basic core functions for the design.

Through the assessment of the interviewees, we found that the users had a higher than average score (3) for all the functions, which means that all the functions would be useful. Since different participants represented different identities, such as ordinary users, employees of travel companies, and workers of environmental organizations, their opinions were based on different perspectives and positions. The ratings tended to have different priorities, and in general they were very positive about the prototype.

Combined with the above evaluation, we retained all functional requirements, including video, location, interactive mapping, distributed system, caches database, and high precision retrieval. The details of what needs to be done are given in the text description of the requirements.

In addition, we have made some minor changes to the non-functional requirements. For example, for the interactive interface of the system, we prefer to strengthen the optimization of simplicity. Based on the feedback from the testers, it was necessary to focus more on controllability and heuristic guidance of the response while retaining the needs of all different types of users.

In general, low-fidelity prototypes will maintain all of the functionality that users need, and on that basis make limited and focused optimizations to the original non-functional requirements.

**Iteration & Formal Evaluation (Week 11)**

Iteration will be the difficult part of developing a prototype. After completing the evaluation of the first prototype, it is necessary to specify and evaluate the problems of the initial prototype. At the same time, usability improvements and interface improvements also need to be considered at this stage. We still need to refer to and combine a lot of research in the team's domain and improve the team's prototype according to the scheme given by the tutor. In each iteration, alterations have been made to the conceptual design to further refine Pending team’s application based on feedback, analysis, and rigorous testing.

The evaluation process is tightly linked with the prototype. Evaluations can tell the users how goals and intentions of a prototype are formed. The team will use some user evaluation methods in this phase, for example, heuristic analysis, pluralistic evaluation, SUS. Through analysis, research, understanding how users will use our applications and why they will be confused during the testing session of the prototype, then further improve the usability of the prototype.

By iteration and evaluating the prototype and analysing the results we can create a high-quality final product going forward.

**Final Prototype (Week 12)**

After evaluating the results of the iteration part and the first prototype, Pending will

have a clear view of the final application. Based on the results of the iteration & formal evaluation, we will use some software to create this prototype, such as XD, Proto io, inVision. That remains to be discussed. Next, we will improve usability issues and interface of the application and create a full featured prototype. This is not just for the target audience and it aims to allow more users to use it.

Furthermore, a high-fidelity prototype helps verify a conceptual design before launching an application. This includes changes to the UI, high-level functionality and interactions with users. In general, for the final prototype, these changes are expected to be more specific and smaller. Because most functionality and design parts should be completed in the previous process. Through these stages, the final prototype will be more suitable for the target audience and can be used in the next step of development and the team can put it into the market.

# Introduction to the Team

**Qishun MO (Kelvin)**

Kelvin is a year 3 IT student, dual major in Enterprise information system.

Kelvin handles all the team instruction conflicts and is responsible for the project management such as domain research and holding a Zoom meeting online. In addition, Chen assists Kelvin to set up tasks and goals for each design iteration. For the concept or further prototype design, Kelvin will be responsible for UX and UI design. At the same time, he is also going to take charge in prototype test, analysis and evaluate the result of the test. Kelvin will hold the testing session with three other members.

The key strength of Kelvin is the experience in graphic/amnesties design. Besides, one of his considerations is to create a perfect human-computer interaction application. Mobile application software development experience from other courses is also one of his strengths. However, programming such as Java and C language would be the weakness of him, it might affect the prototyping developing for this project. At that time, assistance from other team members will be requested.

This is Kelvin's first time as a team leader during the Uni life, he expects to be competent for this position, and lead the members to complete the project outstandingly. Furthermore, he will graduate soon and enter his career, hence what he aspires from this course is for better understanding of project management and responsibility for managing team members and maintaining responsibility for key business functions.

**Jiang Chen (Chen)**

Chen is the designer in Pending and also, he is a year 3 IT student either, Chen will be mainly responsible for the UI design and prototype structure design, because in other design courses, he always does the brainstorm job. Chen is also good at writing reports, he will help the team leader and our teammates to write the document. Through this project, Chen wants to study how to perfect a mobile technology project and improve his design skill. Chen expected to use other design tools to draw the prototype rather than the application he already learnt.

Based on the last few semesters’ experience, Chen has noticed that when doing a group work, it has to divide the work to each person. Chen has not been a team leader yet, but he likes to help team leaders analyse the problem, then cheer up the whole group to achieve the goal. In this course, it is not code work to do, Chen is good at front-end work and Java. Chen has also studied Human Computing Interaction; he knows how to use XD to do the prototype. For now, it is the same role for Chen in the team, Chen will help the team leader lead us to get a good grade.

**Qingqing Hua(Flora)**

Flora is good at doing research and thinking dialectically from the literature. She has studied deco7180 and deco7140, so she knows the process of designing prototypes and can propose and implement appropriate data collection methods for product needs, and can also design user interfaces for products. However, she is not very good at coding. So she hopes to learn some coding skills through this project.

Through this project, she wants to improve her design skills by combining theory and practice and be able to execute a human-oriented design process for social and mobile environments. The most important point is that she hopes to enhance the ability to apply critical reasoning to issues through independent thought and informed judgement.

**Jiazheng Ji (Michael)**

Michael is good at front-end skills, design process, he is familiar with python, java, and C, but he is not good at back-end, so he still needs to improve his skills in this part. In the progress of this project, Michael will try his best to complete all tasks and try to improve his shortcomings in the back end. He needs to provide design ideas, unique insights, and ideas for Pending.

From his previous group work, every team member has their strengths and shortcomings. So, the team collaboration is important for a project, in this way, every member in Pending can learn from each other to better complete the project.

## **SCORE analysis**

**Strengths within the team：**

Here are some advantages of our team. First of all, we come from the same country, use the same social software and have no language barriers, which makes our communication smooth. Secondly, each team member has their own field of expertise. Some members understand the entire product design process, while others are good at conducting research. The team leader can assign tasks according to the characteristics of each person, thereby improving teamwork efficiency. In addition, each team member is very responsible and can complete the assigned tasks within the specified time. In the end, our team made a detailed plan from the beginning and focused on continuous improvement of the project by holding two meetings a week.

**Strengths around the project concept:**

There is a large number of existing high-quality literature on the concept of green travel that can support our team's investigation and analysis. In addition, some good apps can provide effective guidance for the team. And the final point is that the concept of our project is environmentally friendly.

**Challenges within the team:**

It is hard to say we have a series of challenges in Pending, first, because our four team members are all from the same China, that means we do not have a people who from the mother language is English, it may have some barriers when we communicate with tutor to understand the point. For the writing part, we may lose some grades in grammar and spelling. Second, because of the COVID-19, we cannot have a face to face meeting like we did in other design courses before. This may cause our communication to be delayed. On the other hand, the advantage of face-to-face meetings is that everyone can put forward their requirements in time. If the communication is not timely, we may lose some good ideas.

**Challenges around the project：**

Because they already have existing products in this society, we can learn from their design, content, and style. But on the other hand, we need to carry out functional innovation on these foundations. Because all members are not in Australia, we cannot have interview with our user face-to-face, in order to make our products more competitive, we need to investigate users and design functions according to their needs

**Opportunities:**

Since our entire group is an offshore external study and lives in different cities, we try to find organizations that provide green tourism support online. Fortunately, due to the Chinese government’s handling of the pandemic and the people’s high awareness of epidemic prevention, the tourism industry in China has completely returned to normal, and various tourist attractions have become popular again. We can easily obtain further research and prototype testing opportunities. Therefore, we can find more target audiences in such organizations (travel agencies, individual tour guides). They can effectively share with us online about green tourism and the latest anti-epidemic tourism experience, which is helpful for us to explore the domain space and have additional expansion.

**Risks:**

Because of the distance learning, we may encounter some risks during the interview session. We can only use online surveys. Therefore, such sample pools are limited, and our results may not be precise and lack diversity.

Secondly, the mode of remote discussion may prevent us from communicating in time and effectively, especially when we want to express our opinions and issues. Compared with face-to-face discussion, online discussion will sometimes cause team members unable to express their views clearly, which will affect the progress of our project. Then, time management and distribution are also risking. Furthermore, the network is also a problem. Not everyone's network is good all the time. If someone is absent or has a poor network during the discussion, it will also delay our progress. If we do not do enough research, leading to insufficient depth of research in our domain, then we will not be able to satisfy the target audience

**Responses:**

In the expectations of the team, we expect that our target audience will have a positive response when we run user testing. We want to attract more attention from other users. There may be some users who do not agree with our products during the specific implementation stage, and distance learning may also be a problem. We need to let users know what we aim to do in this project is to design a way of green tourism.

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