Part 1: Overview of your stakeholder group

Our primary stakeholders are university students that play football. Football is a team-based sport that can be played competitively for a club (for example the QMUL football team), or it could be a light-hearted game between a group of students. Regardless, football is one of the world's most popular pastime activities due to its simplicity (one would technically only need a ball). The most prominent game-changing limitation faced by football players is the weather.

The primary stakeholder will have various demands which will need to be satisfied by the weather application; including the wind speed, temperature and probability of rain. Students playing for official teams will need to decide whether to practice indoors or outdoors based on the weather conditions; as for example, a heavy onset of rain may create a muddy pitch which will hinder practice. Students playing football as a hobby will use the application to decide when to play, preferably looking for dry, sunny conditions. Both competitive and casual players may also use the weather app to decide their form of commute (train or walk or cycling), based on the weather conditions.

University students lead very dynamic lifestyles, spending their mornings and early afternoons working and studying; a large portion of their leisure time is spent on extracurricular activities including sports such as football. A fast-paced life mandate information to be given on demand.

Most university students are between the ages of 18 to 25, and given the rapid advancement of technology, almost all will have access to a smartphone device. Furthermore, students check their phones constantly as it provides an easy source of information and entertainment.

Given these characteristics of our stakeholder and to ease the accessibility, the app will be designed for a smartphone. Due to the dynamic lifestyle students often lead, the pertinent information (wind speed, temperature and probability of rain) needs to be available at a glance. As such, the application will need to be vibrant with all the information being easily identifiable and available without too many unnecessary searches. To further support users, there will be football pitch locator feature that allows users to see available football pitch locations in a selectable mile radius with a feature suggesting recommended equipment depending on the weather.

For organization purposes, student will need to know information about the weather in advance to effectively plan. The application will provide information for at least 7 days in advance. Additionally, there will be an event calendar allowing students to input event reminders to be notified on the day.

Students, especially those using smartphones, may not have constant internet access. To accommodate this, our application will use the temporary storage on the device to download the weather data and save it, so it may can be accessed and viewed without an internet connection. The application will, however, need to be connected to the internet to refresh the data. A limitation of this will be that students using this feature may become subject to outdated weather predictions.

Students that play competitively are likely to have several away fixtures which are likely to be played at a different location. As such, players will need to be able to see the pertinent weather data for the location of the match. To accommodate this, our application will have a search feature which will allow users to input a location of their choice and display the latest available information.

Part 2: Identify and describe wider stakeholders

Primary stakeholder	University students that play football
Secondary stakeholder	Group/team members, friends, managers
Tertiary stakeholder	QMUL, local borough
Facilitating stakeholder	QMUL Computer Science students

<u>Primary Stakeholder:</u>

University students that play football are the primary stakeholder. The application is designed to cater to their needs. They have the direct relationship to the application as they are the primary users.

<u>Secondary Stakeholder:</u>

Group/team members, friends and managers are the secondary stakeholders. These groups of people do not have a direct relationship with the application but have a direct relationship with the primary user's course of action. For example, a student can use the application to foretell the weather and notify necessary equipment the team members

should bring. This will positively affect the team's performance during the match which will benefit both the team members and the manager. This is also applicable for casual players.

Tertiary Stakeholder:
QMUL and the local borough are examples of tertiary stakeholders. These groups of people are not users of the application but are indirectly affected by the actions of the primary stakeholder. Using the example for the secondary stakeholder, if the team members' performance improves with guidance of the application, they're likely to win more competitive fixtures which will improve the reputation of the organization they represent.

Facilitating stakeholder:
QMUL Computer Science students are the facilitating stakeholders. They have a direct relationship with the application as they are the designers of the application. They are not necessarily users of the application, however, can use the application for debugging and updating.

Part 3: Data gathering

To ascertain the widest and most accurate database of information, we opted for a questionnaire with closed-end questions to attain information regarding the type of users utilising the application and their relation to football. The questionnaire allowed us to get a large sample size of data (we collected ~50 surveys); this created a reliable set of data.

Interviews were also conducted. We had an open-ended question interview style, asking general questions regarding features of the application and their use of weather apps. This created a very rich data set which enabled us to tailor our specifications to best satisfy our stakeholders.

Questionnaire results:
The first question asked was how often the primary stakeholders checked the weather before attending a football match. The results showed that 45% of participants did check the weather before attending a match evidently supporting popularity for a football weather application.

The second question asked was when the participants played football. A clear majority of replies stated that they played during late afternoons and evenings with 65% claiming that they played during the evening. This data was vital to figure out when the weather application required updating with the latest weather forecast.

We delved further on the matter of updating our weather forecast by asking how frequently the primary stakeholders would like to see the chance of rain during the day. There was a significant range of answers for this question, with 13.5% replying with every 90 minutes to 27% with every 6 hours.

The last questions were questions concerning the extra features we wanted to implement in our app. We asked participants whether they would like to be notified if there were any changes in the weather which an overwhelming majority replied yes. We also questioned how far people were willing to travel to their football destination to help us decide on mile radius increments on our football locator feature; majority said 2 miles with 5 miles as the maximum.

Interview results:
We questioned students the features they are expecting to see in football weather app and their familiarity with other weather forecasting apps.

Features they expect:
The majority expected the application to display the weather, with importance on the layout. The majority did not want to see specific information regarding the wind velocity and humidity, rather a simple "strong/mild/no wind" would suffice. Many people also specified that current weather apps are far "too cluttered". We took that on board and tried to focus on simplicity.

There a deep discussion as we proposed our idea on the extra features we wanted to implement on our app. Most spoke with enthusiasm as we proposed our ideas on the event notifier and the football locator with some already suggesting they would "definitely use that app". Many students were baffled when we mentioned the nearby football pitches available and therefore we strongly wanted to implement this feature. Some interviewees also mentioned that it would helpful if there were uniform recommendations (for example: rain jackets, the types of boots, etc.) depending on the weather. We decided that we should integrate this idea into our application as there was a demand, or at least have it a feature that could be toggled. We concluded the interviews by proposing the application saves the data on the

temporary storage to allow offline access which everyone responded positively but mentioned there should be some form of indication that the data may be outdated.

Familiarity with other weather forecasting apps:
We wanted to know how familiar our primary stakeholders as a whole were with weather applications. Most people that commute to university checked the weather daily, usually during the morning or even the night before. We asked about the familiarity with weather apps; most were comfortable using them and said that if they weren't available on the smartphone they might not look as often confirming our hypothesis that the application should be available for smartphones.

Part 4: Requirements development on your primary stakeholder

Aims:
The primary stakeholders are university students that play football. The aim of the application is to facilitate students who are looking to play football but need to know the weather conditions in order to find an appropriate time and place (indoors or outdoors), in order to play football. The data gathered suggests a simple design with a 7-day forecast is the go to look. Success would be measured according to the reliability and accuracy of the weather forecast and the percentage of repeating users the application will have.

Job satisfaction:
The source of job satisfaction will be the ease of navigation, the visual features and the accuracy and reliably of the information displayed. Users should feel comfortable navigating through the application with a design that is appealing to the eyes. Information about equipment, locations and the pertinent information should be accurate to allow users plan effectively and enjoy the matches held without much trouble.

Knowledge and skills:
The primary stakeholders are university students with good knowledge in Maths, Science, English and IT. Therefore, they are familiar with symbols, numbers and text used in the application. The stakeholders are also young and educated, born in the age of the technology advancement therefore they have sufficient knowledge on using applications and smartphones in general. After conducting the questionnaires and interviews, students have a good understand on the symbols and notations used in weather forecasts.

Work attitude:
As the stakeholders are university students, they will all have above average knowledge of mobile and computer technology as their age makes them a generation raised amidst such technology and being in university suggests they will be academically intelligent and will be more comfortable with more advanced technology. In the interviews, it became apparent that most students were comfortable using a smartphone. Given the level of education that most of the participants (tertiary); a solid work ethic is implied.

Work group attributes:
When interviewing the students, there were comments based on having a vibrant, polished interface with large icons to tell the weather at a glance. Students wanted the interface that was simple and to the point. Therefore, accessibility and speed of the information was a vital point. An interface that displayed the week's weather and temperature on one page would have a better feedback than that which the student would have to navigate through several pages. Big icons and text were popular to see the information at a glance.

Features of activity:
Given the automated nature of the application there is no need for much manual input with the exception of the additional features. These include: inputting locations and manually setting reminders on the event notifier. As a lot of people are not concerned with things like humidity and wind speed, an option to hide this information should be available. Also, in order to have access to finding nearby pitches, internet will be required for GPS tracking. The system will automatically update with new information when internet access is available.

Responsibilities:
The primary stakeholders, students who play football, will have a responsibility to their team mates, and if they play for a team, their manager and the organisation they play for. This is because their success or failure will affect those who are involved with their team. They have a responsibility to reach all practice sessions and matches on time, as agreed, so that they do not hold back progress from the rest of the team.

Work conditions:
Students will be using the application when planning football matches. Students that cannot obtain an indoor football pitch would also require the weather to be good as there is no alternative. If an indoor pitch is available, one would need to book it in advance. Furthermore, students that commute would like to know the weather for preparation purposes. Finally, confirming with team members what sort of uniform is necessarily and generally to plan if the weather is not optimal.

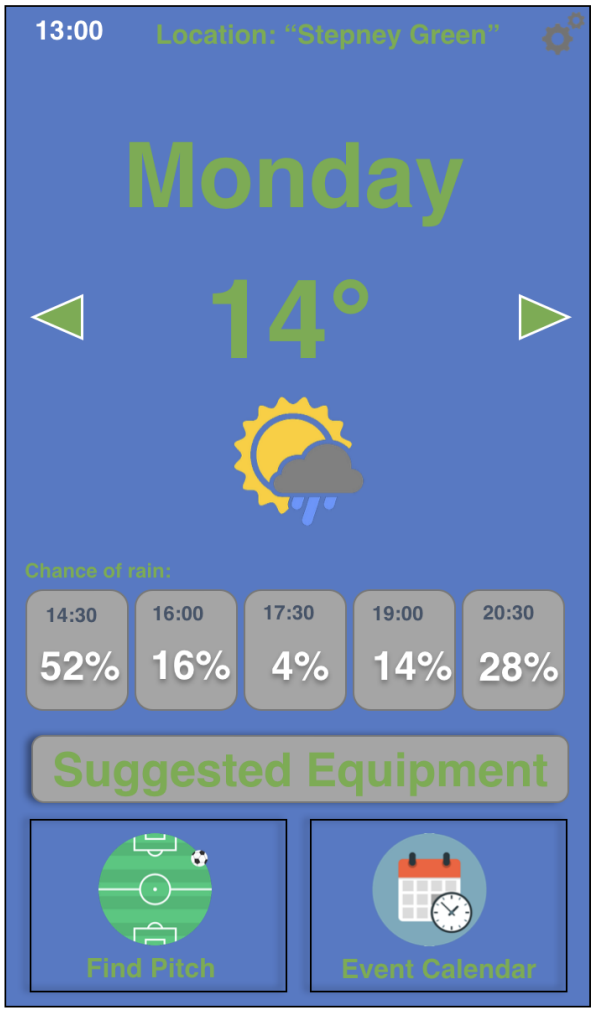
Part 5: Design

We have opted for smartphone instead of a tablet, mainly based on our data gathered and the information available about our stakeholder. University students live very dynamic lifestyles, with little to no free time, carrying around a tablet isn't an option for many, especially athletic people (football players). Yet everybody has a smartphone on them, and our data suggests that most people are sufficiently proficient in using their mobile devices. As such, designing our application for a smartphone will make it far more accessible to university students than a tablet.

People wanted a small, clear-cut design with the information concise yet clear. Although, thought by many to be a limitation, the small screen allows us to easily create a design which is small and to the point, without too much irrelevant information making it easier to absorb the information for the student rather than a tablet which is wider and larger.

First screen design

This is our design, we have gone for a blue/green/grey colour palette, as it is related to football and the weather. There are three buttons at the bottom of the app, allowing the primary stakeholders to explore suggested equipment for the weather, find a football pitch and plan an event with a team. They can also check their practice schedule in the calendar and this will allow the user to prepare adequately.



"Find Today's Temperature"

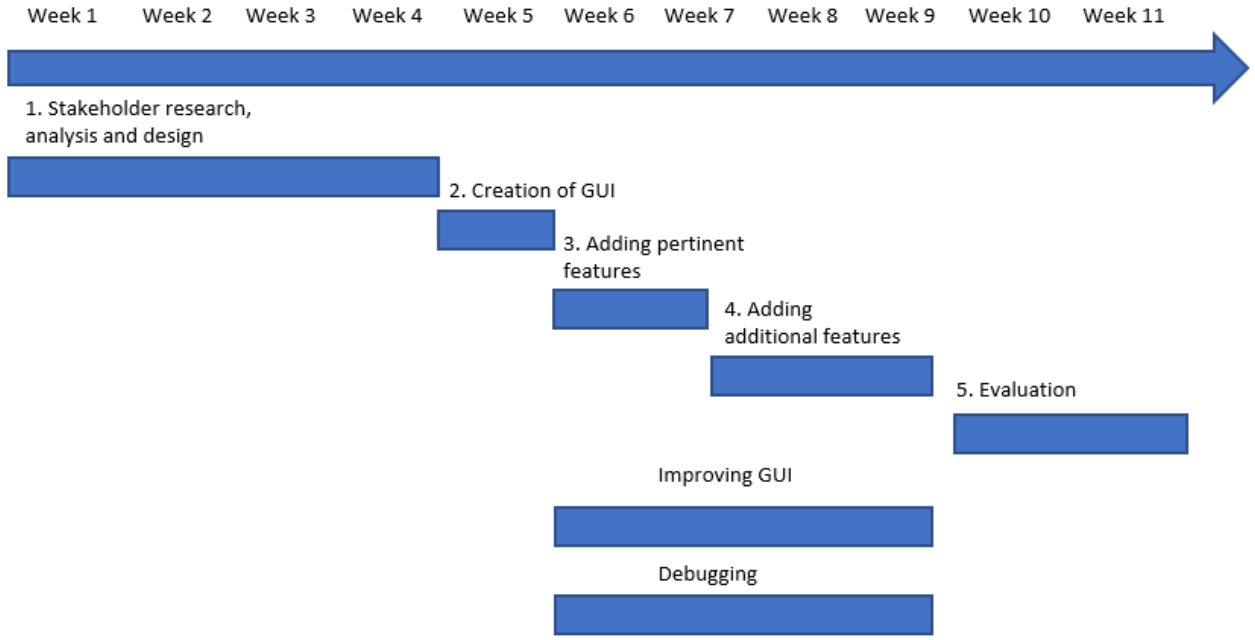
The user must simply open the application, if they have their location tracking enabled, it will automatically load up the weather data for today in the user's area including the temperature and chance of rain. If the user wants to find the weather conditions of another location he must simply tap the "location" on the top of the screen and type in the new location, tap search and it will display the new weather data.

Brief description of the app

Our app is designed to benefit university students that play football. Using our application, they can see the weather forecast and check relevant equipment they might need. We also provide a feature that enables the user to locate the nearest football facilities in a selectable mile radius with the increment of a mile. This includes outdoor pitches, but if the weather is subpar, one can locate an indoor facility as well. The app is designed to focus on both football club players who may have a more serious approach to football and those who have a casual approach.

Part 6: Project roadmap

Achieving tasks:



Allocation of roles:

Roles will be assigned through the strengths and weakness each member brings. Those with better knowledge in a particular field will be allocated tasks involving the field. Tasks will also be distributed equally to allow all member to have their input, as well as, not to overburden a group member. Frequent meetings will help aid the progress and helping those who are struggling with their current tasks.

Weaknesses:

One major challenge of this project will be building the application through React. Given that none of the members of the group have programming experience with React, this is problematic. In order to overcome this, we must meet up regularly to discuss our code. It is especially important to help each other out because having multiple perspectives will allow us to better find any errors in the coding. Additionally, we must also get feedback from someone who is good at working with React, since they would be able to spot any errors and give constructive feedback to improve our application.