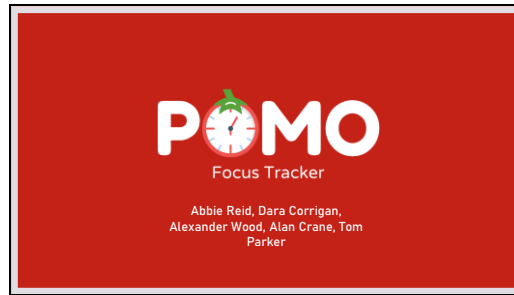
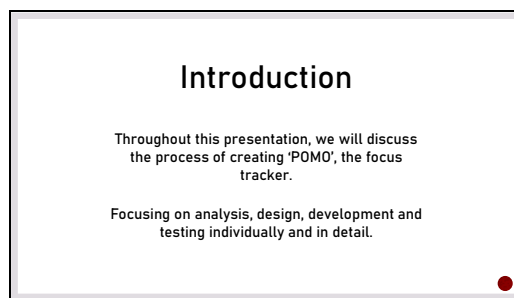


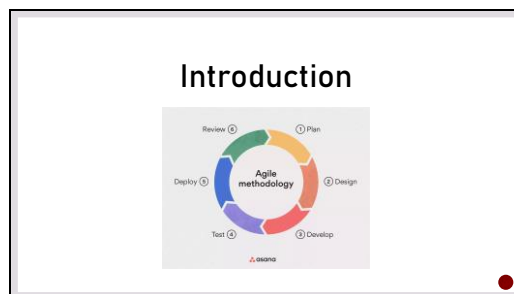
Slide 1



Slide 2

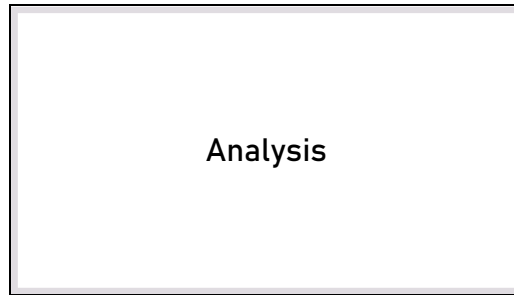


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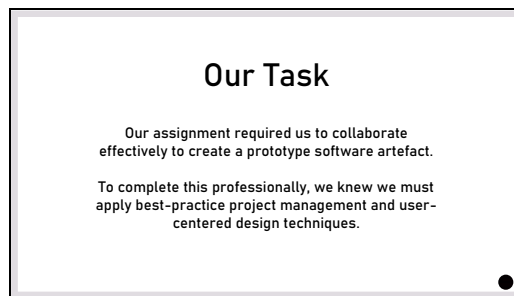


Throughout our project, we have successfully employed the Agile methodology. After every stage in our project, we have reflected and improved. To employ this methodology successfully, we have had to be flexible and adaptable.

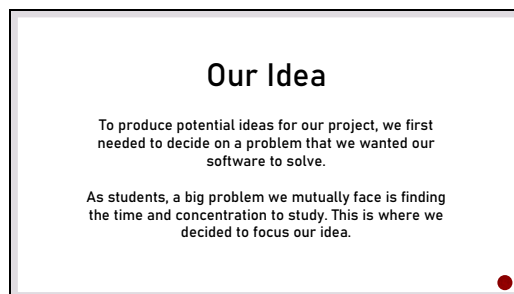
Slide 4



Slide 5



Slide 6



Aiding focused study is a broad problem with countless solutions.

To conclude with one, we needed to carry out some research.

With this, we managed to whittle down our solutions to three main ideas. We believed each of these ideas solved our problem in their own unique way.

Slide 7

Our Idea

- Study scheduler
- Kanban project management
- Pomodoro study simulator

After consideration, we concluded with a focus tracker based on the Pomodoro technique.



It has been proven that setting a schedule and studying at your own pace/taking breaks often cause studying to be more effective.

The Pomodoro technique allows for both requirements to be met.

Slide 8

WHAT IS THE POMODORO TECHNIQUE?

A method for staying focused and mentally fresh

STEP 1		Pick a task
STEP 2		Set a 25-minute timer
STEP 3		Work on your task until the time is up
STEP 4		Take a 5 minute break
STEP 5		Every 4 pomodoros, take a longer 15-30 minute break

The Pomodoro technique is a popular study technique where you work for short bursts and take frequent breaks.

Slide 9

Our Idea

We felt software like this could be used in scenarios like this project.

A large time-consuming task can be daunting, they require a lot of project management.

We felt software like this could be used in scenarios like this project.

A large time-consuming task can be daunting, they require a lot of project management.


A focus tracker (like our product) would aid us in managing our tasks and time, allowing us to complete this assignment to a high standard.

Slide 10

Platform

The next decision we needed to make was what platform we wanted to create this product for.

Initially, we considered creating a mobile application. However, we concluded that a web application would be more appropriate as most people use some sort of computer whilst working/studying.



Slide 11

Platform

A web app is more versatile as it can also be used on a mobile device if the user desires.

For example, if a user wanted to use it whilst they do non-computer-based tasks, like reading a book.



Slide 12

Project Management

Utilizing effective project management techniques is crucial for our success.

Project management will allow us to ensure we complete all tasks and create an industry-standard product in the given time frame.



To ensure our success, we have utilized the following tools...

Slide 13

Trello

Trello is a web-based project management tool that breaks down problems using boards, lists, and cards.

We created a Trello workspace and multiple boards to manage tasks, save links, and assign tasks to group members. It ensured we didn't miss important tasks and helped us complete the project to the best possible standard.

Slide 14

GitHub



GitHub is a popular type of version control software.

Version control is crucial when working as a team as all changes are tracked, therefore an organized codebase is maintained.

Slide 15

IDE

Initially, we began development using Visual Studio.

However, this was not sustainable as if we were all working on the same file, git merges were causing us to slow down.


Slide 16

IDE

To solve this problem, we decided to use Repl.

Repl is a collaborative IDE that updates in real-time as each person works on it.

Using Repl with GitHub allowed multiple team members to work together to implement features without affecting others' progress.




Slide 17

Literature Review

Before developing, we must first investigate and criticize similar products.

This will allow us to develop our product to the best possible standard, enabling us to separate important and effective features.




Slide 18

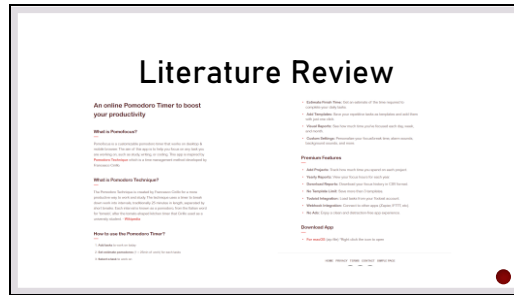
Literature Review

The three websites we found to analyze were:

- <https://pomofocus.io/>
- <https://studywithme.io/aesthetic-pomodoro-timer/>
- <https://www.toptal.com/project-managers/tomato-timer>



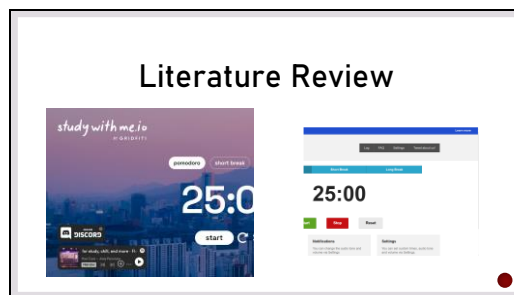
Slide 19



Initially when reviewing 'Pomofocus', we found that the page was very busy as there was a mass amount of information in various places. We originally thought this was a negative attribute. However, after reviewing 'studywithme' and 'tomato-timer', our opinions changed.

We realized that the lack of information about the pomodoro technique on these websites made them very unclear and unprofessional. The user would have to have a great understanding of the pomodoro technique already or use other sources to use them.

Slide 20



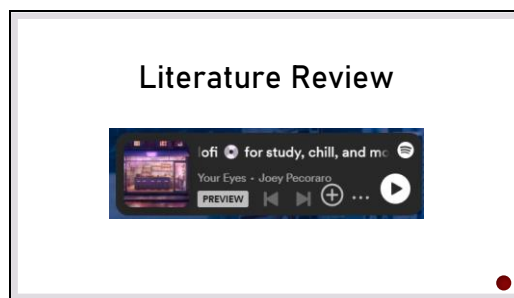
Another negative feature of 'studywithme' was it was overcrowded and therefore did not create a positive/calm work environment. This was also a problem with the other two websites. They were cluttered, taking away the calming atmosphere.

Slide 21



We found that PomoFocus is very intelligent software, with a vast range of features. One of these features was the ability to see a report of your stats.

Slide 22

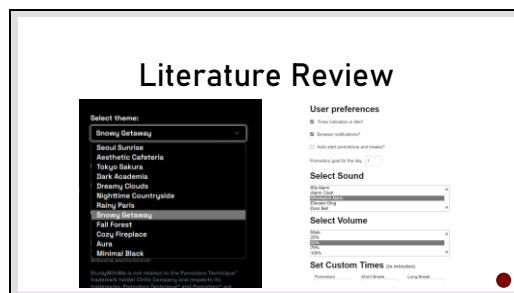


We found this to be a very interesting tool, with the idea of a focused streak being encouraging and motivating.

Studywithme and Tomato-timer also had many different features.

For example, Studywithme contained a link to Spotify. Allowing the user to play music directly from the web app. This allows the user to be able to manage everything they need to study from this one app, reducing distraction.

Slide 23



We agreed that these other features were not as useful. Particularly as the Spotify widget only allowed you to play general music, not your library, and we do not believe many users would opt for this.

Another feature provided by all three products that we decided was not useful was the ability to change the theme/background colours and alarm sounds.

However, we decided to do some further research on this. As we

thought there must be a reason that all three of these products feel the need to have these features.

Slide 24

Literature Review

After analyzing the article 'how colours affect the way you think' written by Mark Ellwood, a key quote that got our attention was

"Colour can mess with the way we experience senses such as taste and flavour, or even our preference for music".

It became clear that colours make a massive difference in how humans react and function. Therefore, it makes sense why these products allow the user to change theme, it could aid their focus.

Slide 25

Literature Review

Furthermore, after reading "Sensory Overload: Loud Sounds, Clothing Tags, Overstimulation" by the ADDitude Editors.

We concluded that alarm options are important.

Furthermore, after reading "Sensory Overload: Loud Sounds, Clothing Tags, Overstimulation" by the ADDitude Editors.

We decided that having vast options to do with the alarm sound was important. As this article essentially states that loud noises can seriously affect neurodivergent people, causing a state of overstimulation. So, these products having the option to change the sound makes their products much more accessible, as this article also makes it clear that the things that cause overstimulation vary from person to person.

Not only can the users change the alarm sound, but they can also change the alarm volume. A quote from this article states that loud noises as well as specific noises can be a trigger for neurodivergent people.

We discussed that this is also an important feature provided compared to the user having to turn down their device. Turning down their devices is not a good fix for a product like this, as often when studying people may need to watch videos or even wish to listen to music.

Slide 26

Literature Review

- PomoFocus was the most user friendly
- Information about the technique is crucial

In conclusion, after critically analyzing all three products, PomoFocus was the most user-friendly. Although still cluttered, the comprehensive information surrounding the pomodoro technique made the product accessible for anybody to use.

Requiring prior knowledge/research to use a product that is supposed to encourage focusing is a juxtaposition, as the user can not just settle and focus, it distracts them.

Therefore, going forward we have decided we will need to incorporate some sort of information in our product.

However, we will be ensuring that the information is short and to the point to avoid the unprofessional cluttering that all three products demonstrated.

Additionally, it is clear that accessibility should be at the core of our development.

Slide 27

User Profiles

We created a set of three user profiles to better understand our direct users and give us more direction for the demographics we are targeting.

This guided us in designing specific aspects and implementing them effectively.

Slide 28

Persona 1

Jaqueline Chan
"I like TikTok and the internet"
Age: 15
Background: GCSE Student
Lives: Bradford Upper-Arm

Behaviour Patterns:

- Enjoys using technology - apps, social media etc.
- Short attention span
- Prefers visual/interactive learning

Goals:

- Passing GCSEs to allow her to attend college of choice
- Finding a study method that keeps her engaged, productive and motivated

Persona 2

Rachel Avery
"I love going on walks and spending time with my family".
Age: 32
Background: Office worker
Lives: Lewisham

Behaviour Patterns:

- Short Attention Span
- Has ADHD and often forgets to take breaks
- Prefers visual/interactive learning.
-

Goals:

- Wants to increase her productivity at work.
- Wants to find a way to improve her time management.

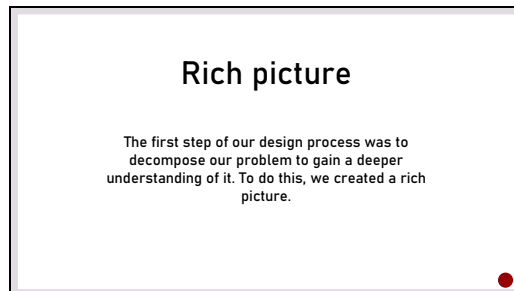
Slide 29

Persona 3 Tom Cook "I love playing video games with my friends and watching 'Ta-Dah!'" Age: 20 Background: Tom is a university student studying Business, he likes to spend time with classmates playing football after university. Likes: Brighton Behaviour Patterns: <ul style="list-style-type: none">• Has a long attention span• Prefers visual/interactive learning• Is very well-organised and likes to have structure to his app• Is a team player Goals: <ul style="list-style-type: none">• Wants to get his assignments done early• Wants to find a tool to help him track his tasks	Persona 4 Oliver West "I love watching YouTube videos and playing PUBG" Age: 17 Background: Oliver is a college student studying computer science, who likes to play guitar in his free time and watch YouTube videos. Likes: Guitar Behaviour Patterns: <ul style="list-style-type: none">• Prefers visual/interactive learning• Has poor organisational skills• Poor time management skills• Prefers to work on his own Goals: <ul style="list-style-type: none">• Wants to spend time making for exams who has coming up• Wants to keep track of tasks who needs to complete before the exam is due• Wants to be able to study and still have time for other activities such as playing the guitar
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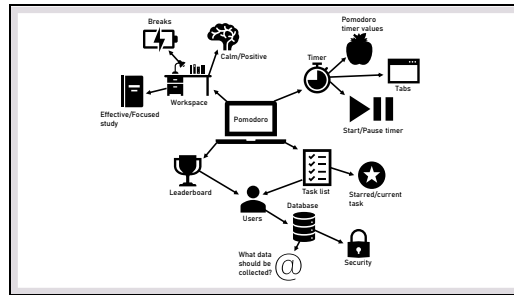
Slide 30



Slide 31



Slide 32



Slide 33

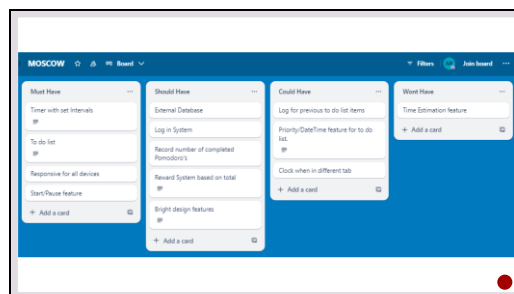
MSCW

After abstracting our problem using a rich picture, we could now create a plan of what we would like to prioritize in our project.

We did this by implementing the 'MOSCOW' prioritization technique.

To do this, we have employed the 'MOSCOW' prioritization technique. Allowing us to ensure our project time is effectively focused on essential areas. Utilising insights from our literature review to accurately place features within the MOSCOW categories.

Slide 34



Slide 35

Wireframes

- We needed to plan out what pages we may need
 - Opted for the SPA approach
- The SPA approach is much quicker and provides a better use experience

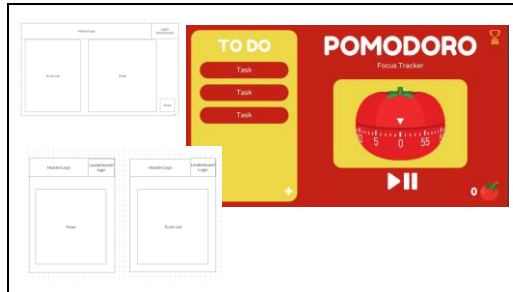
Once we had created our MSCW, we needed to plan what pages we may need.

However, we chose to stick to the Single Page Application (SPA) approach. As it is much quicker and provides an overall better user experience compared to the traditional multiple-page website.

So, we decided to utilize popups instead.

We will have one main page, and popups to allow the user to log in and see the leaderboards.

Slide 36



Slide 37

Product name

- Pomodoro
- Pomo
- PomoTimer

When creating a name for our product, we knew we wanted to include 'Pomodoro' in some sort of way. As this would make it obvious what our product is. Here are three examples of our ideas:

- Pomodoro
- Pomo
- PomoTimer

The idea we concluded with was 'Pomo' as we decided it should be short, snappy and memorable.

Slide 38

Colour scheme

- We wanted to ensure accessibility
- So we decided on a bright/bold colour scheme
- Concluding with a red, yellow, and green colour scheme

For the visual aspects of our product, we wanted it to represent a positive work environment whilst ensuring it is accessible to all users.

To execute this, we decided a bright/bold colour scheme would be the best way forward.

We then concluded with a red, yellow and green colour scheme. These were our colours of choice as we felt they not only fit our requirements but also represented our theme of tomatoes.

Slide 39



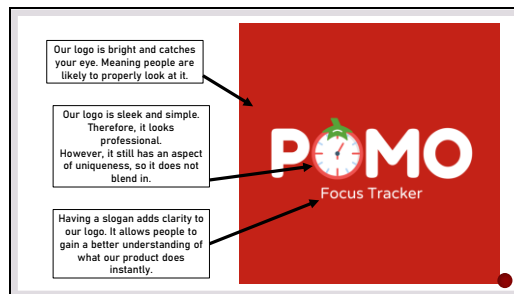
After deciding on a colour scheme, we could start creating a logo.

A logo is a vital part of an industry-standard product as it's the first thing a user encounters, with 94% of user's first impressions being design-related.

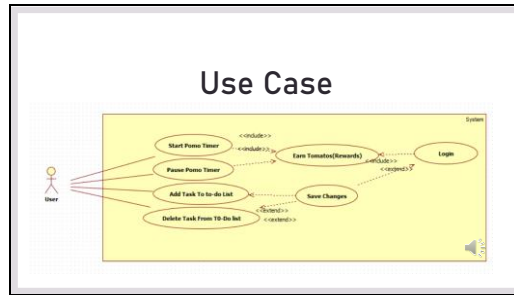
Like our colours, we wanted our logo to represent the ethos of our product. It should reflect a positive working environment.

Using the tool Canva, this was our final product...

Slide 40



Slide 41

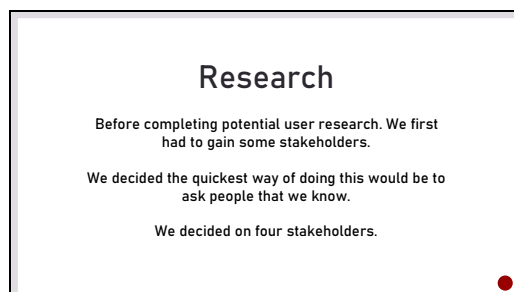


Before development could begin, we first needed to further plan out the fundamental requirements of our product. To do this, we have decided to create UML use case diagrams. Doing this will allow us to create a more robust system. It also allows us to ensure that each member of our team is entirely on the same page with what we expect from our product.

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Slide 43



Slide 44

Stakeholders

- J.R, Sixth form student
- Y.S, College student
- M.B, University student
- C.M, GCSE student




We chose each of these people as we decided each one of them had a unique reason why our product would be useful for them.

Slide 45

Research


We then created a survey for these stakeholders to complete.
This survey included questions about their likelihood to use a product like this and their opinions on our logo and design choices.



Slide 46

Research


Overall, we got very positive feedback from our survey.
Users were particularly fond of our design aspects.
However, it was stated that this is a very saturated market and that we would need to emphasize our unique selling point (USP).



Slide 47

USP

Our USP is the idea of competition and rewards. Our concept is to be able to collect 'Pomodoros' based on the amount of focused work you have done. The aim is for you to get onto the leaderboard and compete against other users. We believe that this will boost engagement levels, as it encourages users to carry on.




Slide 48

Literature Review

As concluded from our initial literature review, we believe accessibility should be at the forefront of our development.

We want to create a product that is both neurodivergent and neurotypical friendly.




Slide 49

Literature Review

We believe that our reward system encourages this diversity.

Particularly individuals with Attention Deficit Hyperactivity Disorder (ADHD).



Slide 50

Literature Review

"Individuals with ADHD are likely to experience problems in academic settings. One cannot expect a child to operate successfully in an academic environment if they are inattentive, disruptive and aggressive, and have problems with working memory, planning and organization."

- ADHD and academic performance: why does ADHD impact on academic performance and what can be done to support ADHD children in the classroom? D. Daley

This article speaks about the academic struggle that people with ADHD experience. Focusing on the struggle to focus.

We believe that our product will aid individuals with ADHD as it will gain their attention from a different perspective. A competitive perspective.

Slide 51

Literature Review

This claim is supported by the following article:

"Improving the Achievement, Motivation, and Engagement of Students With ADHD: The Role of Personal Best Goals and Other Growth-Based Approaches" - Andrew J. Martin

This article discusses the academic benefits of personal best goals for students with ADHD.

Our product encourages personal bests and competition through the use of leaderboards and the collection of POMOS.

Slide 52


Development

Slide 53

Development

Throughout this section, we will be discussing key stages of our development process.

Focusing on any errors we encountered on the way and how we came to solve them.




Slide 54

Roles

When developing, all members of a team must be on the same page.

Trello was key here. As, individual jobs like creating the login form, could be assigned to a team member. This meant all other team members knew this was being handled.




Slide 55

SPA

As stated previously, we have decided to implement the SPA approach. Therefore, our project will only have one main page.

To implement this, in 'index.html' our main file, we have every single aspect of our project located.




Slide 56

SPA

However, this would cause the page to be crowded. With different aspects everywhere. Completely taking away from the minimalistic aesthetic we intend to have.

To solve this, we wanted to implement popups that are opened and closed using buttons.



Slide 57

SPA

This was implemented using both CSS and JavaScript. In the CSS, we created a class called hide. Anything with this class will not appear on the screen.

```
.hide {  
  display: none !important;  
}
```



Slide 58

SPA

When any of the popup buttons are clicked, this class is toggled. Allowing the popup to appear.

```
function popupopenfunction(element) {  
  const popup = document.querySelector("#" + element.getAttribute("data-popup-open-target"));  
  popup.style.animation = "popupopenanimation 0.5s forwards";  
  popup.style.display = "flex";  
  document.body.style.overflow = "hidden";  
}
```



Slide 59

Database

When making the database for our system we uncovered an issue with Brighton Domains, the issue being that Brighton Domains had blocked third party access.

Due to this issue we had to resort to finding a free site called filess.io where we could create a database and link it to our system from there. This turned out to be a suitable approach and did everything we needed it to do.

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Due to this issue we had to resort to finding a free site called filess.io where we could create a database and link it to our system from there. This turned out to be a suitable approach and did everything we needed it to do.

Slide 60

Database

We did however encounter one main issue with our database host.

This issue came to light when we created our leaderboards.

Slide 61

Database

To make our leaderboards we implemented views into our database.

When it came to creating the all-time leaderboard, everything ran smoothly.

	username	score	fullPomoScore
1	filess	10	10
2	john	9	9
3	alan	7	7
4	john	6	6
5	alan	5	5

We simply had to create a view of the username and fullPomoScore, this could then be handled in the main php file.

Slide 62

Database

However, this became more complicated for the weekly leaderboard, as our database host did not support the creation of events.

username	scoreDifference
1. dora	10
2. dora	4
3. dMan	4
4. abbie	3
5. dan	2

```
DELIMITER //
CREATE PROCEDURE "ResetScores" ()
BEGIN
    UPDATE all_score WITH CURRENT fullPomoScore
    UPDATE PomoID_alterity_users
    SET sdscore = fullPomoScore;
END
DELIMITER ;
```

Our plan was to create a view like we did before, however this time rather than the fullPomoScore being shown, it would show the score difference. This score difference is calculated by the procedure, reset scores.

We then wanted to create an event that would trigger this procedure once a week. However, due to limitations, we now have to call this procedure manually.

Slide 63

Weekly leaderboard

It was important to us that we kept our weekly leaderboard. Despite our host not allowing events, as we believe it is a core feature of our product.

Without the weekly leaderboard, new users would find it very difficult to make it onto the leaderboard, and it may put them off our product completely.

The weekly leaderboard ensures all users get a chance and are therefore motivated.

Slide 64

Login/Register

After creating the database, the next step was to make the login and register functions for our site. The first step was to create the login function in PHP, which uses an SQL statement to grab the details of the user with the matching username and password Pomo score, partial Pomo score and secure ID and then return the response as a JSON file for the JavaScript to handle .

The registrar function checks that the details of the user fields are set and confirms the user's chosen password by checking if the password in both input boxes match, if all checks are past then the request is sent to the database as a post request.

After creating the database, the next step was to make the login and register functions for our site. The first step was to create the login function in PHP, which uses an SQL statement to grab the details of the user with the matching username and password Pomo score, partial Pomo score and secure ID and then return the response as a JSON file for the JavaScript to handle .

The registrar function checks that the details of the user fields are set and confirms the user's chosen password by checking if the password in both input boxes

match, if all checks are past then the request is sent to the database as a post request.

Slide 65

Timer Function

The timer works by calling the timer class from the Timer.js file this class contains all of the functions needed to start, stop, setup and reset the timer. When you run the timer, it uses a set order to decide when to use a study or break time amount.

The timer works by calling the timer class from the Timer.js file this class contains all of the functions needed to start, stop, setup and reset the timer. When you run the timer, it uses a set order to decide when to use a study or break time amount.

Slide 66

Pomo Counter

The Pomo counter is set by calling the setPomoCounter function in the base.js file. When a user logs in, this function is called, which loads the current Pomo score and then calculates the user's current progress using the setPomoCounterProgress function.

The Pomo counter allows a partial Pomo score, so if the user must stop during a session, they are still rewarded for their work.

The Pomo counter is set by calling the setPomoCounter function in the base.js file. When a user logs in, this function is called, which loads the current Pomo score and then calculates the user's current progress using the setPomoCounterProgress function.


The Pomo counter allows a partial Pomo score, so if the user must stop during a session, they are still rewarded for their work.

Slide 67

To-do list

Our system's to-do list uses the database to retrieve users' tasks and display them depending on who is logged in. On the to-do list, users can add, edit, and delete their tasks, which in turn modifies the database.

Each to-do list item also has a checkbox on it which when ticked will mark the task as complete and remove it from the user's screen as well as the database.



Slide 68


Security Analysis

Slide 69

Security Requirements

We first had to establish some basic security requirements for our system. We thought the best approach would be to follow the CIA method:

- Confidentiality
 - Integrity
 - Availability



Slide 70

OWASP Attack

We found it beneficial to conduct an OWASP ZAP attack on our system. OWASP is a community driven organisation focused on improving the security of software. Using this tool allowed us an insight into any vulnerabilities present on our system. By identifying these vulnerabilities, we were able to try and address them, thereby enhancing the overall security of our system. Aswell as using OWASP we were naturally able to find some exploits within our system.

Find some stats

Slide 71

OWASP Results

Summary

- > # Directory Browsing (4)
- > # X-Frame-Options Header Not Set (5)
- > # Absence of Anti-CSRF Tokens (25)
- > # Cross-Domain JavaScript Source File Inclusion (5)
- > # Incomplete or No Cache-control Header Set (5)
- > # X-Content-Type-Options Header Missing (13)
- > # Information Disclosure - Sensitive Information in URL (4)
- > # Information Disclosure - Suspicious Comments (6)
- > # Timestamp Disclosure - Unix

This is the results from the ZAP attack that we carried out. From these vulnerabilities we can see that we have no serious vulnerabilities that could be exploited. As we didn't have a lot of time left, we decided not to take any actions on these vulnerabilities as there was no high risk of them being exploited.

Find some stats


Slide 72

Security Implementation

Slide 73

Access Control Policy

For our system, we decided that the best access control policy to use was Identity-Based Access Control (IBAC). IBAC is a control module in which users are given specific access based on their identity. This was used as our system uses a simple login system that requires a username and password linked to a database.



Slide 74

Hashing Passwords

We knew it was important that user passwords were kept secure within our database, so we implemented a security measure called hashing. For this task we used SHA-256 encryption. We picked SHA-256 because it is one of the safest ways to protect passwords and is widely recognised as a robust method for protecting passwords.




Find some stats

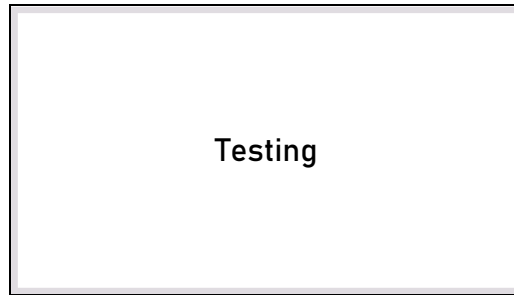
Slide 75

Secure User ID's

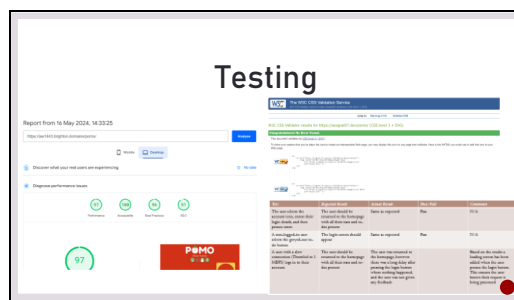
During testing of our system, we found an exploit where users could cookie hijack and access any account using just a username. To combat this, every user record in our database now includes a field called 'secureID' which contains a random 32-character sequence of letters. This extra layer of security helps to prevent cookie hijacking, which could allow an attacker unauthorized access to other user accounts without a password through the developer tools as long as they have an accounts associated username. The database then compares the username and 'secureID' together to verify the user's identity.



Slide 76

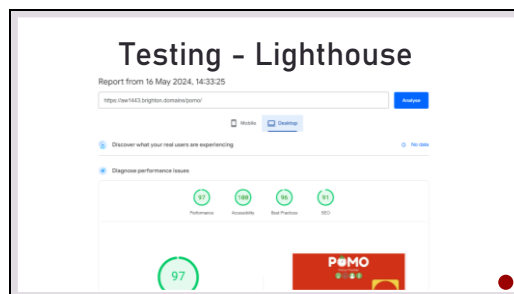


Slide 77



Throughout the development of our site, it was essential to test regularly to ensure any changes made did not break the site's functionality and that any additions were working as intended. To aid us in testing our site, we used several online testing tools to check its compliance with certain standards.

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One of the tools we used to test our site was Lighthouse by Google. Lighthouse runs a set of different audits against the site to check its performance, accessibility, best practices, and search engine optimization. As can be seen from the results, our site scored highly on all categories and did so on both desktop and mobile. We used Lighthouse during the development of our site to see how we could further improve it based on the feedback provided by the tool.

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Testing – HTML AND CSS VAILDATOR

During the development of our site, we also used the W3C CSS and HTML validation tool to check that our code was compliant with HTML and CSS Standards.

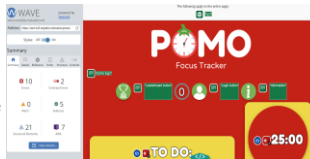


During the development of our site, we also used the W3C CSS and HTML validation tool to check that our code was compliant with HTML and CSS Standards

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Testing - Accessibility

Some examples of the sites we used where the Wave accessibility evaluation tool (<https://wave.webaim.org/>) and Access Scan (<https://accessibe.com/accessscan>).



During the development of our site, we used various accessibility testing tools to ensure compliance and guide us on any additional measures we could take to comply with the Web Content Accessibility Guidelines (WCAG).

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Testing – BlackBox Testing

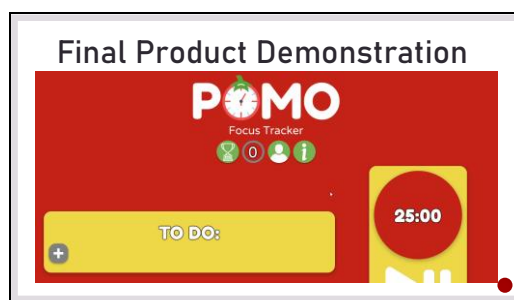
Test	Expected Result	Actual Result	Pass/Fail	Comments
The user selects the account icon, enters their login details, and then presses enter.	The user should be returned to the homepage with all their stats and to-dos present.	Same as expected	Pass	N/A
A non-logged-in user selects the greyed-out to-do button	The login screen should appear	Same as expected	Pass	N/A
A user with a slow connection (Throttled to 1 Mbps) logs in to their account.	The user should be returned to the homepage with all their stats and to-dos present	The user was returned to the homepage, however there was a long delay after pressing the login button where nothing happened, and the user was not given any feedback		Based on the results a loading screen has been added when the user presses the login button. This ensures the user knows their request is being processed

During the development of our site, we carried out black box testing. For testing the site, we wrote down a series of tests detailing the steps the user needs to make, the expected result and the actual result from running the tests.

Based on the results of black box testing, we made changes to ensure that all aspects of the site were working as expected.

During the testing, we did encounter multiple unexpected issues, which we then had to resolve; an example can be seen above in the third test where there was an issue with user feedback discovered on slower internet connections.

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homepage

"This is the homepage of our site and is the first thing the user will see when they load the site, a user that is not logged in can still use the timer as normal and increase their Pomo score however their stats will not be saved when they leave the page, a non-logged in user also cannot add to-do items and click on the grey plus sign with take the user to the login page"

Clicking the information button

"The user can get steps on how to use the site and information regarding the Pomodoro technique by pressing the information button and scrolling through the steps, once the user is finished they can close the window by clicking the green x "

Clicks the profile button

"The user can press the profile button to access the login screen, where they can enter their login details. Once the user has logged in, their stats are loading, showing the user's button on the Pomo counter "the user can start and stop the Pomo timer using the stop-start buttons, when the timer runs out,

the user gets a 5-minute break and once the user

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Were we successful and why, critical review

During the development of our site, many areas went well:

- We Used various industry standard tools to aid in product management and meet deadlines.
- We completed all the "musts" and "shoulds" from the initial plan we made using the Moscow technique.
- We Used industry-standard tools for version control and testing during development.

Throughout the creation of our group project, we have used various tools to aid us in our development. We have extensively used tools such as Trello to organise and assign tasks and meet deadlines; we have also used weekly meetings to discuss the next steps in product development, where we would assign tasks to each user on Trello and give them deadlines to complete the task.

Additionally, we planned our site before beginning the development by carrying out literature reviews, seeing what was available on the market and deciding what features we would want our site to have; researching different aspects, such as the site's design and how we wanted each section of the site to function using wire diagrams. This helped ensure that all team members had the same vision for the product and, therefore, knew what needed to be done to achieve the finished product.

We have also used industry-standard version control software, GitHub, to allow us to collaborate on the project using branches to separate

each addition made to the site during development.

Furthermore, we used the information from our literature review to create a Moscow plan and prioritise the order in which we would start working on the site's features based on their necessity. By doing this, we have been able to work on the project collectively and meet all the targets we had set ourselves to complete by the end of the given time.

Finally, due to extensive testing throughout the site's development stages, we have a well-refined product. Using standard compliance checking tools such as CSS Validator, HTML Validator, Accessibility compliance tools, and white box testing, we have been able to resolve any issues, make any improvements suggested by the tools, and resolve any inconsistencies in the site's operation.

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Where we could have improved, critical review

Although overall the project has been a success there are certain areas which could be improved.

- Time management And Planning Tools.
- Improvements to the implementation of the leaderboard
- Better use of GitHub Features
- More Extensive Testing Approaches
- Implement Medals And Rewards.

Although we feel the project has succeeded overall, certain areas could be improved.

First, during the site's development, we were told to use something other than Gantt charts to manage our time. However, a Gantt chart would have been preferable, in addition to using tools such as Trello for task assignments, as having a visual reference for targets, even if they weren't met, would help us to see how far

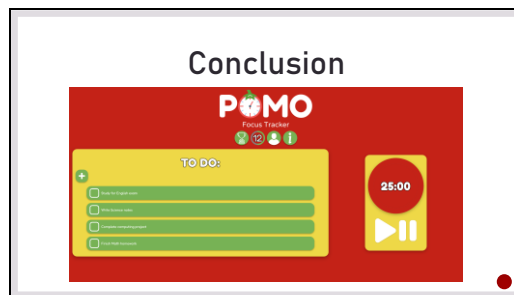
through the development we should be at specific dates.

Additionally, although the leaderboard works excellently, implementing the weekly leaderboard is problematic due to a lack of support for event creation from the hosting site. Therefore, the leaderboard's resetting currently needs to be done manually.

Furthermore, we could have performed more extensive testing while developing our site and used a larger variety of tools to aid the site's testing.

Finally, we could have implemented rewards and medals. Currently, the only rewards users get are the Pomo counter score and being on the leaderboard.

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Overall, the project has been a major success, We have all worked collectively to create a product that is beyond the required specification and have met all our targets. We have demonstrated great teamwork and have collectively worked on all aspects of the project. However we acknowledge there may be some changes in the way we would approach the task in any future projects.

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Appendix 1

Meeting minutes 19/02

In attendance: All


- Discuss user profiles/personas – have at least 3, A-level student, Uni student & adult learner
- Consider human-centred dev
- Research Pomodoro technique
- Agreed on the basic layout for UI, including colour scheme and basic logo design
- Researched similar ideas apps – heggarty matrix, pomodoro timer, Focus to do, decided we wanted something more colourful and engaging, something with a competitive/leaderboard type feature.
- Wrote out MoSCoW plan for the program

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Meeting Minutes, 26/05/2024

Attendees: Aisha Red, Alan Carter, Alex Ward, Tom Parker, Dave Gargner

- Agreed on the task requirement template.
- Attached task template – provided template to Felix
- Lead to requirements
 - User story
 - User role
 - Context to help build or completed theme
 - Lead to story
 - Visual confirmation story
- Design thinking 101



- UI/UX team to make sure we follow
 - User story and role of our system, needs to be able to delete after 5 years for those user creation date.
 - Accessibility
 - Data compliance – all data coming back to back
 - Data compliance to check legal compliance
- Before next week we will have designed basic UI, finished first group of task requirements and further considered user requirements.

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Minutes 22/03

Attendance: All

- Agreed design of first draft for database, Tom & Dara to create over the easter break
- Agreed some slight tweaks to UI design, All to action over Easter break
- CSS to be reviewed and slimmed down

Minutes 01/04

Attendance: All

- Agreed to have the login/register functions completed by next week
- CSS slimmed down further

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Minutes 08/04

Attendance: All

- Changes to be made to fix the layout of the site to be completed by next week
- Slim down the JavaScript and format to make easier to read.
- Add animations to site for the to-do items

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Minutes 16/04/2024

Attendance: All

- Database created – some issues getting the log in to work properly. Abbie & Alex to try and resolve
- Presentation – We can record the presentation and submit that, we all agree to do that, we will finalise documents etc. and record together
- Confirm the timer works in relation to the partialPomoCount, updates to database when pomo completed etc.
- Supporting docs for presentation: User Profiles (add personas?), Usability Requirements, Sketch of UI, some sort of testing proof, collate meeting minutes, MOSCOW (perhaps reformat into document), UML

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Minutes 29/04
Attendance: All

- Finalised some more CSS
- Decided to use minified CSS and JS files
- Database tested locally and working. Changes need to compound primary key of tasks table to make looping through easier
- Hashing passwords needs to be implemented, currently passwords stored as literal strings in database
- Will all continue to add to the presentation

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Minutes 13/05
Attendance: All

- Have agreed some minor tweaks to colour scheme. Colour of login boxes. Colour of to do background box.
- Random generated userID to prevent logging in through cookies added to database.
- Weekly leaderboard code written, struggling to implement as host not allowing events to be triggered. Will look into work arounds
- Agreed to finalise presentation and record on Thursday 15th.

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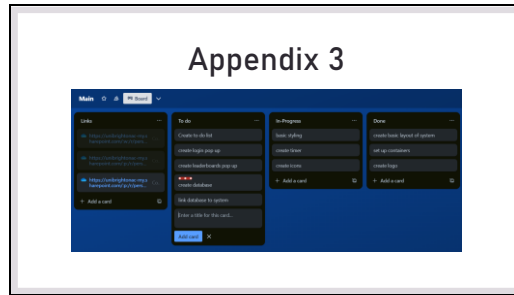
Appendix 2

<https://github.com/acegoal07/pomo>

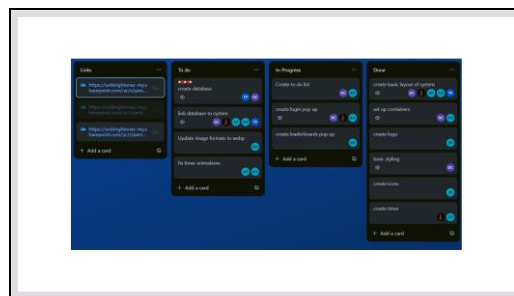
<https://aw1443.brighton.domains/pomo/>

Note: The GitHub repository is missing a file called 'index.php'. This is for security reasons as it contains database login information.

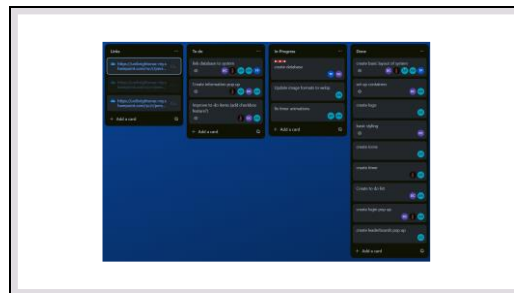
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