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Activity A (ii)

Proposal

The Business Context

My software company has secured a contract with Health Advice Group who have asked us to develop a digital solution for their charity where they can offer information and support about environment health issues.

Health Advice Group provides:

- Advice on how to deal with extreme weather temperatures
- Information on environmental health conditions and seasonal allergies
- Risk assessments for home environments

This Digital Solution should:

- Display weather forecasts to inform health decisions
- Give access to a dashboard for monitoring air quality data
- Give advice on how to deal with health matters affected by the weather and environmental conditions

The client (the trustees of Health Advice Group) have done some market research to indentity features that could be included in the digital solution. The potential features suggested by the client are:

- Personalised health advice based on location
- Accessibility features to support a wide range of user needs
- A personal health tracking tool

This digital solution has chosen a computational approach, this is convenient because User details and personal health information are not needed to be stored onto a physical file, and they can be accessed from any device with the correct account login details. This also means that it can automatically notify the user if there are any non-favourable conditions for them, such as a high pollen count, heavy rain, high pollution level and a high UV level.

This solution will be displayed on smartphones, computers, laptops, smartwatches and tablets. We believe that it should be displayed on these devices as it gives the user easy access to the digital solution's contents, if they used their mobile or smartwatch which are easily accessible they would be able to make an informed decision which puts their health first. On laptops, computers and tablets which are mainly used for work, users will have the capability to access the website while they are working or on their break, making sure that they will always have the knowledge to make an informed decision.

The Client has stated that they would like to provide weather forecasting to inform health decisions, this will be done by showing the hourly and daily weather forecasts which include the highest and

lowest temperature, and they will also show the UV level and the pollutant level which correlates with their other requirements which is monitoring air quality data. For this an air quality data index would be used to display how high and low the pollutants in the air are, the specific pollutants and a visual sign indicating how bad the air quality is.

From the additional market research that the trustees of Health Advice Group have conducted, we can see that they have listed personalised health advice based on location as a potential feature. We believe personalised accounts would be the best to implement this as the data provided by the website will be tailored to that specific user account depending on their location, allergies and health. They have also listed for accessibility features to support a wide range of user needs, so we will make sure the user has all the information they need as well as how to use the digital solution if they are unsure. The personal health tracking tool would be implemented by asking the user to enter their personal health details and update them every week to make sure that they stay healthy.

Since the digital solution will be able to track the weather conditions for each user's specific location, the digital solution would be able to notify the user of any extreme weather conditions which would allow the user to:

- Decide whether they should or should not wear multiple layers of clothing if it is warm or cold.
- Decide if they need any additional equipment such as an umbrella or a heated pouch to protect themselves from rain and keep themselves warm
- Choose the best days in case they want to go on Holiday
- Making sure they keep their health good and well

Functional & Non-Functional Requirements of the solution

Functional Requirements are needed for the basic usability of the digital solution. This makes sure that the basic requirements for the solution has been outlined for Health Advice Group which allow the users to use the solution and get their required results.

Functional Requirements:

- Ability to create and log into an account
- Ability to access weather data from multiple sources
- Ability to generate accurate weather predictions from current data
- Ability to display a dashboard for users to monitor air quality based on the pollutants in the air
- Ability to alert users of any changes of the weather conditions
- Ability to give accurate health advice based on specific weather conditions
- Ability to provide forecasts for multiple timeframes such as horuly,daily and weekly
- Ability to set up personalised notifications for specific weather conditions

Non-Functional Requirements aren't needed for the solution to work but for it to be more appealing to the users, such as giving accessibility features to support a wide range of the users needs, such as accessibilty issues.

Example of accessibility issues:

- Colour blindness
- Colour contrast
- Partially sighted user
- Informative Error messages

- Alternative text font and text size

Non-Functional Requirements:

- Ability to display personalised health advice based on a location that a user has entered
- Ability to secure and keep user data private
- Ability to handle large data sets efficiently
- Has a user friendly interface
- Ability to have different options for users with disabilities
- Make sure that the system is cost effective to develop and implement
- Solution must be accessible with minimal latency
- Ability to be accessed from multiple devices and platforms
- Has a personal tracking health tool for users

Down below I have used the FURPS (Functionality, Usability, Reliability, Performance and Supportability) by Hewlett-Packard to outline the requirements of the solution in detail.

https://en.wikipedia.org/wiki/FURPS

The functionality of the solution should make sure that it can handle and use the data from different weather resources efficiently. The data should be easy to resuse by the developers. The security of the solution needs to be very high as it will be documenting the different locations that the user has entered as well as their personal health conditions

The usability of the solution needs to be easy for the users to locate where they want to go. We should make great use of blank space by changing its colours depending on the weather, such as if it's sunny a light blue colour can be used and if it's rainy and dull a darker shade of blue can be used which accurately indicates to the user of the current weather condition. Personal health should be frequently documented by the user to track their progress and make sure that they are kept healthy. The response of the program should do the best to ensure that the user has knowledge to keep themselves safe in case they have any allergies or other medical conditions.

The digital soluton needs to be reliable for the users. All possible errors need to be eradicaed, data provided by the solution needs to be accurate for the users. The solution needs to be robust and have a good performance which appeal to the users. If the user gets inaccurate information frequently they will no longer rely on the digital solution causing drawbacks for Health Advice Group. Personal data from users need to be kept secure and private and should only be used for personalised data that the user has asked for. Advertisements based on the user's location should not be allowed as it shows an extreme breach of data to the user as they will know that their personal data has not been kept secure. The solution should also be able to be accessed from multiple devices and platforms to make sure the user can always access the website wihtout any problems.

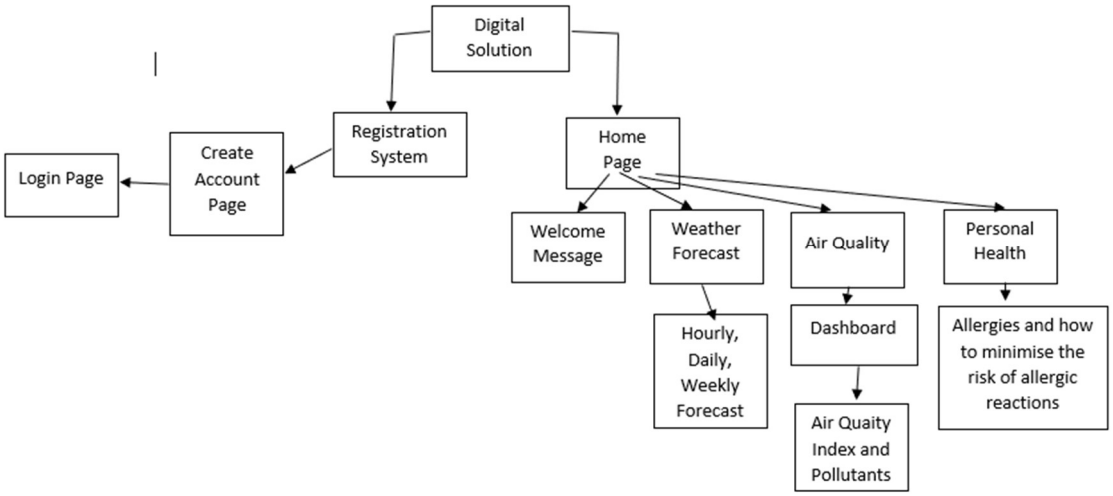
The performance of the solution needs to be fast to allow the user to access the data that they need without having to wait for a long period of time to move from one page to the next. This is also because users would desire a solution that works well rather than one that didn't. The scalabilty also needs to be flexible to match the users personalisation of the solution. The data capacity needs to be high incase a user wants to get the accurate weather conditions for multiple locations.

The supportability of the digital solution should make sure that it is easy for users to use and easy to maintain. It also needs to be easy to resuse and develop to add additional features. It should be

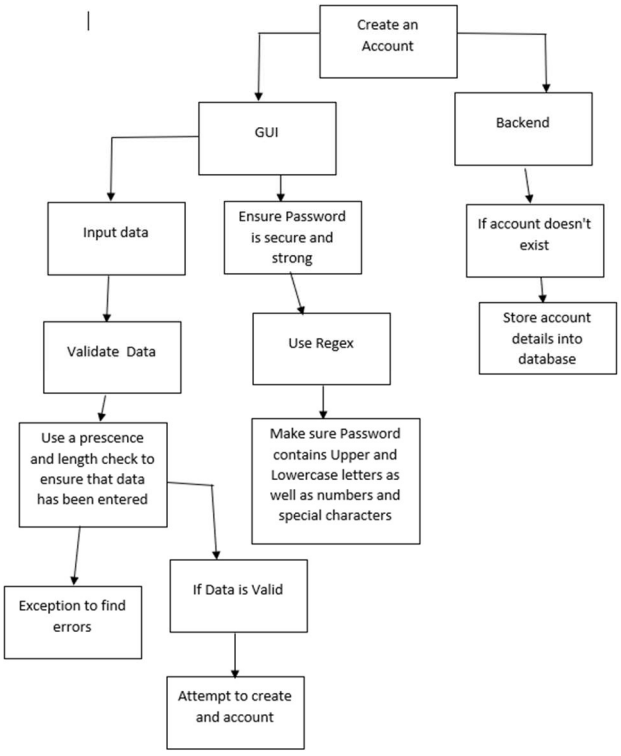
separated into different subroutines so that it is easy to locate and fix any bugs or errors that developers come across.

Decomposition of the problems that are needed to be solved to implement the functional and non-functional requirements

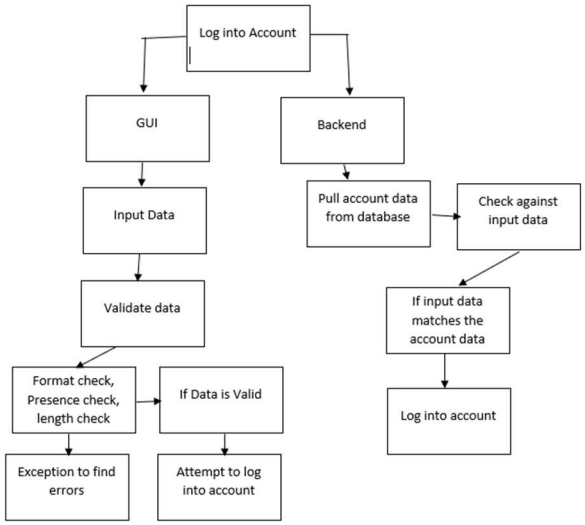
Hierarchy:



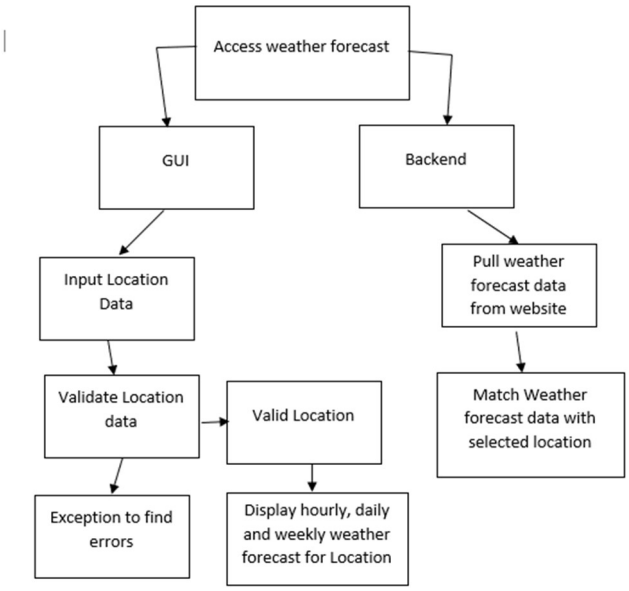
Creating a user account:



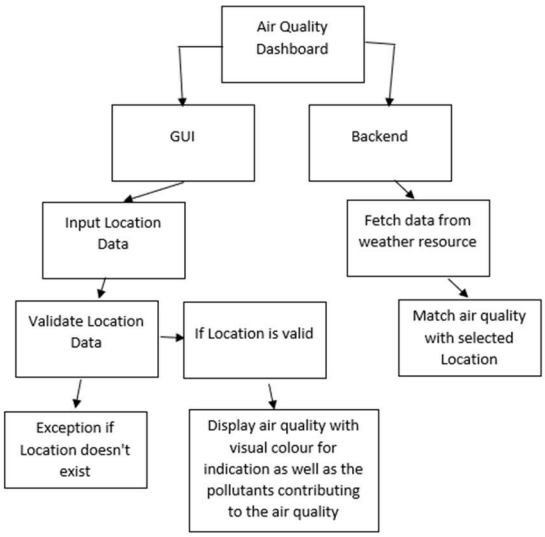
Logging into a user account:



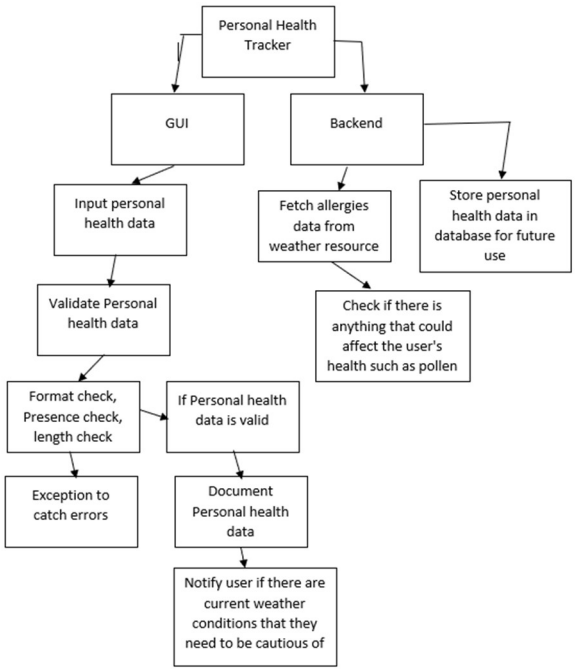
Accessing weather forecast data:



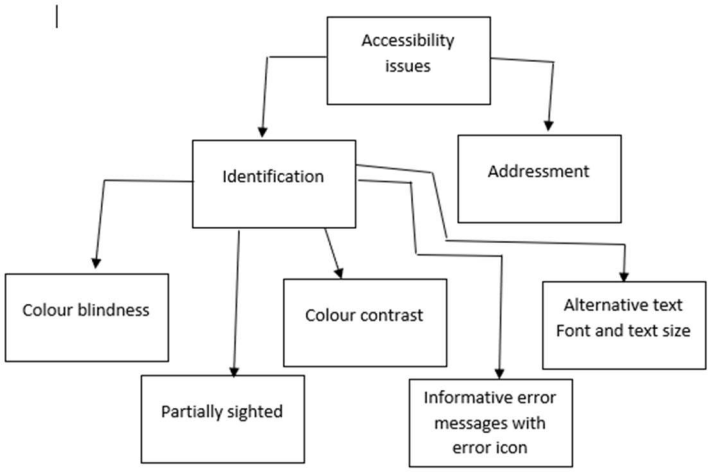
Dashboard for Air Quality:



Personal health tracking:



Accessibility Issues:



Key Performance Indicators (KPIs) and User Acceptance Criteria

A Key Performance Indicator is the quantifiable measure of a digital solution overall. It informs us of when changes are needed to be made and where they need to be made to.

Key Peformance Indicators (KPIs):

- All digital solution work and that it is to a good standard so that users are satisfied
- Accuracy of weather forecasts hourly, daily and weekly, the solution should be abe to accurately predict the weather conditions for a given location at a specific time
- Number of users served, this can be measured by creating a count which updates after each account has been created, this can include number of page views, time spend on the website and the number of return visitors
- User satisfaction rate, this will be known by users through surverys, reviews and social media
- Number of daily active users measured by updating a count each tme an account is logged into and then refresh it every day
- Response time for user inquiries, performs a fast response so that the user has an enjoyable experience
- Number of weather resources used, this should be measured to make sure that the data displayed as accurately as possible
- Average time spent per user per session, measured by setting a timer for each session
- Robust and Validated
- Risks are mitigated
- High security so that data breaches can not occur, use penetration testing to test the security of the solution
- High performance with low response times

The User Acceptance Criteria are the conditions that the solution must meet be accepted by a user, a customer, or other systems.

User Acceptance Criteria:

1. Must have a membership system where the user can create an account and log in
2. Must meet functional requirements

3. Must provide accurate weather forecast information on certain geographical locations selected by the user
4. Should allow users to set up notifications for certain weather conditions and notifty them when they are met
5. The system should be able to provide detailed information about specific weather events, such as temperature, wind speed, humidity etc
6. The system should allow users to enter personal health information and inform the user if there are any weather events that can damage their personal health
7. The solution should be secure and protect the user's personal information
8. The solution should be able to integrate with other services such as air quality information
9. The solution should be able to be accessed by multiple platforms such as web, mobile and desktop
10. The system should provide a simple interface that is easy to use and understand
11. The solution should have a review page for where users can leave a comment on what they think about their experience on this digital solution
12. The solution should have a customisation page in the user settings so that they can customise their weather forecasts by selecting their location, preferred temperature units and the level of detail that they want to see
13. Should be reliable with minimal downtime or technical issues

Description of the proposed solution:

1a: Create an Opening Page

When the user accesses the digital solution, they should be brought to a page that prompts them to enter their login details or create a new account (an account is imperative for personalised health advice). The buttons would be arranged closely together to allow easy navigation for the user. On this page it would also have an option for the user to change the page from light mode to dark mode and vice versa which allows the user to personalise the solution and reduce eye strain. The user should also have an option to change text size to make it easier to read.

1b: Create an Account Page

When the option to create an account is selected they are taken to the create an account page where they can make an account through a form-based user authentications. The form will prompt the user to enter date such as their email, password and name etc. This input data will be validated with methods such as presence checks, length checks and format checks to ensure that data has been entered and that the data is in the correct format for it to be processed and stored by the solution. This page will make use of visual hierarchies such as the F pattern which will be followed to make the form easier to navigate as there would be a more natural flow to how the user progresses through the process. This page would also have the option to change the page from light mode to dark mode and vice versa which allows the user to personalise the solution and reduce eye strain. The user should also have an option to change text size to make it easier to read.

1c: Create a Login Page

When the option to log into an account is selected they are taken to the login page where the user can log in to an already existing account through a validation check. This check will prompt the user to enter an already existing username and the password that is assifned to that username. Presence checksm length checks and format checks are performed to ensure that the data has been entered and that the data is in a correct format for it to then attempt to locate this username and password through the database and see if the data matches. If the data does not match the user will simply

have to start again but they will also have the accessibility to create a new account if they do not already own an account

2: Create a User Home Page

This home page would be accessed when the user presses the login button at the bottom of the opening page. This page would display a welcome message to the user. From this page the user should be able to access all features of the digital solution through various buttons that can be easily located and navigated by the user. This page would make use of white space to arrange various shortcut buttons to other pages. The other pages would be the locational weather data, personalised health advice, air quality dashboard and any other requirements stated by the client. The buttons would also be separated by visual heirarchies and allow the user full accessibility to the navigation of the digital solution.

3: Create a Locational Weather Data Page:

This page would be accessed when the weather data shortcut is selected. This page would make use of different colour contrasts and would change depending on the weather conditon. If the weather was hot and sunny the page would include the colours of yellow and lightblue, if the weather was wet and rainy the page would include the colours of dark blue and light blue which visually indicates to the user what the weather conditons are currently in their chosen location. This page would also display various images that accarutaly show the weather condition which would be arranged to be put together with the different date, times and temperatures which gives a visual indication for the weather conditions for those times and temperatures.

4: Create an Air Quality Dashboard page

This page would be accesed efrom the home bage when a button labelled "Air Quality Dashboard" is displayed. This Page will have a large number displayed clearly indicated how high the air quality is in the user's selected location. There will also be a circle around the button with either a green, amber or red outline clearly indicating how good/bad the air quality is. There will also be a list of pollutants and a percentage which accurately displays how much pollution they contribute to the air quality.

5: Create a Personalised Health Tracking Page

This page is accessed if the user selects a button labelled "Personal Health Tracker" on the home page. This Page will have a few prompts asking the user to enter their BMI, Allergies and any other health conditions that the weather may have an effect on. This tracker can then notify the user if the weather condition is a danger to them or when it is the most optimal day to go and exercise outside.

6: Create a User Settings Page

This page would be accessed when a button with a similar icon to  is selected. This Page will have a default grey background as it is a clear indication to the user that it is a setting page. This page will have different buttons which vary in functions such as allowing to change their personal details, customise their account, change the colour of certain pages, change text size and font, log out of account and delete account. This page would also display the options to change the language and allow the user to input any visual medical conditions so then the digital solution will automatically adjust itself to suit the user.

7: Create a Health condition and Seasonal allergies Info Page

This page would be accessed by a button labelled "Health Info" on the home page. This page would display the current environment conditions such as wind speed and pollen content. It would also inform the user how to deal with health matters affected by weather and evironmental conditions.

8: Create a Reset Password Page

This page allows the user to change their password if they feel thatf their current password has been compromised or is not secure enough, this allows the user's account to be more secure and prevent access from unauthorised persons that have knwoledge of the previous password

Justification:

How the recommended solution meets the needs of the client and users

Meeting the full needs of the client and the users is important because if the digital solution does not meet these needs there will be serious drawbacks and disadvantages for Health Advice Group and the software development company that i work for. The Software company that i work for and Health Advice Group will lose a lot of finance if this solution is not use due to the disatisfaction of the client and the users. This would cause a loss in profits, bad publicity and damage to the software development company.

Bad publicity is very likely to cause the software development company to lose a lot of their major contracts and prevent them from securing high paying contracts for the foreseeable future. This will cause a lot of damage for the company increases the risk of business failure. In order to meet the needs of the client and the users the software development company will need to have constant communication with the clients throughout the contracts as it would form a foundation between the two companies which would guarantee the quality that this solution delivers. Communication can be concluded by keeping the users and clients aware of the progress with the solution and also allow the to propose any ideas for improvement to make the solution more appealing. Any questions that arise should be answered quickly and efficiently. Through the use of these tools a bond can be established between the client and company which ensures that quality services will be delivered to the client on time. Another way to meet the needs is to set plans and deadlines so that there are np unecessary complications as there is already a plan that has been laid out.

How relevant regulatory guidelines and legal requirements, in relation to software development and the health sector, will be addressed

Followimg relevant regulatory guidelines and legal requirements is necessary as it erases the chance of fines and imprisonment for the client and software development company. If my software company were found out not to be following these legal requirements and regulatory guidelines it may cause bad publicity and a loss in profits for the company.

An example of regulatory guidelines and legal requirements is The Data Protection Act 2018

Information taken from https://www.gov.uk/data-protection

Everyone responsible for using personal data has to follow strict rules called ‘data protection principles’. They must make sure the information is:

- used fairly, lawfully and transparently
- used for specified, explicit purposes
- used in a way that is adequate, relevant and limited to only what is necessary
- accurate and, where necessary, kept up to date
- kept for no longer than is necessary
- handled in a way that ensures appropriate security, including protection against unlawful or unauthorised processing, access, loss, destruction or damage

Another example of a legal requirement that is needed to be followed it having a very proficient system security. Without this the data that is stored can be compromised by data breaches easily, which causes the software development company a loss in reputation. In order to have a proficient system security it needs to be ensured that users use strong passwords through robust validations, that they use up to date amto-viruses and firewalls.

Potential Risks and how to mitigate them

A main risk is not meeting the functional and non-functional requirements, particularly the functional requirements. Failure to do so would end in serious conequences. Both Health Advice and the software development company i work for will suffer bad publicity and a loss in profits. It would also reduce the chance of my software development company securing a good contract ever again. In order to mitigate this risk the software development company will need to have constant communication with the clients throughout the contracts as it would form a foundation between the two companies which would guarantee the quality that this solution delivers. Communication can be concluded by keeping the users and clients aware of the progress with the solution and also allow the to propose any ideas for improvement to make the solution more appealing. Any questions that arise should be answered quickly and efficiently. Through the use of these tools a bond can be established between the client and company which ensures that quality services will be delivered to the client on time. Another way to mitigate this risk is to set plans and deadlines so that there are np unecessary complications as there is already a plan that has been laid out.

Another risk is how fast the development is. If the development is slow it could lead to some features of the app not performing correctly as they should and could also mean that the requirements that the client have stated may not have been met. Not meeting client requirements will end in serious consequences. In order to mitigate this risk it is imperative that every potential problem is taken into account to ensure that the development process is smooth without any unexpected complications. The development speed also correlates with poor data quality and security. In order to mitigate both these risks they require a lot of disaster recovery planning which would also slow down development if the effect of human error is high. Someone may accidewntally erase an important file which would cause a big negative impact towards development and functionality. Regular backups would need to be created in order to mitigate this risk. Another complication could be a data breach which lots of data may be corrupted or compromised, this would not only affect the speed of the development but on the software devlelopment company as a whole because they were not able to prevent the data breach. In order to mitigate this risk a disaster recovery plan would need to be implemented. A disaster recovery plan is a formal document creeated by an organisation that contains detailed instructions on how to respons to unplanned incidents such as natural disasters, power outages, cyber attacks and any other disruptive events (Information taken from https://www.kyndryl.com/gb/en/learn/disaster-recovery-plan#:~:text=A%20disaster%20recovery%20(DR)%20plan,and%20any%20other%20disruptive%20events). This would make the speed of development and stability much quicker as it decreases the risks of negative occurences.

Data and system security may also be a risk due to the poor training of staff. Employees may be the cause of data breaches and hacks, therefore it is necessary that proper training is put it in place to make sure that the staff knows how to keep data secure and protected. This would stop the threats of phishing emails and phone calls as the employees would know how to deal with them.

Another risk is not following the Confidentiality, Integrity and Availability triad (CIA triad). The CIA triad was designed to enforce policies in regard to information security within a company.

Information taken from https://www.techtarget.com/whatis/definition/Confidentiality-integrity-and-availability-CIA#:~:text=Confidentiality%2C%20integrity%20and%20availability%20together,of%20security%20policies%20for%20organizations.

Confidentiality - This helps to safeguard data which involves special training for staff that are privy to sensitive documents. Aspects of this training may include strong passwords and password-related best practices and information about methods used to prevent users from bending data-handling rules with good intentions and potentially disastrous results.

Integrity - Measures file permissions and user access cotrols. Version controll may be used to prevent erroneous changes or accidental deletion by authorised users from becoming a problem, in addition, organisations must put in some means to detect any changes in data that might occur as a result of non-human-caused events such as an electromagnetic pules (EMP) or a server crash.

Availability - This is ensured by rigorously maintaining all hardwarem performing hardware repairs immediately when needed and maintaining a properly functioning operating system (OS) environment that is free of software conflicts. It's also important to keep current with all necessary system upgrades.

Appendix:

Activity A (i)

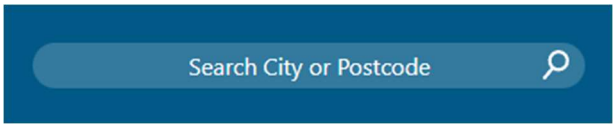
Research

How is hardware and software used within the context of the industry?

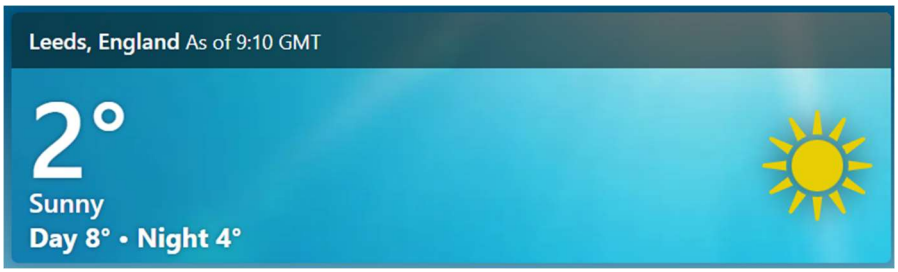
People these days use their mobile devices to find out the weather conditions by using the weather app which should be pre-installed on their mobile phones. Speaker assistants such as Alexa and Google Home can also be used to find out the current weather conditions, the user just simply asks them "what the weather is like today" and it gives them an accurate response based on their location. People also use smartwatches such as fit bits to monitor their health which correlates to the weather conditions if they are feeling ill.

People may also use websites on their computers or mobile devices to get more in depth information on the weather conditions.

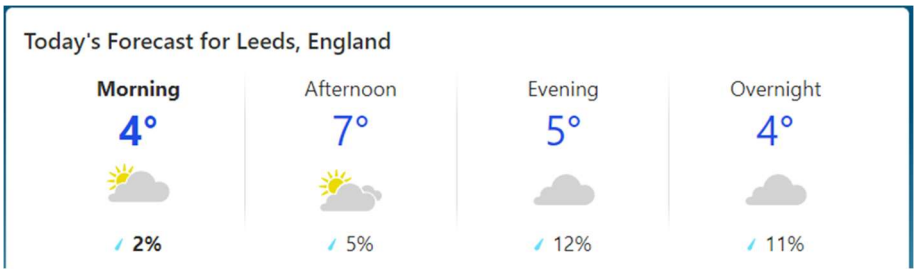
An example of a website i have found is https://weather.com/



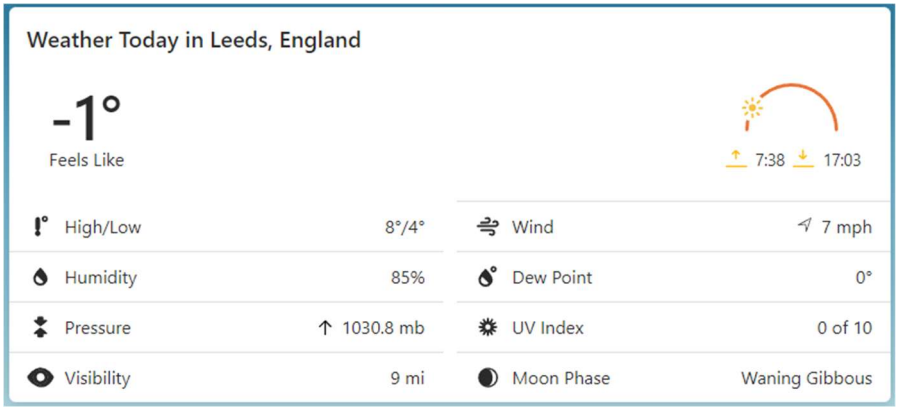
As you can see here the website weather.com asks the user for an input, this would be useful as accurate data is displayed based on the input that the user has entered.



This clearly shows the temperature currently and what to expect the temperature to be during the day and night. It also shows that it is currently sunny. It is also very colourful and easy for the user to read which makes it more appealing to users.



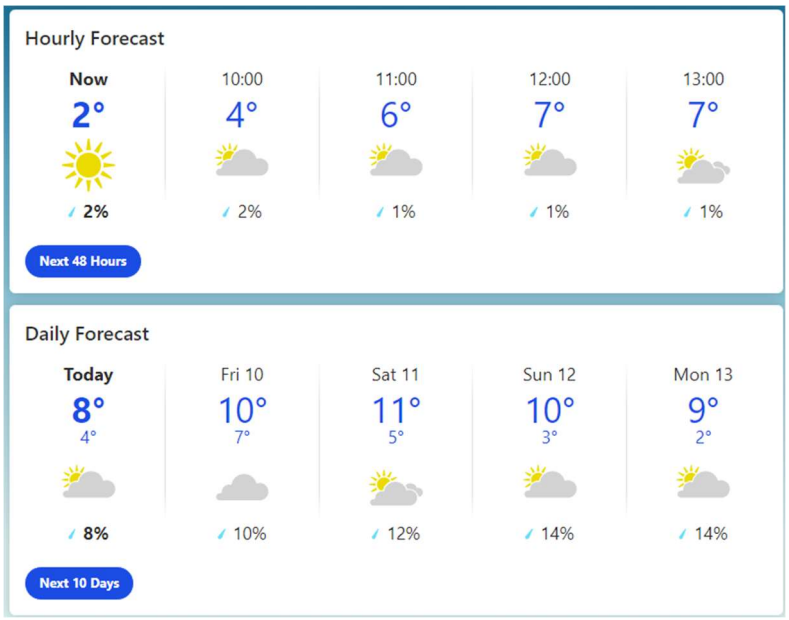
The forecast is also displayed which shows more accurate data on what the weather and temperature will be like throughout the day and the chance of rain has also been displayed which allows the user to prepare themselves if it does rain.



This is also useful as it shows how outdoors will feel like compared to it's actual temperature.

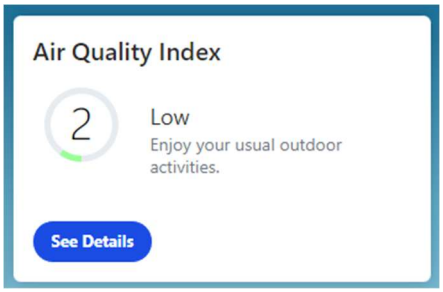
it also shows the speed of the wind which can prepare people in case the speed is very high and that they need to be more cautious whent hey are outside.

The visibillity is also shown which helps the user to know if they need to make themselves more visible when they are outside in case there are any cars or other people which are not able to see them normally due to there being fog which interrupts their vision.

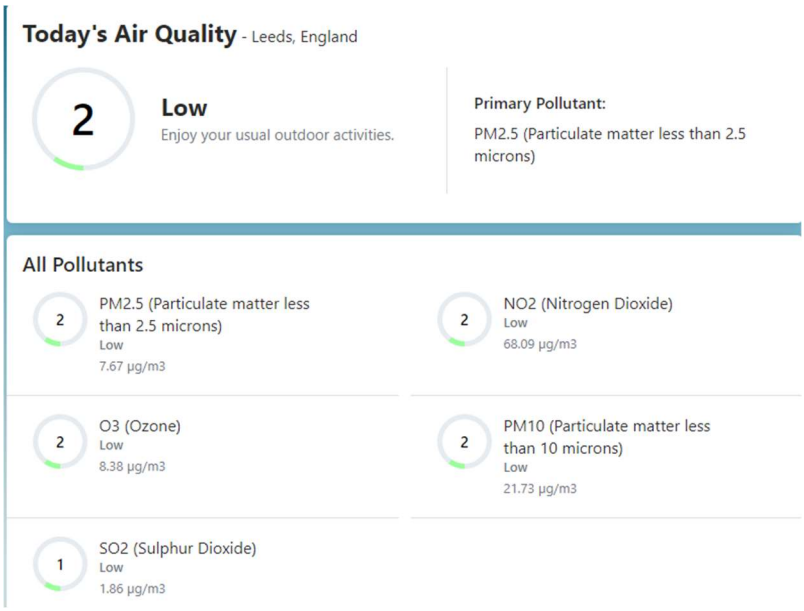


The Hourly forecast shows the exact temperature and weather expectations for each individual hour for the day which is useful as the user will then have knowledge on which time will be the warmest and which time will be the coldest.

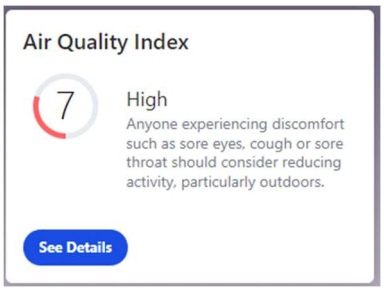
The Daily forecast displays the weather expectations and the highest and lowest temperatures throughout the days which informs the user of which days are the best and the worst to go outdoors and what to expect the weather to be like throughout the week.



The Air Quality is also shown, and displays "Low" which informs the user that their is a low amount of pollution within the area of their selected location. The see details button is used to sure more accurate information about the Air Quality.

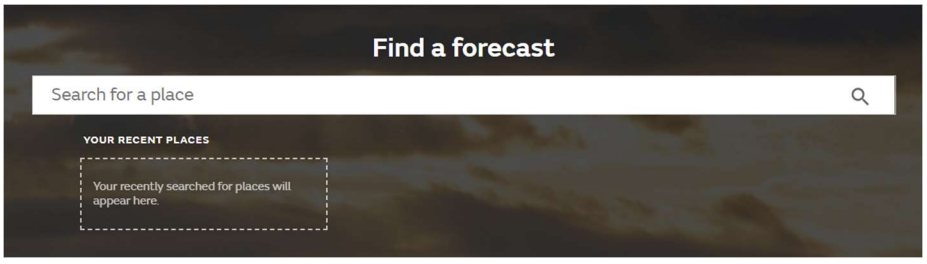


This displays the exact pollutants within the area and which pollutants are contributing the most to the air quality.

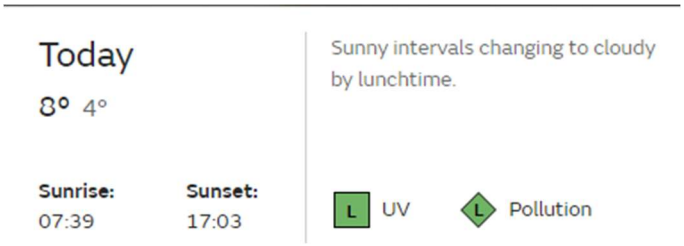


The word "High" is displayed to show that there is a high amount of pollution within the air of the selected location. The "7" and red bar indicates how dangerous it is.

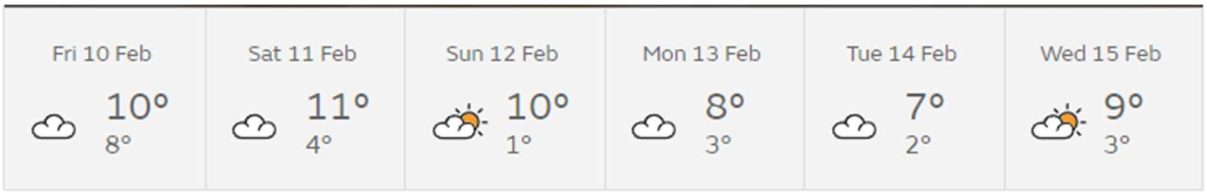
Another example of a website that I have found is https://www.metoffice.gov.uk/



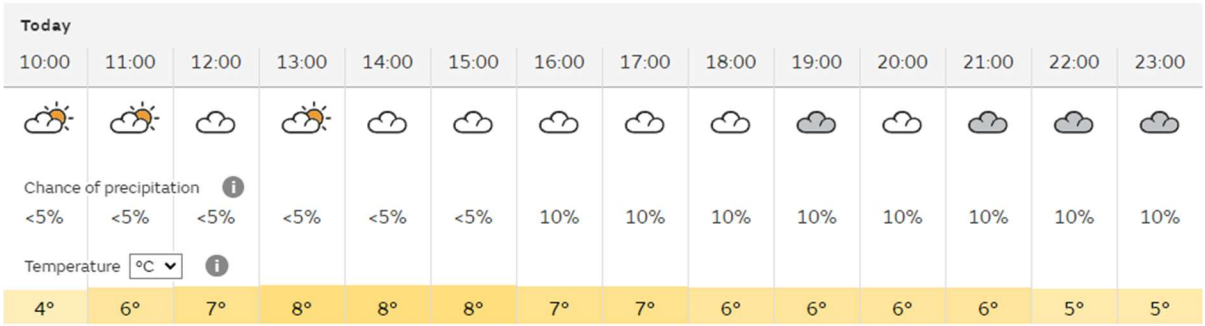
They also have a user input which is useful for the user to enter a chosen location and find accurate information about weather on that location. The main difference to weather.com is that they also have a box which shows the recent searches in case the user wants to quickly select the weather of a past location without having to search for it.



As you can see the highest and lowest temperature is displayed for today and it also shows the low UV and Pollution counts. Another difference is that it displays the times of the sunrise and sunset. This website is not as colourful as weather.com so i believe it is less appealing to users as it is an all which background with white text.

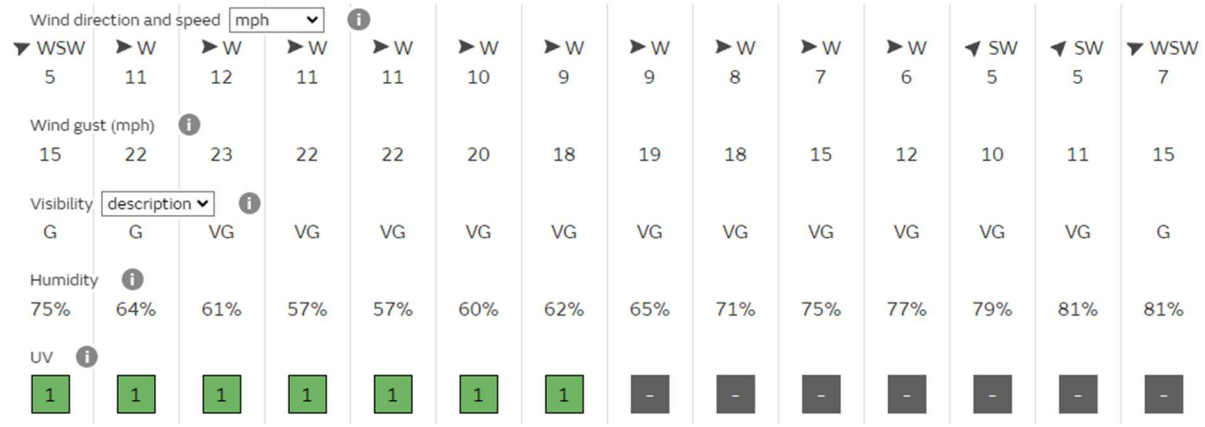


The other days also show the basic information of the highest and lowest temperature and well as the weather. These days are displayed as tabs and if you click on them it shows more details of the weather condition of the selected day.



The hourly forecast is also displayed to show the temperature of the different hours throughout the day and it also displays the chance of precipitation(rainfall) throughout the day which informs the user for when they might need to wear more layers or use an umbrella.

It also allows the user to change the way the temperature is measured from celsius to fahrenheit.



Another difference is that the user can change the way that the wind speed is measured as well as the description of the visibility. The wind gust is also shown in mph as well as the percentage of the humidity throughout each hour. It also displays the UV level throughout the day.

Newly emerging technologies

Machine learning and AI have had a huge impact within health as they have been used to analyse CT scans to effectivel treat the effects of the recent coronavirus pandemic.

Wearable technology has also been implemented such as smartwatches which allow the user to check their health such as heart rate.

One example of wearable technology is a fitbit which accurately tracks your heart rate, monitros your sleep, tracks your steps and exercise.

On the website https://healthsolutions.fitbit.com/whyfitbit/ it displays the validated data and their database.

On the fitbit website it also shows how they track your heart rate.

https://help.fitbit.com/articles/en_US/Help_article/1565.htm#:~:text=To%20determine%20your%20heart%20rate,beats%20per%20minute%20(bpm).

How does my Fitbit device detect heart rate?

When your heart beats, your capillaries expand and contract based on blood volume changes. To determine your heart rate, the optical heart-rate sensor in your Fitbit device flashes its green LEDs many times per second and uses light-sensitive photodiodes to detect these volume changes in the capillaries above your wrist. Then your device calculates how many times your heart beats per minute (bpm).

We use green LEDS because they maximize the signal detected from the capillaries near the surface of the skin. The optical heart-rate sensor also uses infrared light to determine when the device is on your wrist to improve the accuracy of your heart-rate data.

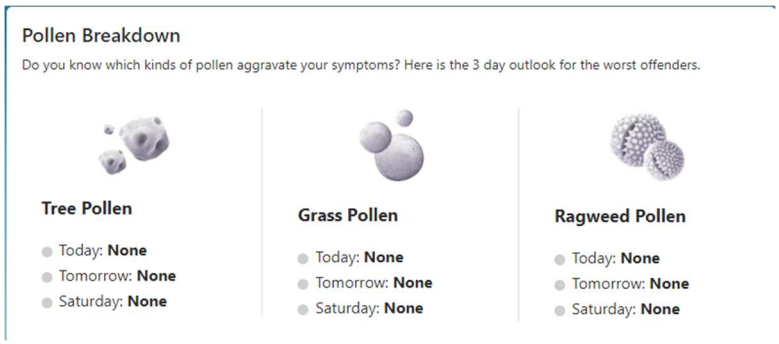
More information on fitbit https://www.amazon.co.uk/Fitbit-Fitness-Smartwatch-built-battery/dp/B0B6WRPZCM/ref=sr_1_1_sspa?crid=3EY241OGWDS4O&keywords=fitbit&qid=1675939322&sprefix=fitbit%2Caps%2C69&sr=8-1-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1

Built for better fitness results: Daily Readiness Score, built-in GPS and workout intensity map, Active Zone Minutes, all-day activity tracking and 24/7 heart rate, 40+ exercise modes and automatic exercise tracking
Tools to measure and improve sleep quality: personalized Sleep Profile, Daily Sleep Stages and Sleep Score, smart wake alarm and do not disturb mode
Maintaining a healthy body and mind: daily Stress Management Score, reflection logging, SpO2, health metrics dashboard, guided breathing sessions, menstrual health tracking and mindfulness content
Designed for fitness and beyond: on-wrist Bluetooth calls, texts, phone notifications, customizable clock faces and always-on display mode, iOS and Android compatible, thin, lightweight and water resistant to 50 meters, 6+ day battery and fast charge

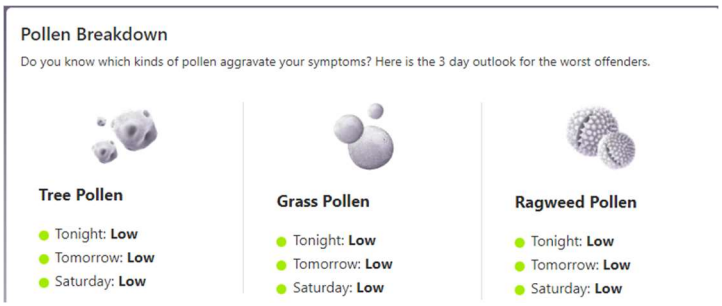
This describes how it can help the user as well as that it is compatible for mobile device software as well that it is light, water resistant, has a 6+ day battery and also has a fast charge.

How can digital solutions be used to meet different user needs?

Example from https://weather.com/



This is an example of what the results would show if there was no pollen within the area.

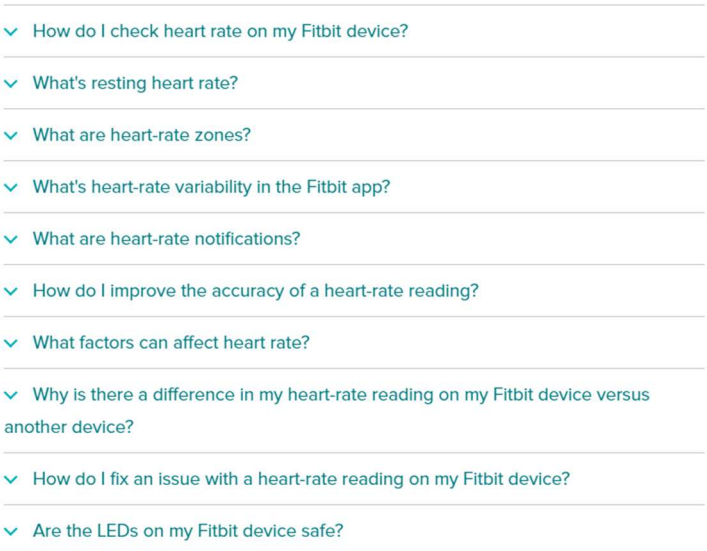


The Pollen Count is displayed to alert anybody who has hayfever or any other type of allergy which correlates with pollen. With this information they can choose whether to stay indoors and they will also know when to medicate for their allergies.

The website also displays tips to help user manga their allergies and to keep their health well. This also minimises the risks of allergic reactions, feeling ill and taking trips to healthcare buildings.

Example from https://help.fitbit.com/articles/en_US/Help_article/1565.htm#:~:text=To%20determine%20your%20heart%20rate,beats%20per%20minute%20(bpm).

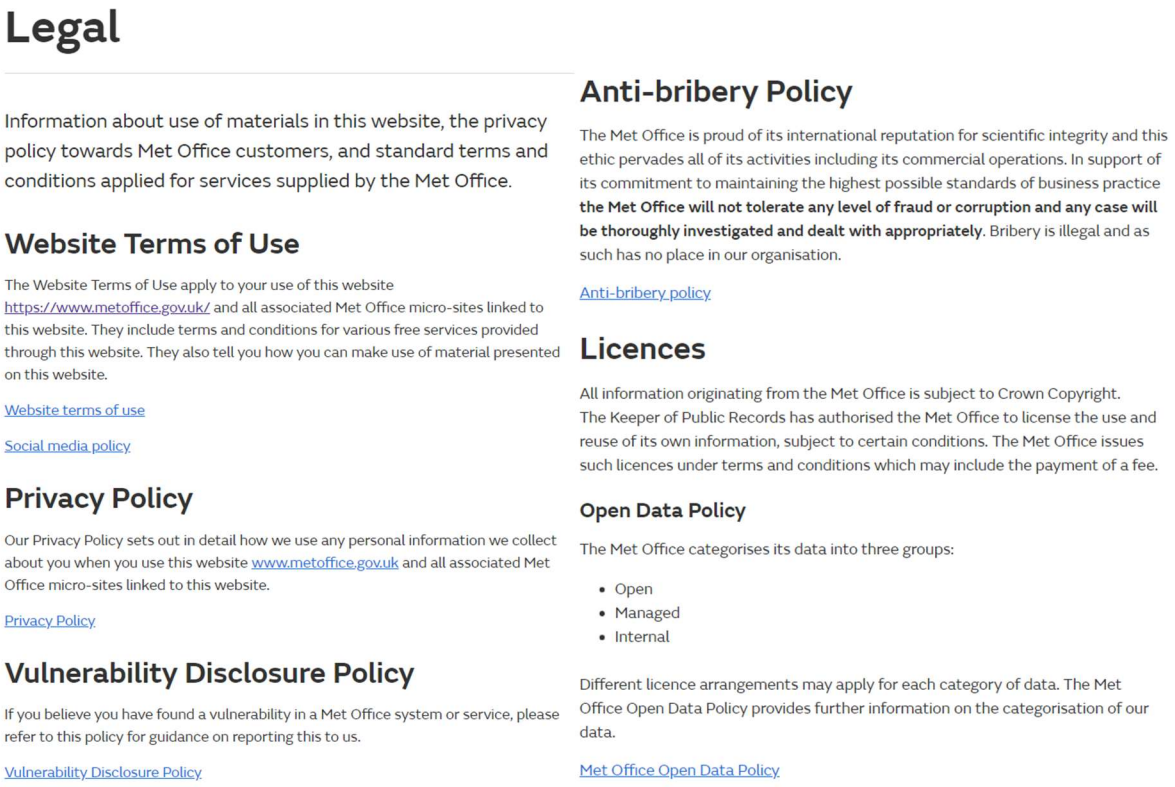
The website displays information about heart rates if the user doesn't have any knowledge on it.



This is very helpful as it answers any of the users personal questions and also gives them information on things they may not have thought of.

Industry-specific guidelines and regulations

Example from https://www.metoffice.gov.uk/about-us/legal



Legal

Information about use of materials in this website, the privacy policy towards Met Office customers, and standard terms and conditions applied for services supplied by the Met Office.

Website Terms of Use

The Website Terms of Use apply to your use of this website https://www.metoffice.gov.uk/ and all associated Met Office micro-sites linked to this website. They include terms and conditions for various free services provided through this website. They also tell you how you can make use of material presented on this website.

Website terms of use

Social media policy

Privacy Policy

Our Privacy Policy sets out in detail how we use any personal information we collect about you when you use this website www.metoffice.gov.uk and all associated Met Office micro-sites linked to this website.

Privacy Policy

Vulnerability Disclosure Policy

If you believe you have found a vulnerability in a Met Office system or service, please refer to this policy for guidance on reporting this to us.

Vulnerability Disclosure Policy

Anti-bribery Policy

The Met Office is proud of its international reputation for scientific integrity and this ethic pervades all of its activities including its commercial operations. In support of its commitment to maintaining the highest possible standards of business practice **the Met Office will not tolerate any level of fraud or corruption and any case will be thoroughly investigated and dealt with appropriately**. Bribery is illegal and as such has no place in our organisation.

Anti-bribery policy

Licences

All information originating from the Met Office is subject to Crown Copyright. The Keeper of Public Records has authorised the Met Office to license the use and reuse of its own information, subject to certain conditions. The Met Office issues such licences under terms and conditions which may include the payment of a fee.

Open Data Policy

The Met Office categorises its data into three groups:

- Open
- Managed
- Internal

Different licence arrangements may apply for each category of data. The Met Office Open Data Policy provides further information on the categorisation of our data.

Met Office Open Data Policy

Met office has a legal page which displays information on their policies and their terms of use which accurately shows information on how they collect your personal information and if your press the privacy policy link it will show you how they secure your personal data. They also ask for users to let them know if there are any vulnerability's within their website so that they can fortify their website to keep personal information protected. They also have an anti-bribery policy which explains that if there any acts of fraud or corruption within their company that they will be thoroughlt investigated and dealt with and will also be let fo from their company. Their licensing is also displayed which show that they are licensed to use and reuse their own information but they are subject to specific conditions. It also shows how met office categorises its data and provides a link incase the user wants know more about each category of data.

Personal information we may collect from you

We may collect and process the following information about you:

- Information that you provide, for example when you place an order for data or data services together with the details necessary to administer your account.
- Information that you provide by filling in forms and subscribing to our services.
- Information that you provide to us when you write to us, including by email or when we speak to you by telephone.
- Information that you provide to us by completing feedback, surveys or participating in competitions.
- Information that you provide to us in relation to our public task duties.

How we will use information about you

We will only use your personal information when the law allows us to. Most commonly, we will use your personal information in the following circumstances:

- Where we need to perform the contract we are about to enter into or have entered into with you (contractual necessity).
- Where we need to carry out our public task duties (public interests).
- Where it is necessary for our legitimate interests (or those of a third party) and your interests and fundamental rights do not override those interests. (legitimate interests).
- Where we need to comply with a legal or regulatory obligation (compliance with legal obligations).
- Where you have provided your consent (consent).

Any personal information that met office collects from you will be information that you provide so no other personal information that you haven't disclosed will be collected. They also display how they will use your information, such as performing contracts that you enter, public tasks, legitimate interests, complying with legal obligation and where you have provided consent.

Freedom of Information

The Met Office is committed to openness and transparency in the conduct of its operations and to the sharing of information. This page sets out our commitments.

Freedom of information

Your Met Office Account

You need your own Met Office account to access Met Office Products.

By registering your details for your Met Office account, you warrant that:

- You are legally capable of entering into binding contracts;
- You are at least 18 years old; and
- You are not accessing, and will not attempt to access, Met Office account services from a Restricted Country.

You are responsible for maintaining the confidentiality of your Met Office account and password, and for restricting access to your computer, and to the extent permitted by applicable law you agree to accept responsibility for all activities that occur under your account or password. You should take all necessary steps to ensure that the password is kept confidential and secure and should inform us immediately if you have any reason to believe that your password has become known to anyone else, or if the password is being, or is likely to be used in an unauthorised manner. You are responsible for ensuring that the details you provide us with are correct and complete, and for informing us of any changes to the information you have provided.

We reserve the right to refuse service, terminate accounts or remove or edit content if you are in breach of applicable laws, these terms or any other applicable terms and conditions, guidelines or policies.

Met Office displays that they have committed to the openness and transparency to the sharing of data and their conducts.

They have also displayed the account information to show the user the conditions for creating an account and that they are responsible for mainting the confidentitality of their account and password. The user is also responsible for restricitng access to their computer and that they agree by law that they are responsible for all activities that occur under their account or password.

They also display that thy have the right to refuse service, terminate accounts and remove/edit any content if they breach any applicable laws.

Example from https://weather.com/

Your Privacy and the Use of Data

We are committed to helping you manage your privacy rights. We believe accurate forecasts should be available to everyone, everywhere. In order to provide you this free service, we use data, cookies on your browser, and other tracking technologies (i.e. JavaScript, Web Beacons, and eTags) to serve you weather features and non-personalised ads that are based on the general location of your internet connection. If you choose to opt-in for the use of data and cookies in the settings below, and click Submit Preferences, we will be able to remember your web browser and offer you a more tailored service. You can change your Settings at any time by interacting with these Privacy Settings. For more information on how data is stored and used on this site, please review our Privacy Policy.

TWC Product and Technology, LLC, doing business as The Weather Company, an IBM business, (sometimes, "we" or "us") is committed to protecting your privacy. This Privacy Policy is important, and we encourage you to carefully read it.

This Privacy Policy discloses how we collect, use, and share data that we gather related to your interaction with this website (the "Site") and on our software applications, mobile applications, and other websites and services that reference or link to this Privacy Policy (together, the "Services"). The Services do not include websites, mobile applications, or other services that link to another privacy policy. This Privacy Policy also describes the choices you have regarding our use of your data and your ability to access, correct, or delete your data. By using the Services, you accept the terms of this Privacy Policy and agree to the data collection, use, and sharing described in this policy. We may seek your consent by other means such as by asking you to click on a button or to change a setting. Where we do so, we will also offer you a way to revoke your consent.

This displays accurate information on how weather.com protects your data, how they collect data, how they share data and their rights.

we automatically collect:

- Information about your device and device capabilities
- Information about your device operating system
- Information about your browser
- Information about how you use and interact with the Services
- Your activities on the Services
- IP address
- Advertising identifiers
- Mobile or Internet Carrier
- Browser type
- Browser identifier
- Referring URL

This explains to the user how their data is being collected and they can decide whether they want to stop using the sight, they can also contact the company and request that their information be deleted.

Links:

https://weather.com/

https://www.metoffice.gov.uk/

https://www.metoffice.gov.uk/about-us/legal

https://healthsolutions.fitbit.com/whyfitbit/

https://help.fitbit.com/articles/en_US/Help_article/1565.htm#:~:text=To%20determine%20your%20heart%20rate,beats%20per%20minute%20(bpm).

https://www.amazon.co.uk/Fitbit-Fitness-Smartwatch-built-battery/dp/B0B6WRPZCM/ref=sr_1_1_sspa?crid=3EY241OGWDS4O&keywords=fitbit&qid=1675939322&sprefix=fitbit%2Caps%2C69&sr=8-1-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1

https://en.wikipedia.org/wiki/FURPS

https://www.kyndryl.com/gb/en/learn/disaster-recovery-plan#:~:text=A%20disaster%20recovery%20(DR)%20plan,and%20any%20other%20disruptive%20events.

https://www.techtarget.com/whatis/definition/Confidentiality-integrity-and-availability-CIA#:~:text=Confidentiality%2C%20integrity%20and%20availability%20together,of%20security%20policies%20for%20organizations.