Real or No Real

Part 1
Project Concept: Real or No Real.

What Are You Building?
The concept behind this application derives from an importance for young people to develop digital literacy skills in the face of transcending technology. According to Ofcom's 2022 Online Nation report, fake or deceptive images and videos including deepfakes are in the top 20 online potential harms encountered by UK(Admin, 2022).

Deep Fakes can lead to manipulation, bullying, sexual harassment, extortion and exploitation. Thus, it is important that children grow up with a means to protect themselves, analyse, question and challenge the things they see on the internet.

We aim to develop an interactive educational platform focusing on deep fake awareness and the associated risks. The platform will consist of an engaging web application that educates secondary school students about deep fakes, their implications, and how to identify them.

The gamification of learning has been highlighted as increasing performance levels, engagement, motivation and improving memory and recall in students across the world (Verma, 2023). As a result, we have chosen to include the pedagogy of play in our application. It will consist of an interactive quiz and a game where users have to select the deep fake out of a number of images. By using this method we hope our application will induce a state of flow within our target market resulting in increased memory retention of the subject matter.

Target Audience
The target audience for this application is secondary school pupils aged between 12 to 16 years. The goal is to educate them about deep fakes, improve their critical thinking skills, and raise awareness about the potential dangers of manipulated media.

Work Methodology and Tools

Team Composition

- 2 x Frontend Developers (responsible for React-based UI/UX design and development) *- Elaine and Gemma*
- 2 x Backend Developers (tasked with Node.js, Express, and DB for server-side logic, API integration, and database management) *- Cat and Thaires*
- 1 x Project manager (Assigned with taking minutes in meetings, creating deadlines in and assigning tasks in Asana) *- Gemma*
- Application design and development decisions will be made collectively within our weekly meetings *- all of us*

Task Allocation

Whole Team

- Research and create the interactive educational content, complete the Activity Log, collectively make decisions, raise Issues, and come up with solutions.

Frontend Team

- Design and develop the user interface, quiz modules.
- Ensure a seamless and intuitive user experience.

Backend Team

- Build the server-side logic, research and potentially handle API integrations for deep fake analysis services.

Workflow:

- Concurrent development with regular sync-ups and code reviews between frontend and backend teams.
- Agile methodology with sprints and regular stand-up meetings to track progress and address any bottlenecks.
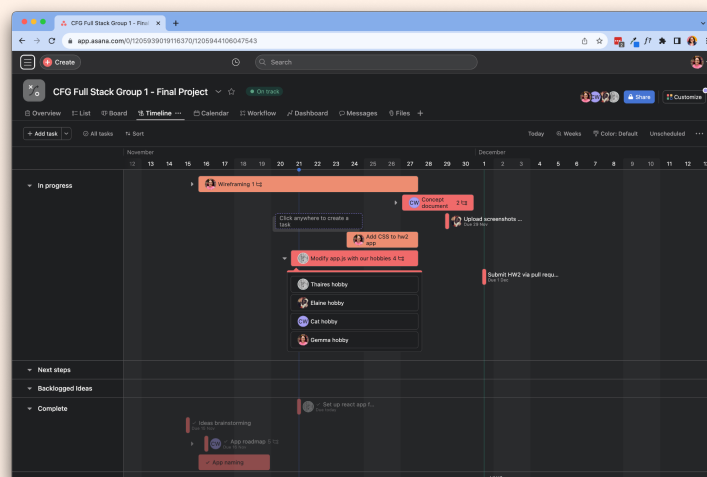
Development Tools

Frontend
React.js for UI development, HTML/CSS for styling, possibly additional libraries for interactive elements.

Backend
Node.js with Express for server-side scripting.

Version Control
Git and GitHub for code versioning and collaboration.

Communication
Slack (verbal), Miro(visual)
Workload Organization
Asana

Main Features of the Project

Due to our small team and limited time frame, we will be using MoSCow Method in order to prioritise the main features of our application.

User Authentication: Implement secure login/register functionality for user accounts. ©

Interactive Quiz: Develop an engaging quiz module to educate users about deep fakes and their implications.(M)

Real or No Real Game: Users will be challenged to select the deep fake out of a number of images. (M)
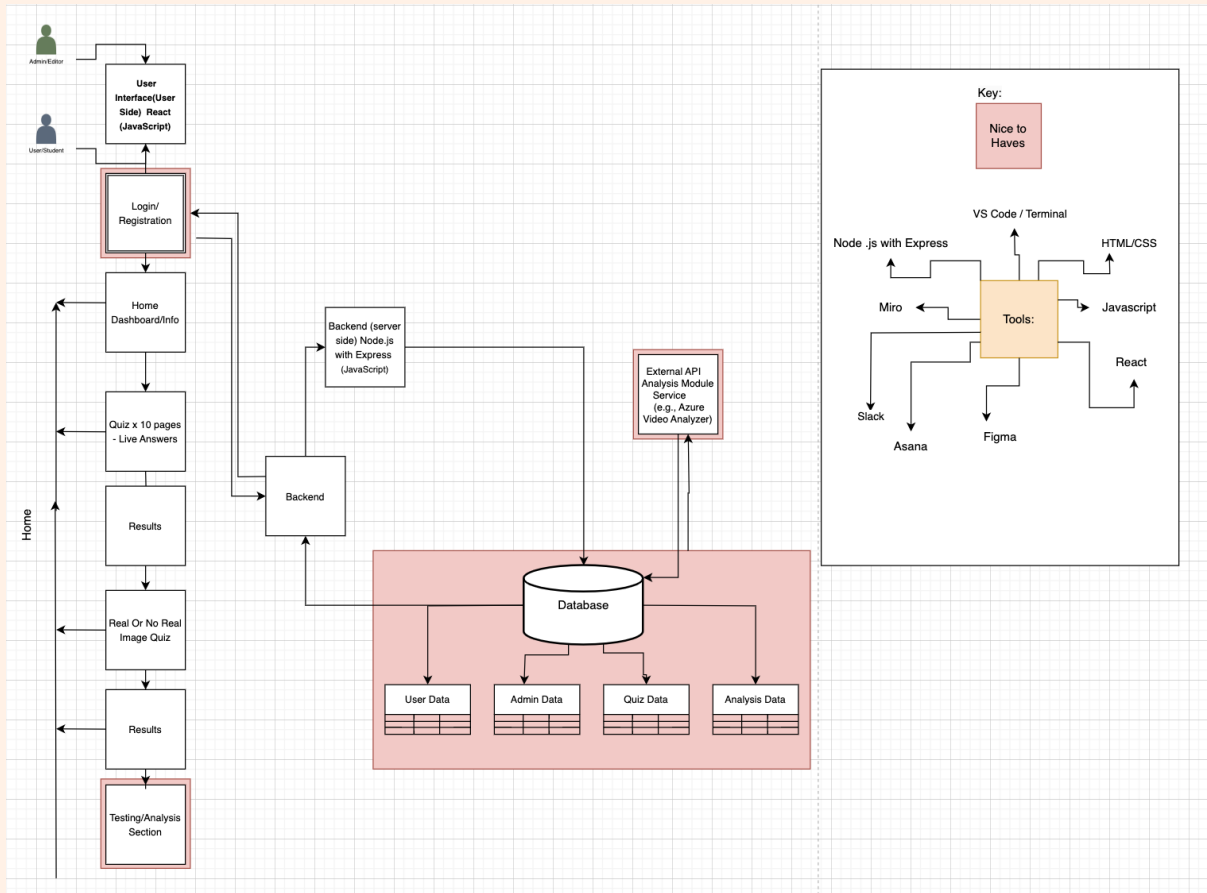
Deep Fake Analysis Integration: Basic integration with external APIs (e.g., Microsoft Azure's Video Analyzer) for initial analysis of media files.(W)

User Dashboard: A simple dashboard to track quiz progress and completed modules.(C)

Responsive Design: Ensure the application is responsive and accessible across different devices and screen sizes.(M)

This project aims to create an educational platform providing secondary school students with valuable insights into the world of deep fakes, fostering critical thinking skills, and enhancing their digital media literacy in a changing digital landscape.
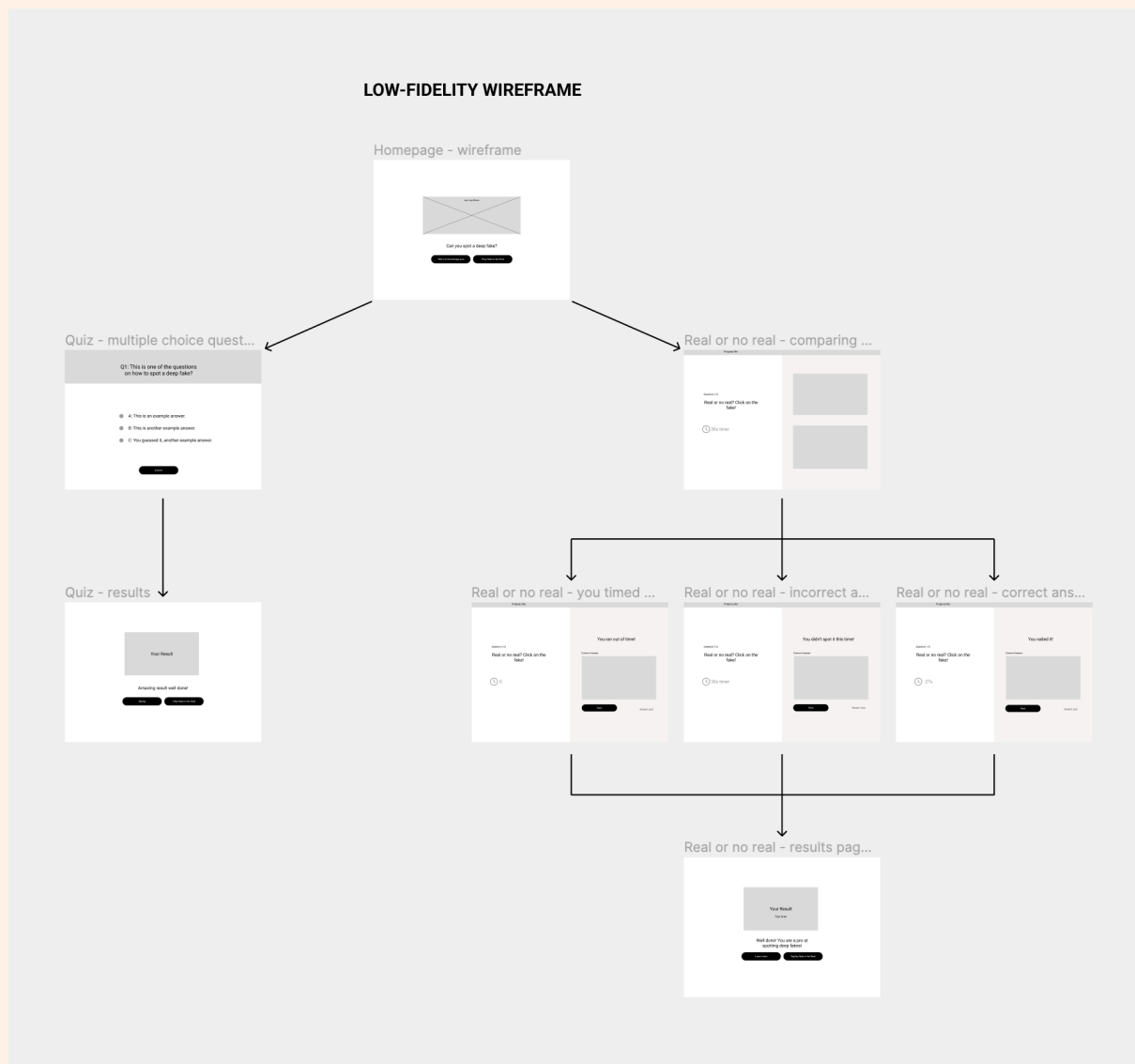
App Roadmap

Admin/Editor

User/Student

User Interface(User Side) React (JavaScript)

Login/ Registration

Home Dashboard/Info

Quiz x 10 pages - Live Answers

Results

Real Or No Real Image Quiz

Results

Testing/Analysis Section

Home

Backend (server side) Node.js with Express (JavaScript)

Backend

External API Analysis Module Service (e.g., Azure Video Analyzer)

Database

User Data

Admin Data

Quiz Data

Analysis Data

Key:

Nice to Haves

VS Code / Terminal

Node .js with Express

HTML/CSS

Miro

Tools:
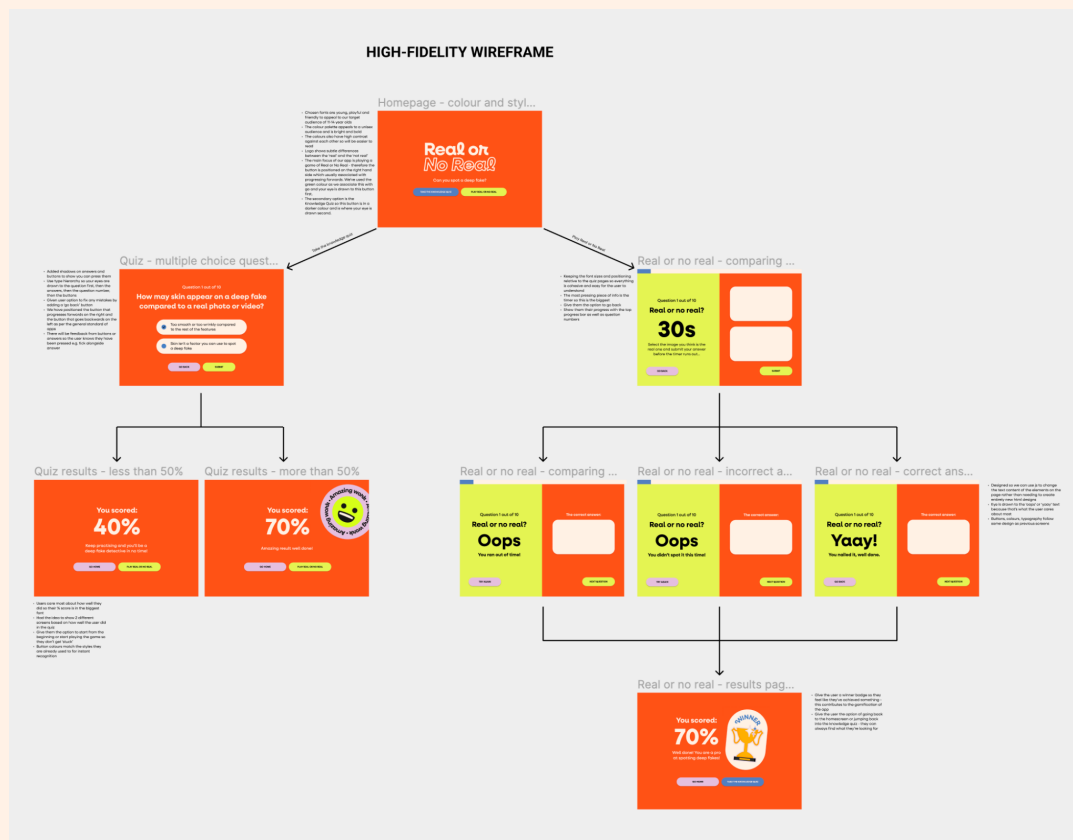
Javascript

Slack

React

Asana

Figma
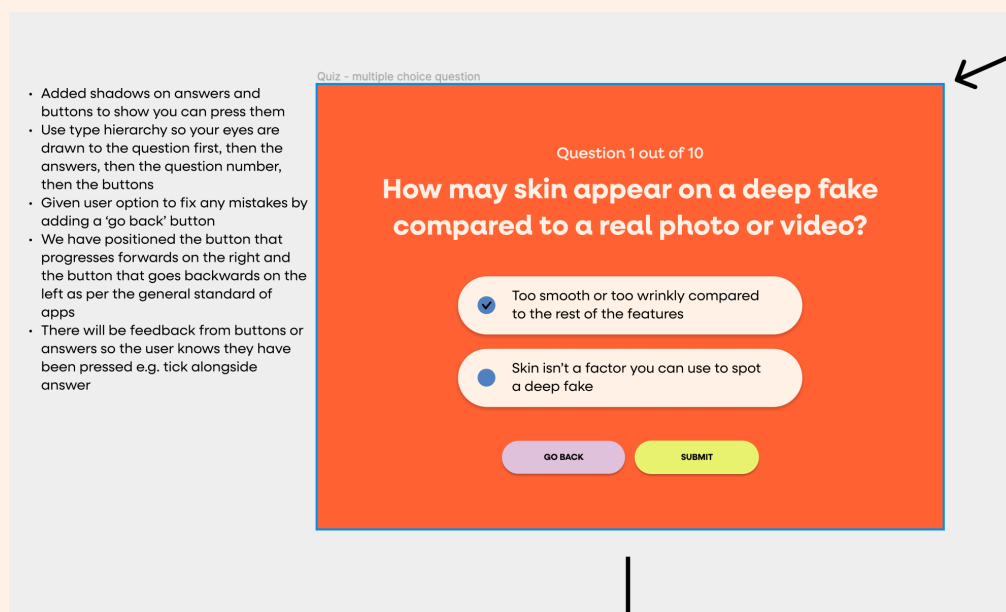
Part 2
Wireframing

Low-fidelity wireframe

We started with a low fidelity wireframe to decide which elements each page would need and where to position them.

High-fidelity wireframe

We began to add colour and branding to our wireframe and make decisions about what would be the easiest for our users to use. We thought about the Norman Door approach when arranging buttons and used type hierarchy to draw your eyes to the certain parts of the page in a specific order.


• Added shadows on answers and buttons to show you can press them
• Use type hierarchy so your eyes are drawn to the question first, then the answers, then the question number, then the buttons
• Given user option to fix any mistakes by adding a 'go back' button
• We have positioned the button that progresses forwards on the right and the button that goes backwards on the left as per the general standard of apps
• There will be feedback from buttons or answers so the user knows they have been pressed e.g. tick alongside answer

Quiz – multiple choice question

Question 1 out of 10

How may skin appear on a deep fake compared to a real photo or video?

Too smooth or too wrinkly compared to the rest of the features

Skin isn't a factor you can use to spot a deep fake

GO BACK   SUBMIT

Parts 3 and 4

React App and GitHub

[ACCESS GITHUB REPO]

We initiated a new GitHub repository named 'CFG-full-stack-group-1-final-project' and implemented a branching strategy to facilitate collaborative development. The 'homework-submission' branch was used as the main development branch for this initial phase of the project. Team members created individual branches to work on their assigned features independently. Team members then conducted pull requests before merging their branches.

We achieved a collaborative and streamlined development process using GitHub and successfully integrated individual contributions into the 'main' branch. The project can be seen running on local host in this screenshot:
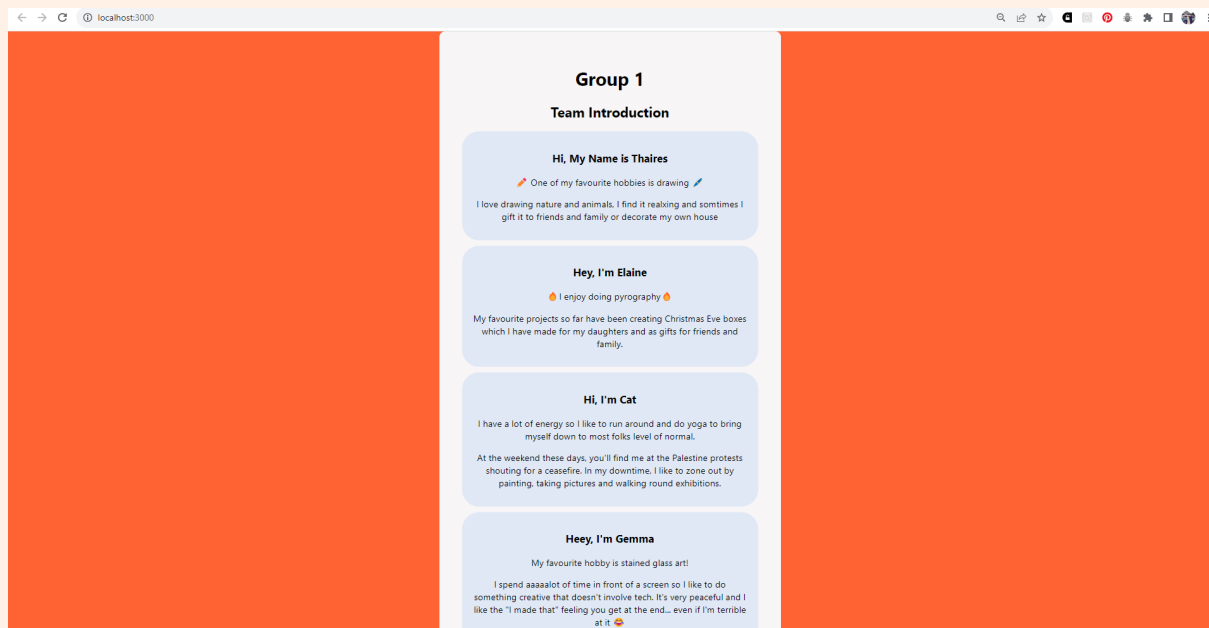
References

Admin (2022) A beginners guide to deepfakes, Safer Schools. Available at: https://oursaferschools.co.uk/2022/07/20/a-beginners-guide-to-deepfakes/ (Accessed: 20 November 2023).

Verma, N. (2023) *How effective is gamification in Education? 10 case studies and examples*, *Axon Park*. Available at: https://axonpark.com/how-effective-is-gamification-in-education-10-case-studies-and-examples/#:~:text=It%20was%20found%20that%20challenge,the%20students%20increased%20by%2034.75%25. (Accessed: 20 November 2023).