

ASSIGNMENT 1:

REQUIREMENTS AND DESIGN

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SECTION 1: OVERVIEW OF PRIMARY STAKEHOLDER GROUP

From our research we have defined our primary stakeholder group to be business travellers between the ages of 25 and onwards. This weather app will be made with the purpose of providing local weather information to the travellers' designated country or area of arrival. Since they may see themselves travelling to different countries on a regular basis, it is important for them to be aware of local weather conditions to be able to prepare for travel plans or to pack appropriately in the best manner possible. Providing our stakeholder with this information is crucial as knowing weather information can help minimise disruption to their potential travel plans. This is supported by a study by GBTA which said that weather is one of the most common causes of travel disruptions, with over half (52%) of business travellers experiencing weather-related delays or cancellations in their trips. This highlights the need for a reliable and accurate weather app that can help business travellers stay informed and prepared in the face of fluctuating weather developments.

Since our primary stakeholders are relatively young we can make this app function on a mobile device as we can assume they are quite technologically savvy and understand how to access our app. However, from our research not only have we found out that CEOs travel quite frequently, but we have found out that their average age is 49 years old. Considering they travel very frequently and will most likely have access to a mobile device there is still the possibility that they may not be as technologically savvy as their younger counterparts using the app hence why our design will be made as simple as possible to help accommodate for the potential users who may not be as good with using technology. This is because if the app were to become increasingly complicated it would be hard for the older demographic of our user base to be able to navigate and find the necessary information they need for planning their travels. This choice would be further appreciated by our primary stakeholders because according to research by the B2B Travel tech platform Egencia, 74% of business travellers use mobile apps to plan and book their trips, indicating a high level of tech-savviness and a willingness to use technology for travel purposes. so ensuring our app design is highly accessible to both older and younger users alike will be highly appreciated.

Additionally, for Business travellers their personal safety is of utmost importance to them hence this app can help to improve their overall safety throughout the trip. Providing up-to-date and real-time information on changing weather conditions can help our users effectively plan out safer trips and avoid travelling through areas prone to hostile weather conditions i.e storms, fast winds or areas affected by heavy floods or snow.

Aside from weather services, our app will play host to a number of utilities that would greatly benefit our primary stakeholders. We plan to provide crucial flight information, Airline Updates, ETAs on journey times and suggestions of alternative routes based on provided weather data. With these tools, we can help our primary stakeholder to react effectively to unforeseen changes in their travel plan. We plan to implement this using free API services that are widely available and open source. Open Source APIs are beneficial to our primary stakeholder because it means cheaper app development costs. As it is essentially free to use these APIs we don't have any subscription costs we have to pass onto the consumer. So not only do we help them plan their trip more efficiently, but we also reduce their amount of extra costs over the long run which is much better than what our competitors are currently able to do.

Overall, the weather app offers numerous benefits to business travellers, from improved trip planning and increased safety to reduced travel disruptions and improved cost management. By providing timely and accurate weather information, the app helps business travellers make informed decisions and be better prepared for their trips.

SECTION 2: IDENTIFICATION AND DESCRIPTION OF WIDER STAKEHOLDERS

Secondary Stakeholders

The first main secondary stakeholder in our project would be other weather-providing apps. This is because we will be competing in the same business domain, despite our possible different target audiences they may still have a vested interest in our app as we add new competition to the space. One main competitor would be accuWeather; providing hourly, weekly and monthly forecasts they also have a range of related weather news for the given search location. Our app improves on this for business travellers by providing airline updates for their flight as well as alternate flights in the event of cancellation.

Tertiary Stakeholders

One of our main tertiary stakeholders is businesses that have employees who travel. If our system is successful we can reduce the number of problems in business trips by providing travellers with better ability to plan. This in turn can help businesses to reduce their costs by reducing money lost due to cancellations by altering meeting dates based on data from our app. Take for example Deloitte, spending 97.1 million dollars on air tickets in 2019. With such a high volume of travel, employees would benefit from having weather and other information located centrally on our app.

Facilitating Stakeholders

Developers and designers of the project are directly responsible for the building of the system to completion. As developers we must implement the back end that includes; fetching and structuring of any received data as well as how it interfaces with the front end that we build. As designers we are responsible for ensuring that the users of the app have been considered in the design of the interface to enable them to effectively navigate through our app and carry out the tasks they need to.

SECTION 3: DATA GATHERING

Part A: Technique

The data gathering techniques we used were surveys and interviews. Surveys and interviews are effective data gathering techniques because they allow us to directly collect information from your target audience. Surveys are efficient and provide us a lot of quick responses, while interviews allow for more in-depth and personalised responses. By using both techniques, we gathered quantitative and qualitative data on users' weather-related needs and preferences, and their current methods for accessing weather information while travelling. This information can help us design and create features on our app to better meet the needs of our target audience, travelling businessmen.

Part B: Results

We asked 50 people to answer our survey about weather apps, from which 20 were business travellers and 30 were just travellers. From the result, we found that 96% of respondents use weather apps on their phones whilst the other 4% use desktop and tablets. This gave us enough information to decide to make our app a mobile app since it is the most accessible platform.

Based on our result, 90% of the respondents use default weather apps, while the other 10% use third party apps like AccuWeather, The Weather Channel, and BBC Weather. When we asked respondents what feature would they add to improve the weather app, we found that some of it are already existing features on most current weather apps such as the ability to see multiple cities' weather and the ability to forecast more than 10 days ahead showing that they weren't aware of what a weather app could actually offer. User interface is also a key point from our findings as some of the respondents felt that the default weather app lacks a simple user interface thus they couldn't maximise other available features on the app. Due to this, most respondents stuck to their default pre downloaded weather apps.

Since we aim to develop a weather app for business travellers, a feature to give users flight updates would be adequate to this app. Based on our findings (see *Figure 1*), more than half of the respondents would use the app if it has that feature. This means not only business travellers, but other travellers also prefer to have that feature in a weather app.

If a weather app has a feature that gives flight updates, would you use it?
50 responses

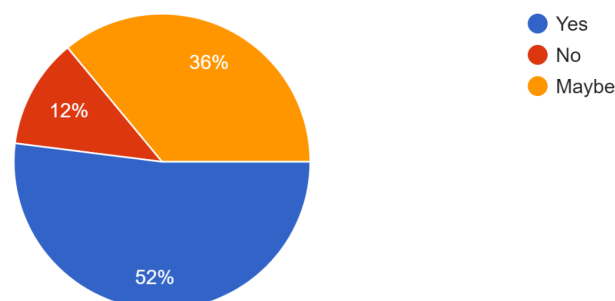


Figure 1: Pie chart result on respondents' opinions on flight updates features

When it comes to data privacy and security, more than 30% of the respondents said that they are concerned (extremely and moderately) about how weather apps use their data, while the other 65.3% were completely unbothered about how their data was being used. This can be shown in *Figure 2*.

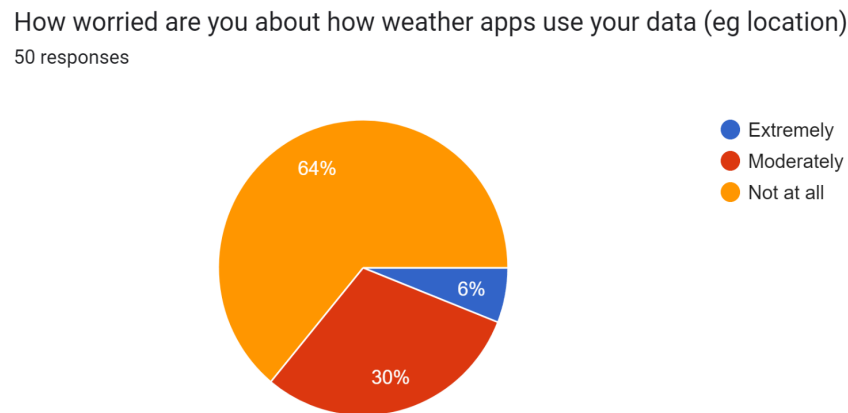


Figure 2: Pie chart result on how worried are respondents about their data being used

Out of 20 business travellers, we interviewed 10 to get more in-depth responses about what they think would be a good addition to the app. Firstly, we saw that the accuracy and consistency are two main factors they liked about the weather apps as they trust it to give accurate weather forecasts to plan their trip accordingly. When asked what they wish weather apps would provide, the majority of the responses were that they wished a weather app was specific to them by providing information such as flight cancellations and delays and also a feature that would alert users of extreme weather conditions. This would reduce the need of multiple apps for our target audience and would make our weather app the perfect app for any travelling businessman. Some businessmen insisted that the ability to track weather for multiple locations is a necessity for them as they would be moving from city to city frequently. Around 70% of the businessmen interviewed mentioned that they will be willing to pay for the right weather app that would effectively make their life easier by having most of the features they need all in one platform, saving them time which is extremely valuable in business.

In conclusion, we found that many people like the accuracy the current weather apps provide, however they would like the app to have a simpler and more user-friendly interface which can help them understand and fully utilise all the features of the app.

SECTION 4: REQUIREMENTS DEVELOPMENT FOR PRIMARY STAKEHOLDER

Aims

The stakeholder must be able to use the weather app efficiently which aims to help them plan their business trip with ease. One of our best features in the app is that the system will be able to give airlines updates and show alternate flights in the event of cancellation.

Sources of Satisfaction

Our stakeholder has three key sources of satisfaction; convenience, accuracy and consistency. Stakeholders need convenient access to the weather app, as most of our stakeholders use the built in weather app on their phone ours must be equally accessible, while also providing other functions to aid their planning for business trips. Our app will also need to maintain accuracy and consistency of forecast data allowing stakeholders to have confidence and trusting the app in making their plans.

Knowledge and Skills

This app will be used by business travellers who work in various industries hence we assume their technical knowledge and skills range from basic to advanced. Those who work in tech have proficient level in computer literacy, meanwhile the others at least have basic knowledge such as knowing how to use a smartphone.

Attitudes to Work

Our stakeholders would have positive/neutral attitudes towards their work and would want their work processes to go as smoothly as possible without added hassle. This can be achieved by keeping the functions of our app as simple as possible and bundling useful additional features into our app, such as flight data. Our stakeholders at this level have positive attitudes in regards to technology in their work as it aids their work trip planning.

Work-group attributes

The app should be user-friendly, but stakeholders can show reluctance to add complexity as travelling can be stressful. Our app should require no training to adopt, allowing travellers to quickly see multiple details about their trip and associated weather enabling them to plan better.

Nature of activities

Since this is a weather app, the stakeholder can use it daily even if it is outside work hours. Therefore, it is very important for the app to display accurate daily and hourly weather parameters not only for a user's destination locations, but their current location with increased ease of access.

Responsibilities

More than 30% of the respondents from the questionnaire are worried about how their data will be used. This is because the exposed location might be bad and could affect the business. To avoid this, users will be asked to give permission to the system when they first use the app.

Working Conditions

Business travellers have to travel to more than one place in a period of time so will be frequently on the move, the app should be easily usable in these scenarios. Additionally, due to frequent location

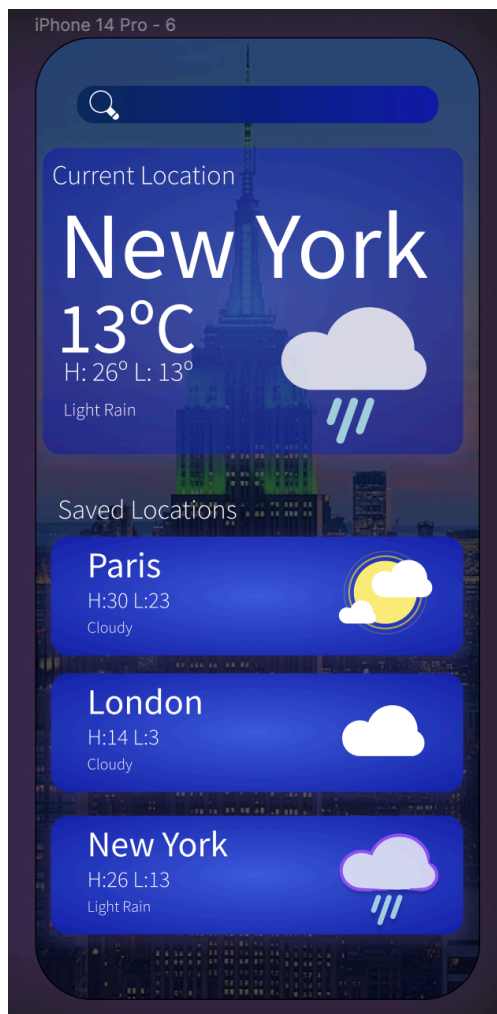
change, their internet connection may also be unreliable, so app updates should be fetched in a way to account for this.

SECTION 5: DESIGN

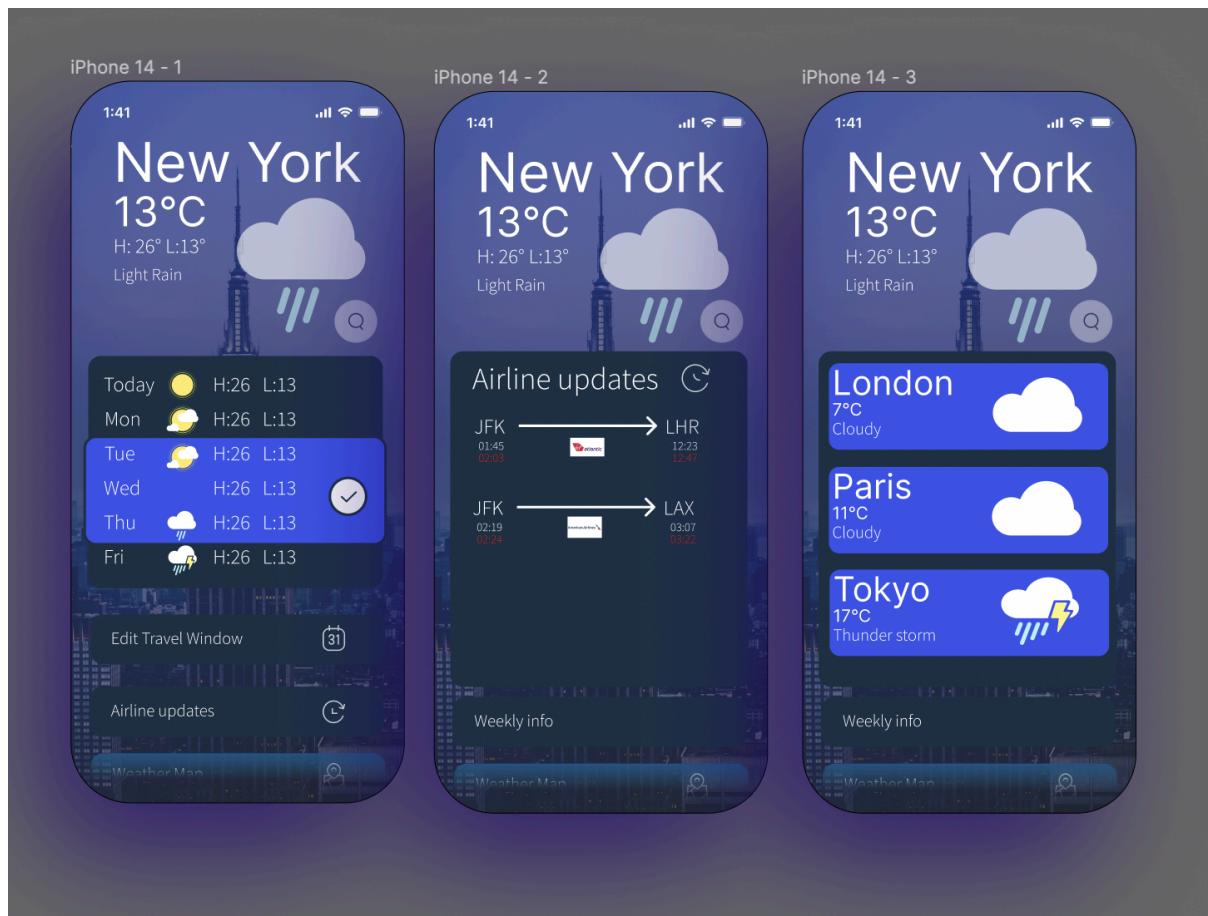
Part A: Rationale

There are three key reasons that our design benefits our primary stakeholder of business travellers. The first key benefit is a simple section at the top of the page creating a focal point on the current location being viewed and the temperature. This allows for quick glances of the app to provide enough information on current weather conditions for busy business employees. The second point of focus is directly under, this holds the next set of important information which is weekly weather. This benefits the users as the time of their trip is highlighted and shown with a check mark if the weather is good meaning no flight problems. This highlighted section quickly allows them to identify which days they need to be focused on weather-wise. The third benefit of our design is a simplified business oriented colour scheme. Blue is known in the western world for professionalism and business, keeping in line with these connotations allows us to better align ourselves with our primary stakeholder. Furthermore, varying shades of blue allows us to draw users to key areas on the page.

Part B: Rendering



Part C: Storyboard

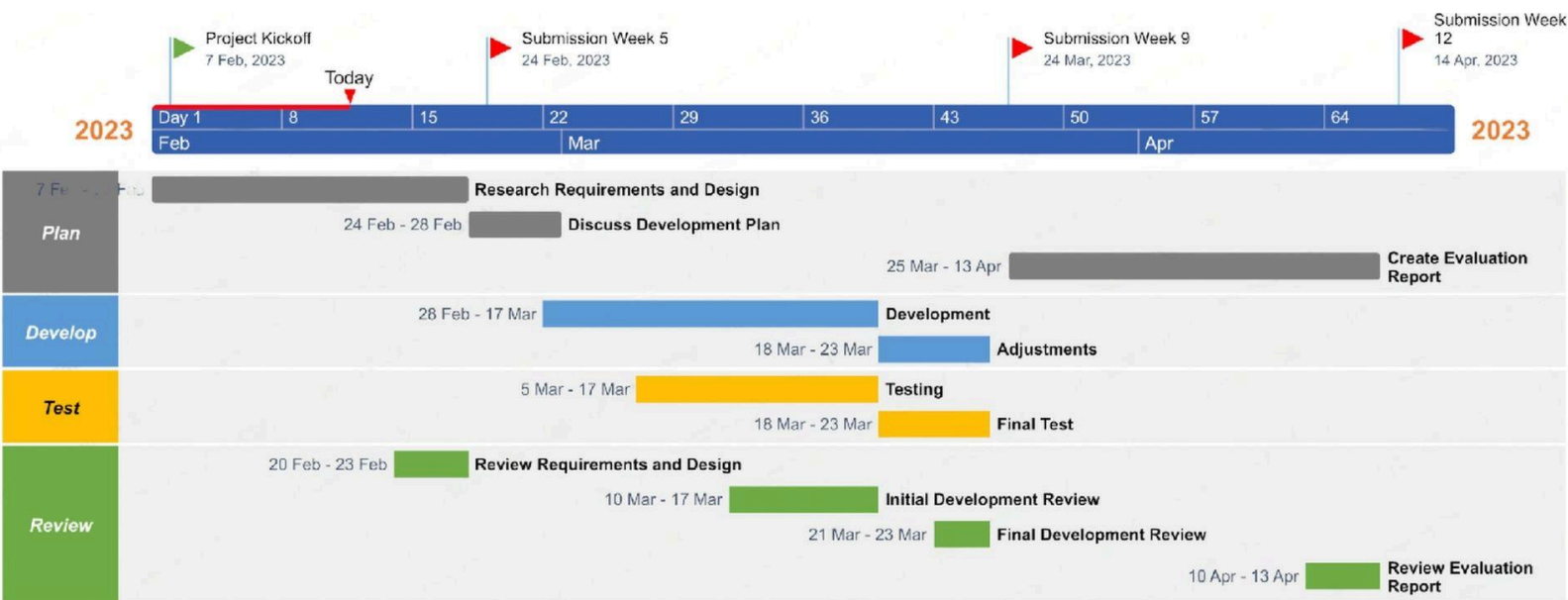


As soon as the user opens the app, they are greeted with local weather information and an outlook of the weather for the rest of the week. This means that they do not have to do much in order to get access to basic weather information as it is the first thing they see. They also have the ability to see a weekly forecast along with local times and a high/low figure for every day. This information can be kept up to date by the user pulling down on the screen to refresh. Finally, users can search for the weather in other countries of interest by simply clicking the search button and searching for a city. This will then add the time and weather information to a list on the screen for the user to get a brief outlook on time and basic weather information. For a more in-depth read on local conditions, the user just has to click on the city from the list which will provide a similar interface to that of the home page with more in-depth information.

Part D: App Benefits

Our weather app provides accurate weather information to its users. It displays current, high and low temperatures for multiple different days in an easy-to-read and understandable format. It can help travellers plan their trips and work schedules. Notifications are sent for severe weather conditions such as storms, hurricanes, and floods to ensure users are prepared. The app has revenue potential through advertising, premium features, and partnerships with other businesses. Data can be collected on how users use the app to improve features or inform relevant companies.

SECTION 6: PROJECT ROADMAP



Requirements and Design

Each of the first four and the sixth parts will be assigned to an individual group member, while part five will be tackled by the entire team due to its complexity and preexisting division of parts.

All team members are expected to review the document to ensure that all points are covered and errors are caught.

Implementation

Three members with programming or web development skills will work on developing the app, while the other two with experience in software testing will be in charge of testing.

In the event that either group has insufficient members, the most motivated learners will be given the task of researching and will be placed on the corresponding team.

The testers and developers will hold regular meetings to discuss any issues that arise during the project.

Evaluation

All members will review their individual work and provide feedback on it.

During the review, the team will check each other's evaluations to avoid repeating details and to ensure that the document is consistent.

REFERENCES

1. www.egencia.co.uk. (n.d.). *Survey: disrupted business travelers turn to tech for answers - Egencia UK*. [online] Available at: <https://www.egencia.co.uk/en/egencia-survey-reveals-business-travelers-tech-reliance-during-disruption>.
2. GBTA: Top Travel Concerns for Road Warriors. (2014). *Travel Agent Central*. [online] 27 Feb. Available at: <https://www.travelagentcentral.com/running-your-business/gbta-top-travel-concerns-for-road-warriors> [Accessed 13 Feb. 2023].
3. López, A.M. (2022) *Corporate Travel: Companies by Booked Air Volume US 2020*, Statista. Business Travel News. Available at: <https://www.statista.com/statistics/254078/companies-by-usbooked-business-travel-air-volume/> [Accessed: February 20, 2023].

CONTRIBUTIONS

Each member engaged and contributed equally in this project.

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Majority of formatting