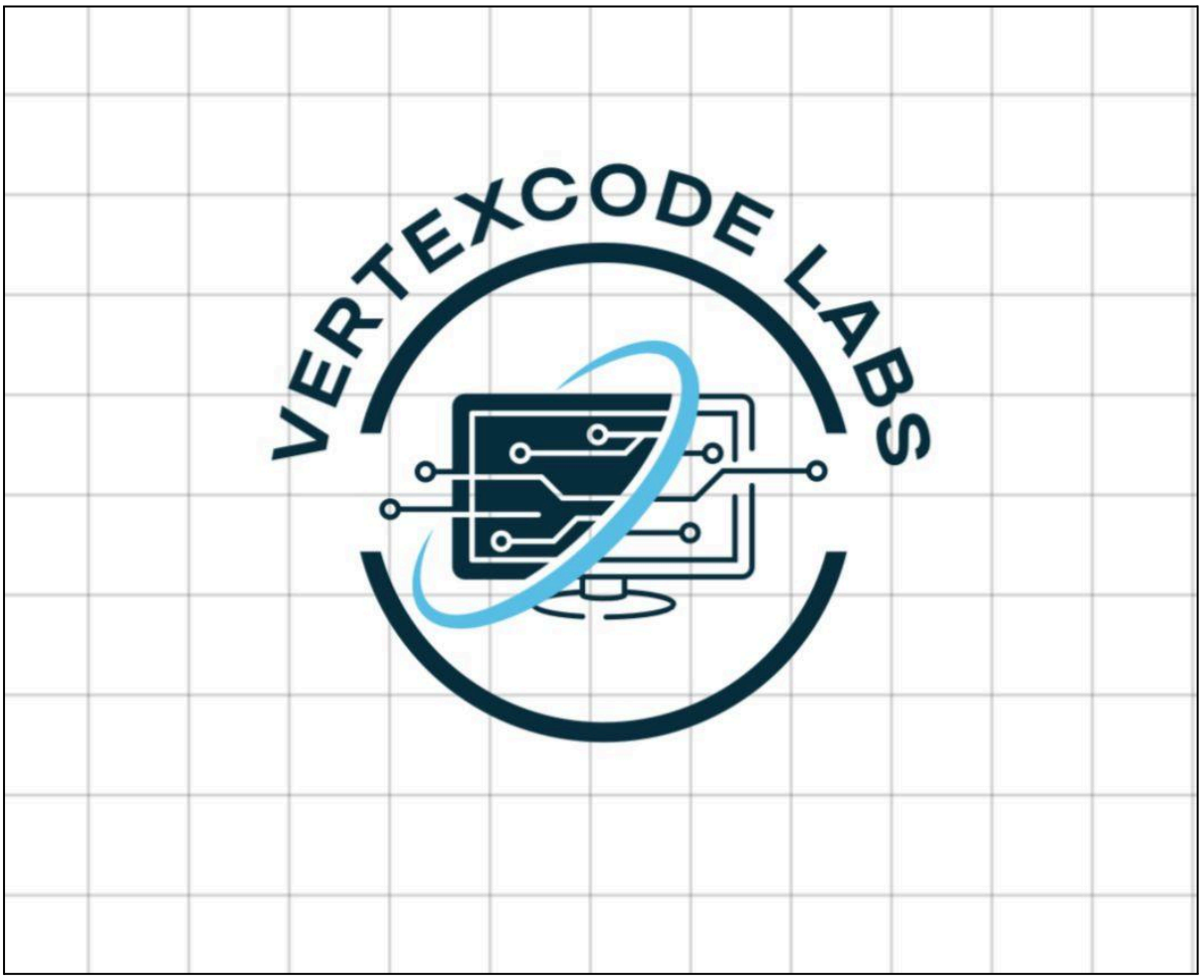
Cheshire Home Queensburgh Wills App documentation

Cover Page

The Group name and members

Group/Company Name: VertexCode Labs

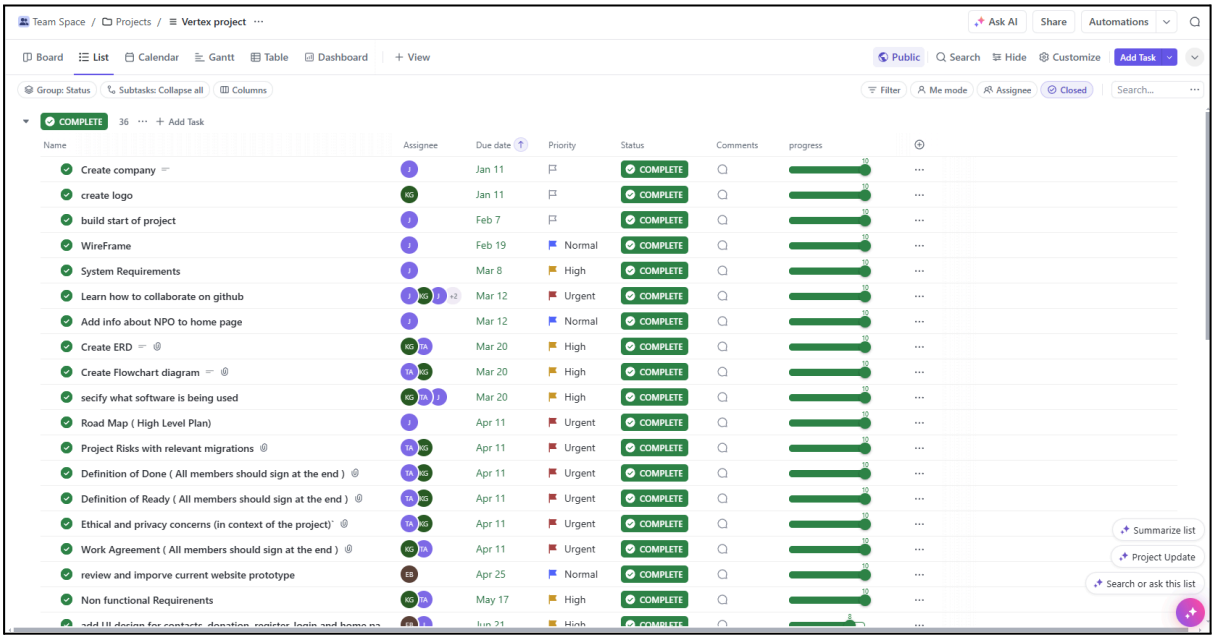


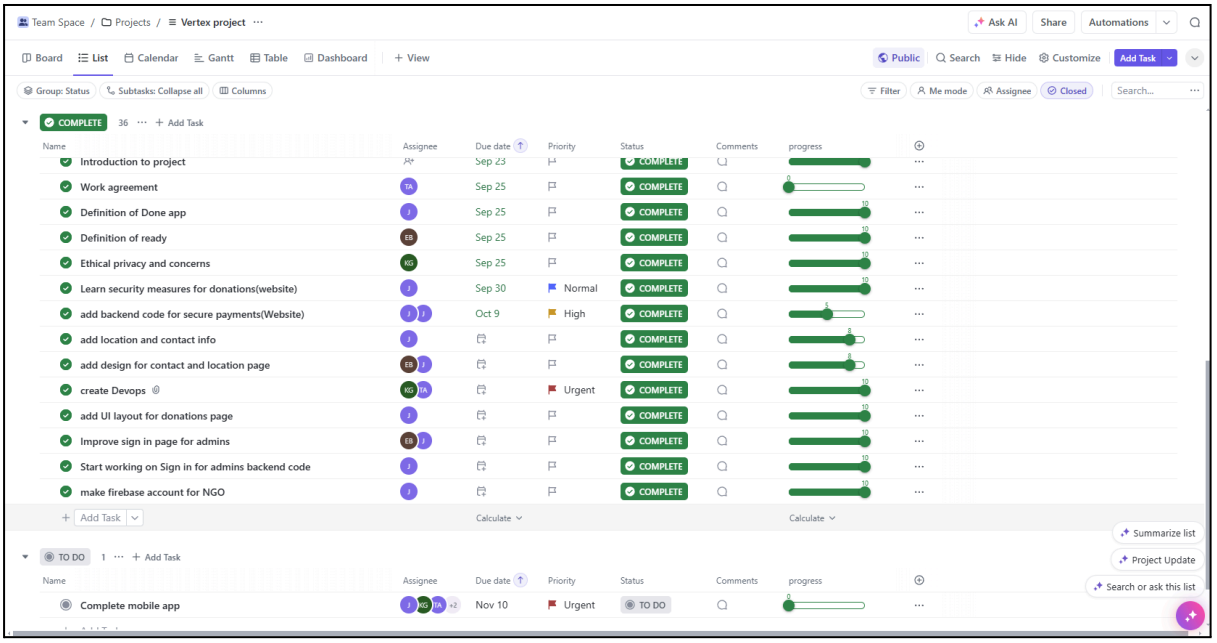
NGO: Cheshire Home Queensburgh

Group Members:
Jordan Reddy (Leader)
Tyrell Anthony (Vice Leader)
Kirath Govender
Ethan Beckx
Johan Frans Kleyn

Scrum Board(ClickUp)

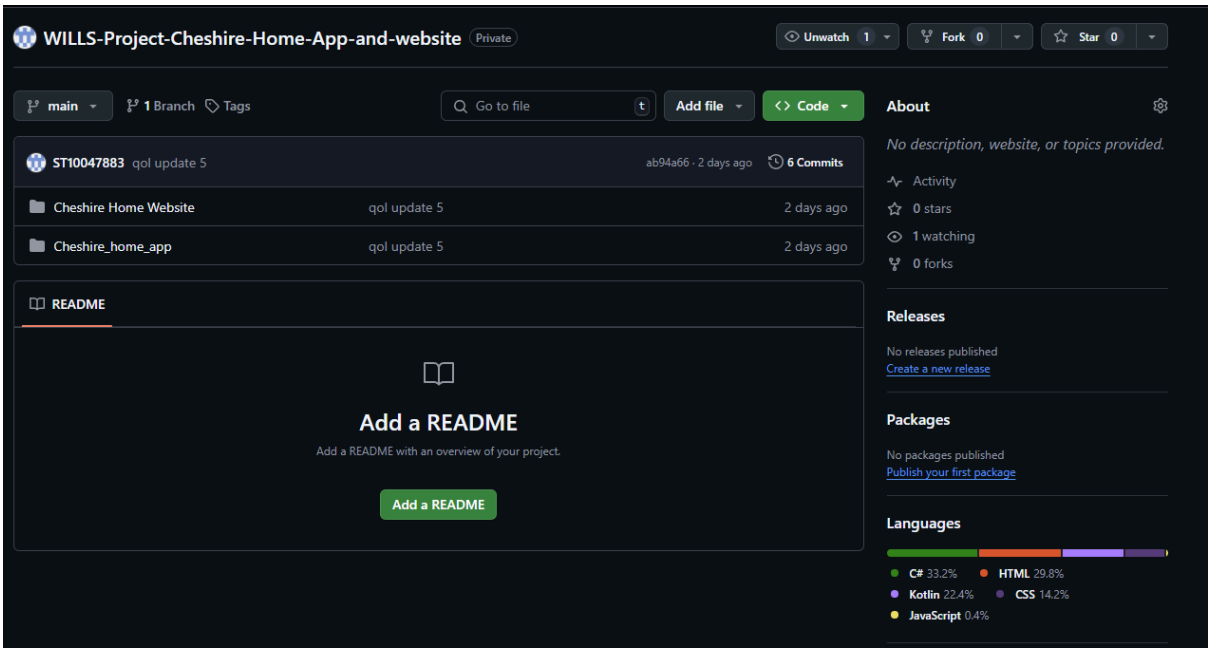
URL Link:
https://sharing.clickup.com/9015308620/l/h/8cnncac-375/6a3462cf5ade880

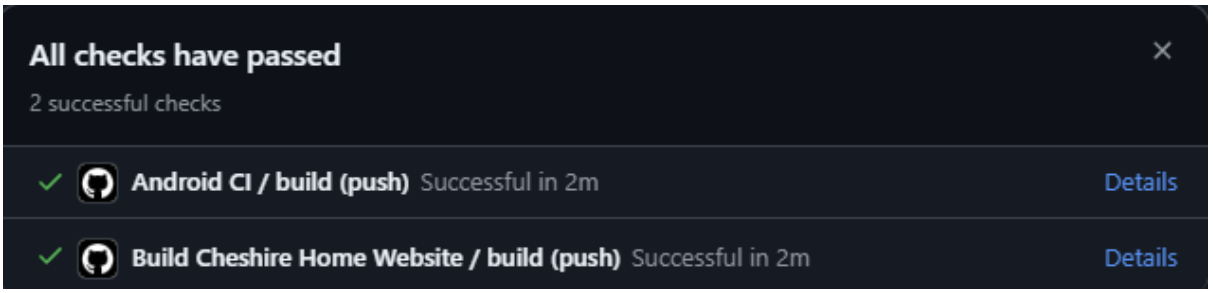




The Source code repository

GitHub repository link:
https://github.com/ST10047883/WILLS-Project-Cheshire-Home-App-and-website.git

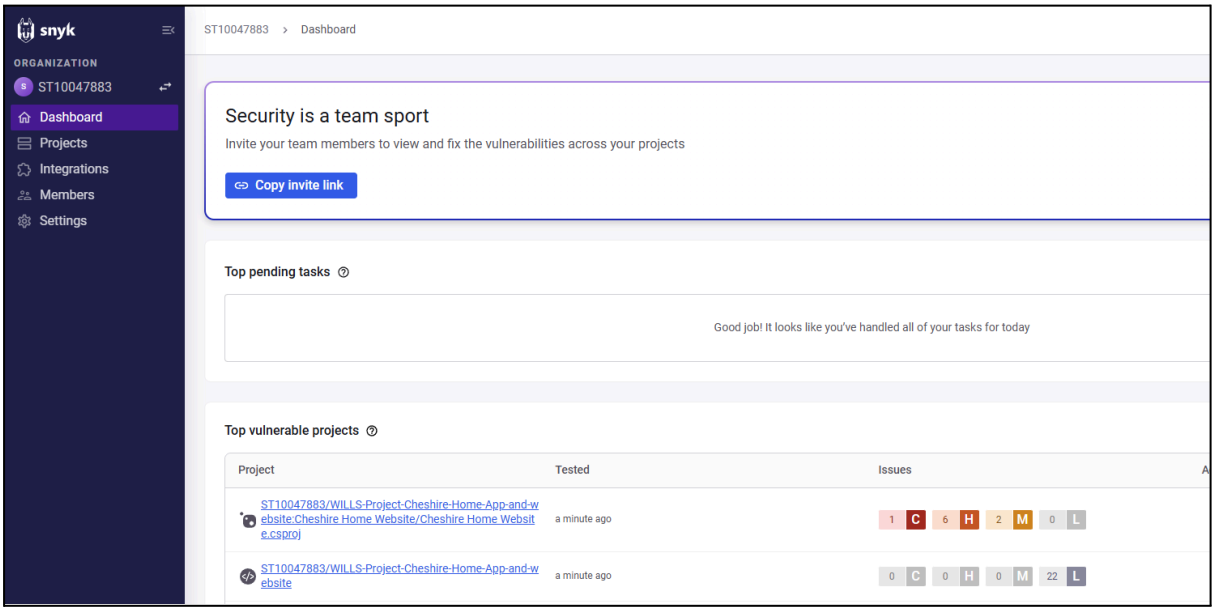


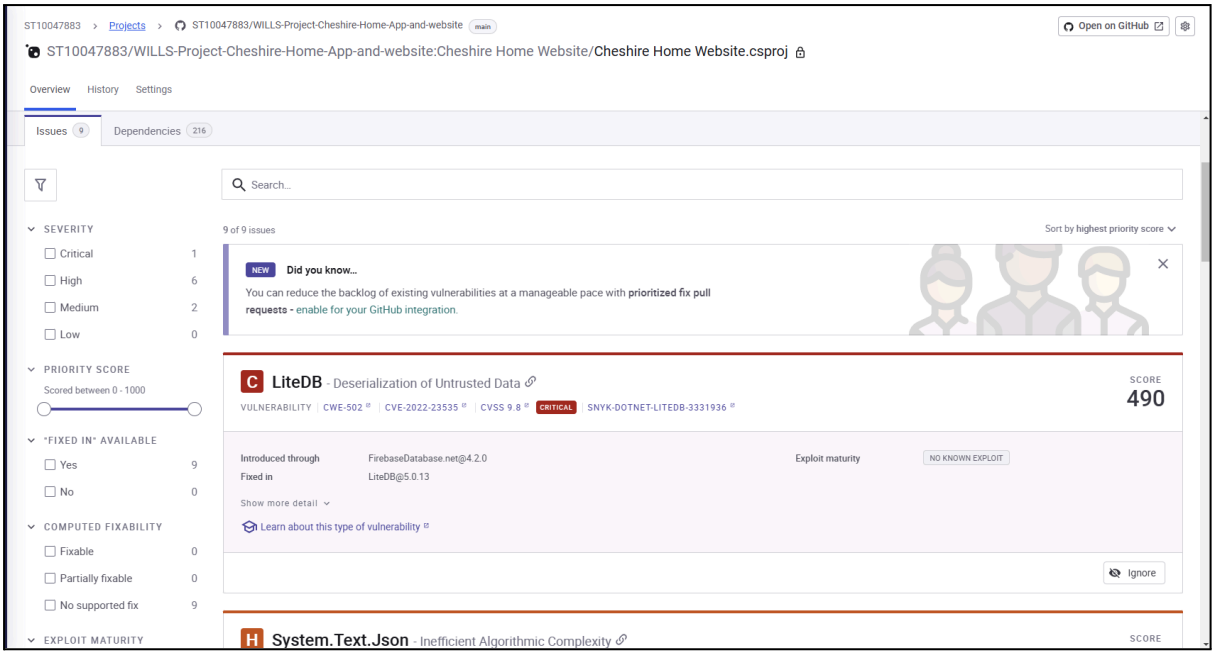


PS. The repository is set to private due to key security reasons!!!

The Security Report

Snyke Link: https://app.snyk.io/invite/link/accept?invite=595c26b1-41bd-493b-bd01-6656ba6bea5b&utm_source=link_invite&utm_medium=referral&utm_campaign=product-link-invite&from=link_invite





PlayStore URL

https://play.google.com/store/apps/details?id=com.jreddy.cheshire_home_app

https://play.google.com/apps/testing/com.jreddy.cheshire_home_app

Table of contents

Introduction to project

To improve connectivity, accessibility, and support for an assisted living facility devoted to the care and wellbeing of senior citizens, the Queensburgh Cheshire Home mobile application is being built. By making it easier for volunteers, the general public, and administrative personnel to obtain information and services about the Cheshire Home, this application hopes to increase community support and involvement.

The public now finds it difficult to interact with the Cheshire Home's offerings, make donations, and obtain general information, particularly because a large portion of the material may only be available through in-person visits or basic outdated static websites. By making the home's mission, beliefs, and activities easily accessible through mobile technology, the application seeks to address this issue and enable both increased user engagement and a wider reach.

Key features of the app include a "Donation" page for streamlined contributions, an "About Us" section that shares the mission and values of the home, a "Privacy" page explaining data security practices, a secure login system for administrators to manage and update content, and a gallery showcasing images and events to foster community engagement.

By providing these features, the Cheshire Home app not only facilitates donations and efficient management but also offers an insightful look into the home’s operations. This makes it easier for individuals and organisations to support the Cheshire Home and understand the positive impact of their contributions on the lives of elderly residents. In this way, the app is positioned as a vital tool to strengthen the connection between the home, its supporters, and the community.

Work Agreement

Project Title: Cheshire Home

Project Overview: This agreement outlines the roles and responsibilities of each group member for the development of the mobile app for Cheshire Home. All members will contribute to both documentation and coding tasks, with specific responsibilities assigned to ensure efficiency.

Group Members:

- Jordan Reddy (Leader)
- Tyrell Anthony (Vice Leader)
- Ethan Beckx
- Kirath Govender
- Johan-Frans Kleyn

Agreed Responsibilities:

1. Documentation
All Members

- All members will contribute to the project documentation, ensuring it is comprehensive and up-to-date.
- Specific tasks will be assigned to each member.

2. Mobile App Development (Coding)
All Members

- All members will participate in coding and development of the mobile app using Android Studio.
- Specific coding tasks, such as frontend design, backend development, or feature testing, will be assigned to each member.

3. Project Management:

Responsible Member: Jordan Reddy

- Coordinate tasks and deadlines among group members.
- Ensure timely completion of project milestones.
- Communicate updates and information to the team regularly.

Work Agreement Guidelines:

- All group members agree to actively participate and contribute to their assigned tasks.
- Group meetings will be scheduled regularly to discuss progress and address any issues.
- Communication will primarily be through [WhatsApp].
- Deadlines for tasks and deliverables will be set and adhered to by all members.
- In case of any challenges or delays, members agree to communicate promptly and seek assistance as needed.

Signatures:

We, the undersigned, acknowledge and agree to the above work agreement for the successful completion of the group project.

- Jordan Reddy ……
- Date: …10/22/24……..

- Tyrell Anthony …….
- Date: ……..

- Ethan Beckx ……
- Date: ……..

- Kirath Govender …….
- Date: ……..

- Johan-Frans Kleyn ……
- Date: ……..

Definition of Ready (DoR)

(meenakshi, 2024)

Requirements: Each task or feature is clearly described and is thought out and ready for implementations, outlining its purpose and how it contributes to the app's overall function. The "Donation Page"," About Us", "Gallery", "Privacy Page", "Login and Register Page for Admins"

Acceptance Criteria are Defined: Specific acceptance criteria are documented for each feature implemented into the application. These criteria describe how well the feature will function. For example, the "Donation Page" displays relevant banking information." "Gallery" showcases a picture poster of events to involve the community in the home's operations. "Privacy Page" details data protection procedures, a secure login system for administrators to manage content." About Us" describes the mission, values, and objectives of the Cheshire Home. "Login and Register Page for Admins" Allows admins of the application to modify the application to update information or manage information.

Designs and Mock-ups are Available: All relevant wireframes, mock-ups, or visual designs for the user interface are provided and approved. This ensures that the development team has a clear understanding of how each page or feature (e.g., the "Gallery" or "About Us" page) should look and behave.

Dependencies are Identified: Any external dependencies, such as third-party services (e.g., payment gateways, hosting services), are identified and resolved before development begins.

Data Privacy Requirements are Documented: For features that involve personal data (e.g., the login system), all security protocols and data privacy requirements are documented and understood by the team.

Team Availability is Confirmed: The team has been notified and confirms that the necessary resources are available to work on the task and the team has been assigned their tasks.

Owner Approval: The task has been reviewed and approved by the product owner or relevant stakeholders to ensure it aligns with the project's overall goals.

Definition of Done (DoD)

(meenakshi, 2024)

Code is Complete: All features are fully implemented and meets all the functional requirements outlined

Code is Reviewed and Approved: The code has passed a peer review process, ensuring that it meets coding standards and adheres to best practices.

Feature is Tested: The feature has successfully passed all necessary tests, including unit tests, functional tests, and user acceptance tests.

UI/UX Standards are Met: The visual design and user experience align with our vision and the approved designs, ensure a smooth and user-friendly interaction.

No Major Bugs Remain: All critical bugs and errors have been identified during testing and have been resolved, and no major issues prevent the feature from functioning as expected.

Documentation: All relevant documentation, including user guides, technical documentation, and support materials, has been documented.

Security and Privacy Checks are Complete: For features involving sensitive data (such as the "Donation Page" or login system), all security checks are performed, ensuring compliance with data protection protocols.

Feature is Deployed: The feature has been successfully deployed and is accessible to its intended users.

RoadMap

Task Name	Duration	Start	Finish	Predecessors	Resource Names
WILLs project	**64 days**	**Tue 7/23/24**	**Fri 10/18/24**		
Introduction	**3 days**	**Tue 7/23/24**	**Thu 7/25/24**		**Documentation,Project Manager**
Ethical and privacy concerns	1 day	Tue 7/23/24	Tue 7/23/24		Documentation
Work Agreement	1 day	Tue 7/23/24	Tue 7/23/24		Documentation
Definition of Ready	1 day	Tue 7/23/24	Tue 7/23/24		Documentation
Definition of Done	1 day	Tue 7/23/24	Tue 7/23/24		Documentation
Road Map	1 day	Tue 7/23/24	Tue 7/23/24		Documentation
Project Risks with relevant migrations	1 day	Tue 7/23/24	Tue 7/23/24		Documentation
Main APP UI design	**9 days**	**Thu 8/1/24**	**Tue 8/13/24**	**1**	**FrontEnd Developer,Project Manager**
finish home page information	1 day	Thu 8/1/24	Thu 8/1/24		FrontEnd Developer
finish sign up & sign in design page	3 days	Thu 8/1/24	Mon 8/5/24		FrontEnd Developer
add UI layout for donations page	2 days	Fri 8/2/24	Mon 8/5/24	9	FrontEnd Developer

add UI for Message Page	3 days	Thu 8/1/24	Mon 8/5/24		FrontEnd Developer
add design for contact and location page	4 days	Tue 8/6/24	Fri 8/9/24	9,10,11	FrontEnd Developer
Main app backend development	**13 days**	**Wed 8/14/24**	**Fri 8/30/24**	**8**	**Backend Developer,Project Manager**
learn how to make secure payments	3 days	Wed 8/14/24	Fri 8/16/24		Backend Developer
add backend code for secure payments	10 days	Mon 8/19/24	Fri 8/30/24	15	Backend Developer
make firebase account for NGO	1 day	Wed 8/14/24	Wed 8/14/24		Backend Developer,Project Manager
add connection to firebase	3 days	Thu 8/15/24	Mon 8/19/24	17	Project Manager,Backend Developer
make page for admins to see messages	2 days	Wed 8/14/24	Thu 8/15/24		Backend Developer
add location and contact info	2 days	Wed 8/14/24	Thu 8/15/24		Backend Developer
Project Charter	**14 days**	**Tue 10/1/24**	**Fri 10/18/24**	**1**	**Documentation**
Look for a template online	1 day	Tue 10/1/24	Tue 10/1/24		Documentation
Purpose of a Project Charter	1 day	Wed 10/2/24	Wed 10/2/24	22	Documentation
Project Name	1 day	Wed 10/2/24	Wed 10/2/24	22	Documentation

Project Goals	1 day	Wed 10/2/24	Wed 10/2/24	22	Documentation
Deliverables	1 day	Wed 10/2/24	Wed 10/2/24	22	Documentation
Scope Definition	1 day	Tue 10/1/24	Tue 10/1/24		Documentation
Project Milestones	1 day	Tue 10/1/24	Tue 10/1/24		Documentation
Assumptions, Constraints, Dependencies	1 day	Tue 10/1/24	Tue 10/1/24		Documentation
Related Documents	1 day	Tue 10/1/24	Tue 10/1/24		Project Manager
Project Organization Structure	1 day	Tue 10/1/24	Tue 10/1/24		Documentation
Project Authorization	1 day	Tue 10/1/24	Tue 10/1/24		Project Manager

Requirements

User Roles

Administrator

- **Description**: The Administrator role is responsible for the oversight and management of app content, including updates to information and multimedia shared within the app.
- **Responsibilities**:
    - Accessing a secure, password-protected login to manage app content.
    - Managing the "About Us" section, "Privacy" page, and gallery content.
    - Monitoring and approving comments or interactions from users (if applicable).

Donor

- **Description**: Donors are individuals or organisations who wish to contribute financially to the Cheshire Home.
- **Responsibilities**:
    - Accessing the "Donation" page to make secure, quick contributions.
    - Viewing bank details and relevant certification information on donations.
    - Receiving a confirmation notification upon successful transaction completion.

Public User

- **Description**: This role applies to general users who download and use the app for information about the Queensburgh Cheshire Home and its activities.
- **Responsibilities**:
    - Browsing the "About Us" section to understand the home’s mission, values, and objectives.
    - Viewing events, photos, and updates in the gallery to stay connected to the home’s community activities.
    - Reviewing the "Privacy" page to understand data protection policies.

User Stories

Administrator User Stories

User Story: As an Administrator, I want to log into a secure, password-protected area so that I can manage app content safely and prevent unauthorised access.

- **Priority**: High
- **Estimation**: 5 story points
- **Sprint**: 1
- **Status**: Implemented
- **Non-Functional Requirements**:
    - **Security**: Ensure strong authentication mechanisms (e.g., password policies, potential integration with multi-factor authentication).
    - **Reliability**: System must be available 99.9% of the time for administrators to manage content.

User Story: As an Administrator, I want to update the "gallery" section so that I can ensure users have accurate and up-to-date information about the Cheshire Home.

- **Priority**: Medium
- **Estimation**: 3 story points
- **Sprint**: 1
- **Status**: Implemented
- **Non-Functional Requirements**:
    - **Maintainability**: Updates should not require extensive downtime; changes should be logged for audit purposes.

User Story: As an Administrator, I want to add, remove, or update gallery images and event details so that I can keep the community informed about recent activities and upcoming events.

- **Priority**: Medium
- **Estimation**: 4 story points
- **Sprint**: 2
- **Status**: Implemented
- **Non-Functional Requirements**:
    - **Scalability**: The system should efficiently handle increased image uploads as the gallery grows.
    - **Reliability**: Ensure the gallery updates without data loss and is accessible consistently.

Donor User Stories

Donor User Stories

1. **User Story**: As a Donor, I want to access a simple and secure "Donation" page so that I can contribute to the Cheshire Home without hassle.
    - **Priority**: High
    - **Estimation**: 3 story points
    - **Sprint**: 1
    - **Status**: Implemented
    - **Non-Functional Requirements**:
        - **Reliability**: Ensure the donation page is operational 99.9% of the time to accommodate donations.
2. **User Story**: As a Donor, I want to view banking details and certification information so that I feel confident about my donation's legitimacy and impact.
    - **Priority**: Medium
    - **Estimation**: 2 story points
    - **Sprint**: 1
    - **Status**: Implemented
    - **Non-Functional Requirements**:
        - **Maintainability**: Banking information must be easily updatable without extensive system downtime.
3. **User Story**: As a Donor, I want to receive a confirmation notification after my donation so that I know my contribution has been successfully processed.
    - **Priority**: Medium
    - **Estimation**: 2 story points
    - **Sprint**: 2
    - **Status**: Not yet implemented
    - **Non-Functional Requirements**:
        - **Reliability**: Notifications must be sent promptly upon successful transactions to enhance donor trust.

Public User Stories

User Story: As a Public User, I want to browse the "About Us" section so that I can understand the Cheshire Home’s mission and values.

- **Priority**: Medium
- **Estimation**: 2 story points
- **Sprint**: 1
- **Status**: Implemented
- **Non-Functional Requirements**:
    - **Scalability**: The content should be easily scalable to accommodate additional information as needed.

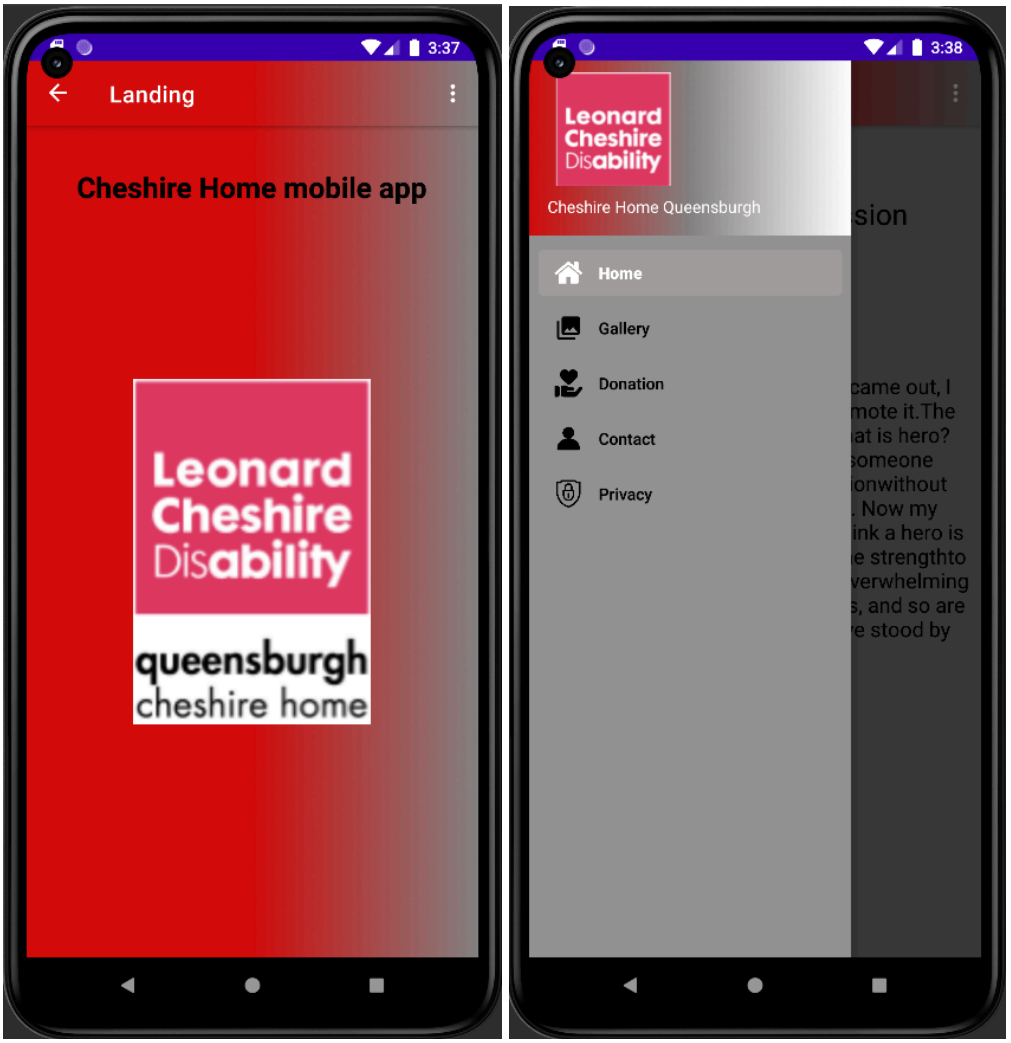
User Story: As a Public User, I want to view recent events and photos in the gallery so that I can stay connected to the home’s community and activities.

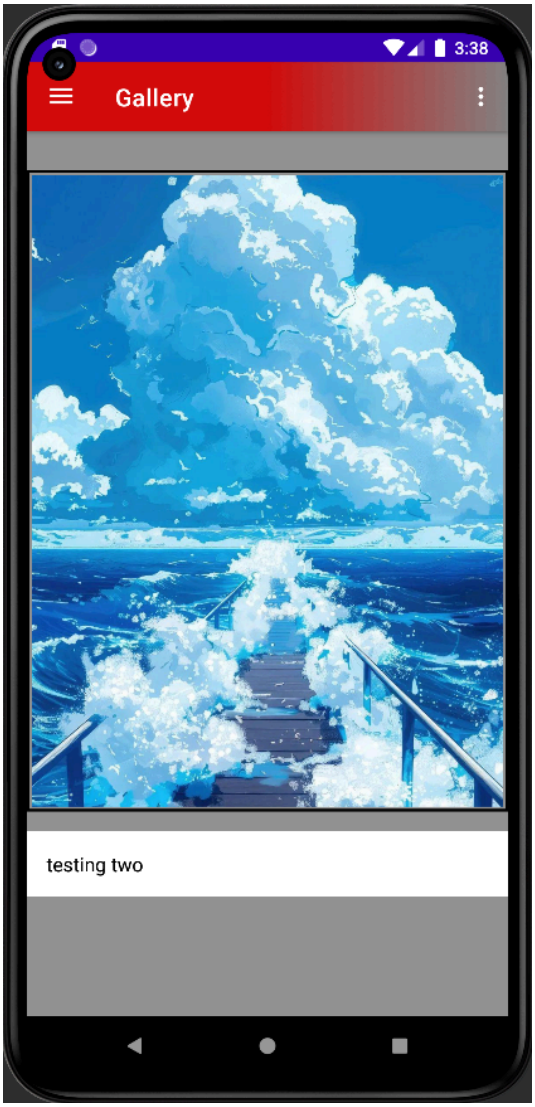
- **Priority**: Medium
- **Estimation**: 3 story points
- **Sprint**: 2
- **Status**: Implemented
- **Non-Functional Requirements**:
    - **Reliability**: The gallery must load quickly and efficiently, even during high traffic periods.

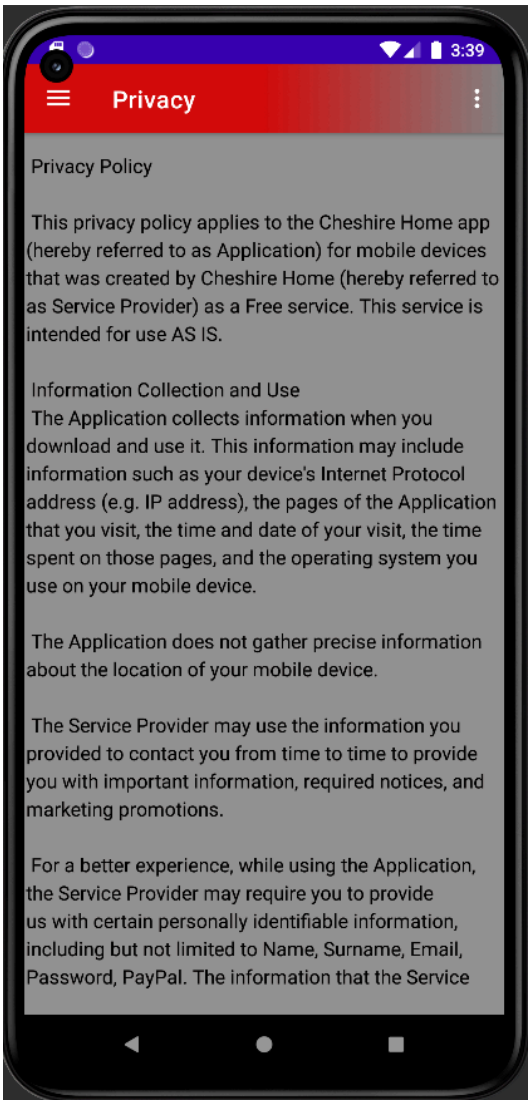
User Story: As a Public User, I want to review the "Privacy" page so that I understand how my data will be protected and used.

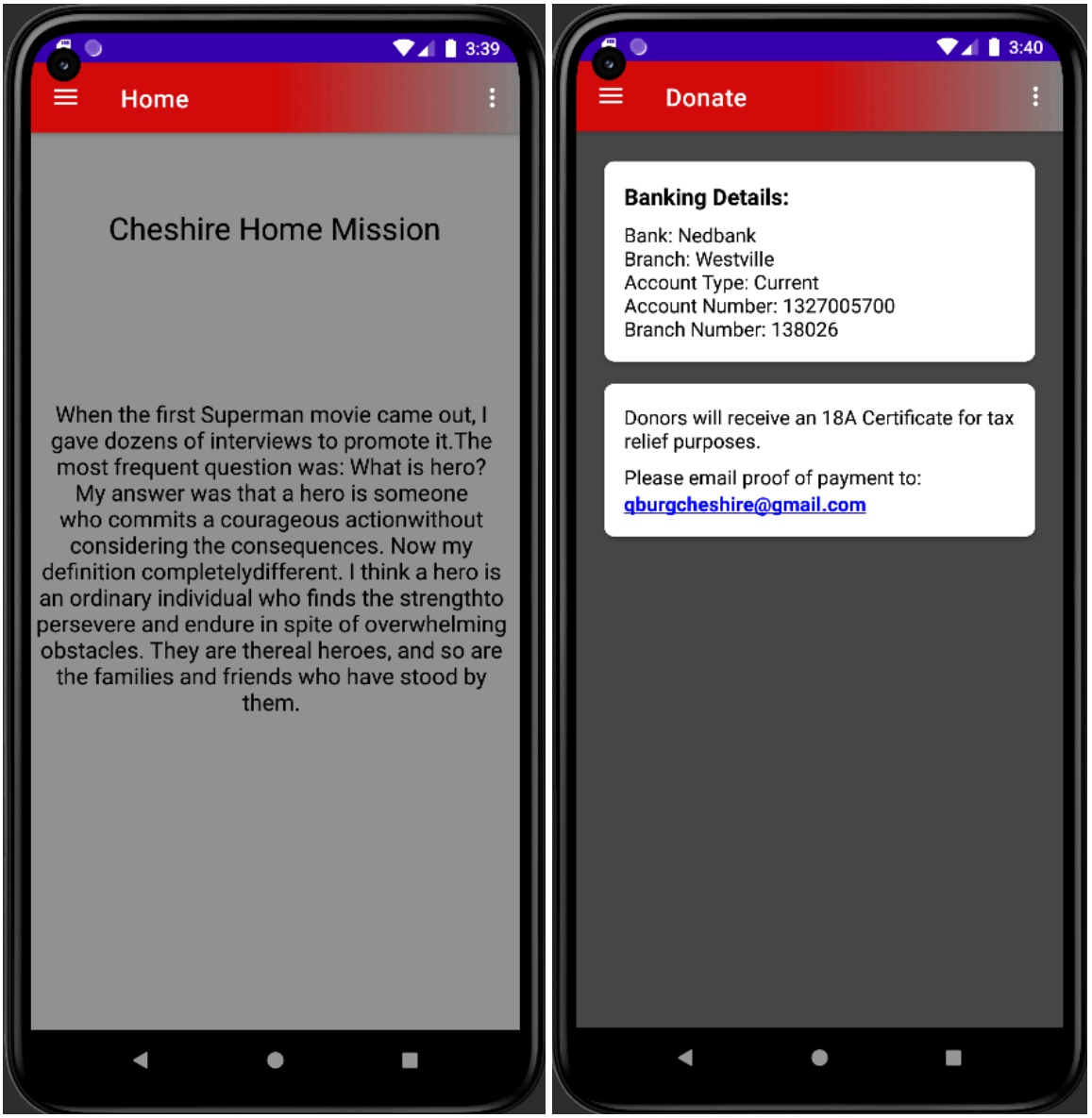
- **Priority**: Medium
- **Estimation**: 1 story point
- **Sprint**: 1
- **Status**: Implemented
- **Non-Functional Requirements**:
    - **Security**: Ensure that the privacy policy complies with applicable data protection regulations and is reviewed regularly.

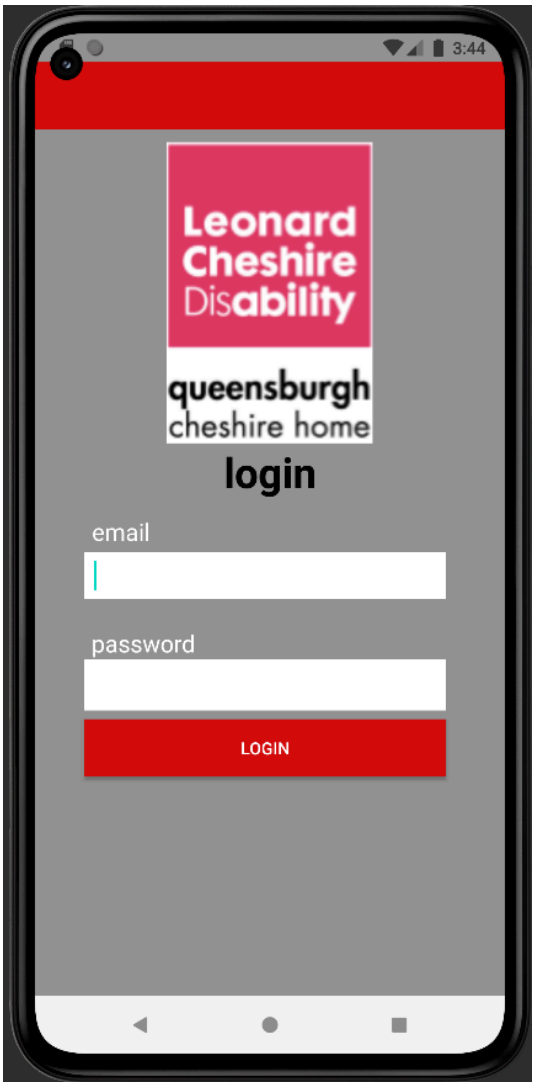
User Experience Journey Map




3:38
Gallery
testing two

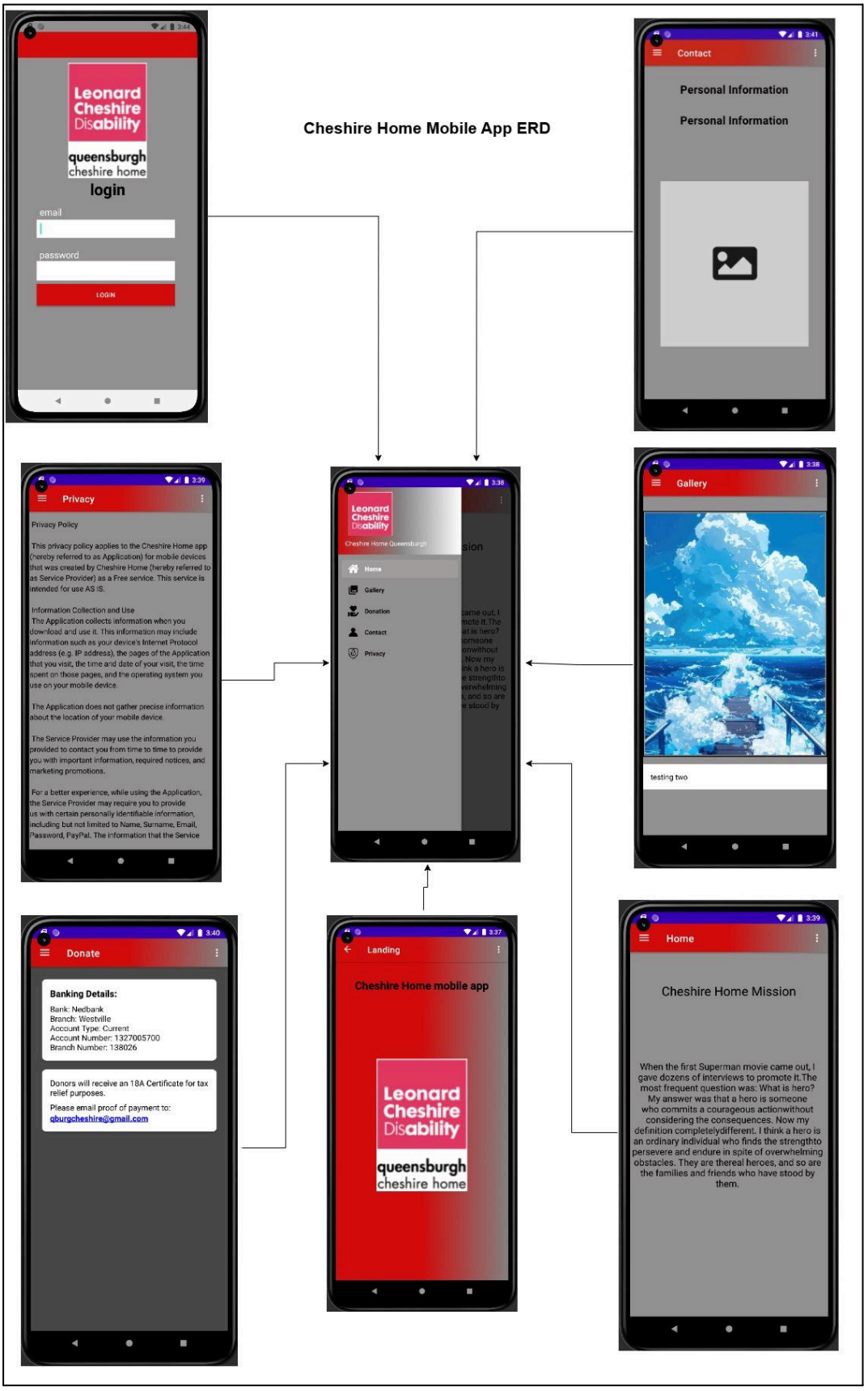

3:39
Privacy
Privacy Policy
This privacy policy applies to the Cheshire Home app (hereby referred to as Application) for mobile devices that was created by Cheshire Home (hereby referred to as Service Provider) as a Free service. This service is intended for use AS IS.
Information Collection and Use
The Application collects information when you download and use it. This information may include information such as your device's Internet Protocol address (e.g. IP address), the pages of the Application that you visit, the time and date of your visit, the time spent on those pages, and the operating system you use on your mobile device.
The Application does not gather precise information about the location of your mobile device.
The Service Provider may use the information you provided to contact you from time to time to provide you with important information, required notices, and marketing promotions.
For a better experience, while using the Application, the Service Provider may require you to provide us with certain personally identifiable information, including but not limited to Name, Surname, Email, Password, PayPal. The information that the Service


3:39
Home
Cheshire Home Mission
When the first Superman movie came out, I gave dozens of interviews to promote it.The most frequent question was: What is hero? My answer was that a hero is someone who commits a courageous actionwithout considering the consequences. Now my definition completelydifferent. I think a hero is an ordinary individual who finds the strengthto persevere and endure in spite of overwhelming obstacles. They are thereal heroes, and so are the families and friends who have stood by them.
3:40
Donate
Banking Details:
Bank: Nedbank
Branch: Westville
Account Type: Current
Account Number: 1327005700
Branch Number: 138026
Donors will receive an 18A Certificate for tax relief purposes.
Please email proof of payment to:
qburgcheshire@gmail.com


3:44
Leonard Cheshire Disability
queensburgh cheshire home
login
email
password
LOGIN


3:41
Contact
Personal Information
Personal Information

Operations diagram



Zoom in for better view

Page Functionality Specifications

Landing Page: this page does not have any specific features, this is what the user will land on when the first load into the mobile application.

Navigation Page: this pages' only main feature will allow the user to navigate through the mobile application

Gallary: the gallery's main feature is that it allows any admin that is logged in to change the image being displayed and the text. This page's main purpose is to allow users to see what new posts have been made by the Cheshire home as well as allowing them to read the text and grasp a better understanding of the post.

Home page: this page's only feature is to allow the user to gain a grasp on what the Cheshire Home is about by displaying on a carousel the different messages that the Cheshire Home wishes to share with its users.

Contact: this page will have the contact information for the Cheshire Home and will also have an embedded map that takes the user to google maps the the location of the Cheshire Home preset.

Privacy: the purpose of this page is to display the privacy agreement with the user of the mobile app.

Login: This page allows the admins to login and control the gallery page. This is done by connecting to Firebase.

Donate: This page contains the details for a direct donation to the Cheshire Home. from which thereafter the user can select the embedded gmail. Which will redirect them to gmail/outlook where they can email their POP, to receive their A18 Certificate.

Non-Functional Requirements

Maintainability

Without requiring constant technical assistance, the website and app are made to improve the home's services' accessibility, make donations easier, and encourage community involvement. A donation page, an About Us section, a privacy policy page, a secure admin login, and a gallery with pictures of events and activities at the house are some of the main features. These features are intended to help and streamline the Cheshire Home's operations while maintaining public visibility and accessibility to its goals and activities. We have put in place a number of calculated measures to guarantee that the app will continue to be relevant and maintained over time. Above all, the app's modular architecture was designed to be easily updated. Because the main features Donation, About Us and Gallery are created as separate modules, it is possible to update or modify any one of them without affecting the app as a whole.

User-centred design approach when creating the app, offering an easy-to-use content management system that lets Cheshire Home managers take charge of their own information management. The home's employees can make direct updates and access sections of the app, such the Gallery or About Us page, by using a secure admin login. This implies that they don't need developer assistance or programming expertise to add new photos or modify descriptions of the home's services and mission. The software gives the Cheshire Home team this degree of independence, enabling them to update information and make changes as the requirements and priorities of the home change.(software,(2024))

We also understand that the app's continued relevance depends on its capacity to satisfy the changing requirements of the Cheshire Home and the expectations of the community. To evaluate how the app is benefiting the Cheshire Home and its supporters, we will regularly collect user input. Finding possibilities for additional features, such as more dynamic information in the About Us area, improved Gallery capabilities, or more donation alternatives, will be made possible thanks in large part to this feedback.

The design for the app is set to comply with data privacy laws in order to safeguard user data, particularly for users interacting with the donation page. Users can feel secure knowing that their information is handled responsibly thanks to the Privacy page's clear explanation of data processing procedures. The app will maintain its dedication to security and moral data management by updating its privacy policy and procedures in accordance with changing data protection regulations.

Scalability

Scalability is one of the most critical non-functional needs of the program which ensures that the system can handle raises in user traffic and data volume without causing a fall in performance efficiency. The program ought to be created for growth in user numbers, login, and content changes and must not compromise user experience.(Houdmont, T. (2020))

Vertical and horizontal scalability — it should support both vertical and horizontal scaling in the design. It allows scaling vertically, which updates existing hardware or resources to provide more, while horizontal scaling allows the addition of new service pallets to accommodate incremental traffic.(BB Agency and Slingerland, C. (2024))

Using load balancing techniques, which divide incoming requests equally across several servers, the system can handle additional traffic. In addition to increasing responsiveness, this method offers redundancy, so in the event of a server failure, other servers can take over.(amazon,(n.d.))

By implementing these scalability requirements, the Cheshire Home application can effectively accommodate future growth and maintain performance during peak usage periods.

Reliability

Availability and Uptime: A 99.9% uptime is required of the application. The architecture will incorporate failover methods and redundant systems to satisfy this requirement. For instance, a backup server ought to take over automatically in the event that the primary database server malfunctions, guaranteeing that consumers can still access the donation page and other essential features. (Fushia, M. (n.d.))

Data Integrity: It is crucial to keep accurate and consistent data, particularly when it comes to login and event details. At several points during the data entering process, the program will apply data validation checks to make sure all information entered is accurate and to guard against data corruption. For instance, making certain that login information is verified before being saved. (Jones, E. (n.d.))

Performance Monitoring: To identify possible problems before they affect users, a system of ongoing application performance monitoring will be put in place. The team will be able to react swiftly to reliability issues by putting in place monitoring tools that measure important metrics like response times and error rates.

Usability

The usability of the Cheshire Home mobile app is critical to ensure that residents, staff, donors, and other users can navigate the app easily and access its features intuitively. This usability requirement focuses on delivering an accessible and intuitive interface that caters to a diverse audience, including individuals with varying levels of technical proficiency and accessibility needs. The goal is to make the app a dependable and enjoyable tool, facilitating communication, information access, and donation activities.

1. User-Centric Interface Design

- The app will implement a clean, minimalist interface with large, easy-to-read text and simple icons. Primary functions, such as "Donate," "About Cheshire Home," and "Contact Us," will be prominent and easily identifiable on the main screen. Each section of the app will include clear labels and use a consistent layout to avoid confusion and promote intuitive navigation.
- Users should be able to complete key tasks, such as making a donation, finding contact information, or reading about services, with minimal steps. This streamlined approach is intended to reduce cognitive load and make the app accessible to users of all ages and technical abilities.

2. Accessibility Features

- The app will adhere to WCAG (Web Content Accessibility Guidelines) standards, focusing on screen reader compatibility, adaptable text sizing, and a colour scheme that provides strong contrast. Buttons and icons will be sufficiently large to ensure they are touch-friendly for users with limited dexterity.
- For visually impaired users, the app will support voice commands where possible, and all images will include descriptive alt text to improve navigation and information retrieval. Additionally, an option to enable a high-contrast theme will be available to enhance readability for users with low vision.

3. Simple and Consistent Navigation

- The navigation bar, present on all screens, will provide direct access to the main sections of the app: “Home,” “People,” “Donate,” and “Contact.” This consistency ensures users always know how to return to the main sections, reducing the likelihood of users becoming lost or frustrated.
- Clear, unambiguous language will be used for all labels, buttons, and messages, avoiding jargon or overly technical terms to make the app approachable for users with varying literacy and technology skills.

Security

Security is a paramount concern for the Cheshire Home application to protect user data and maintain trust. The following security requirements will be implemented to safeguard the application:

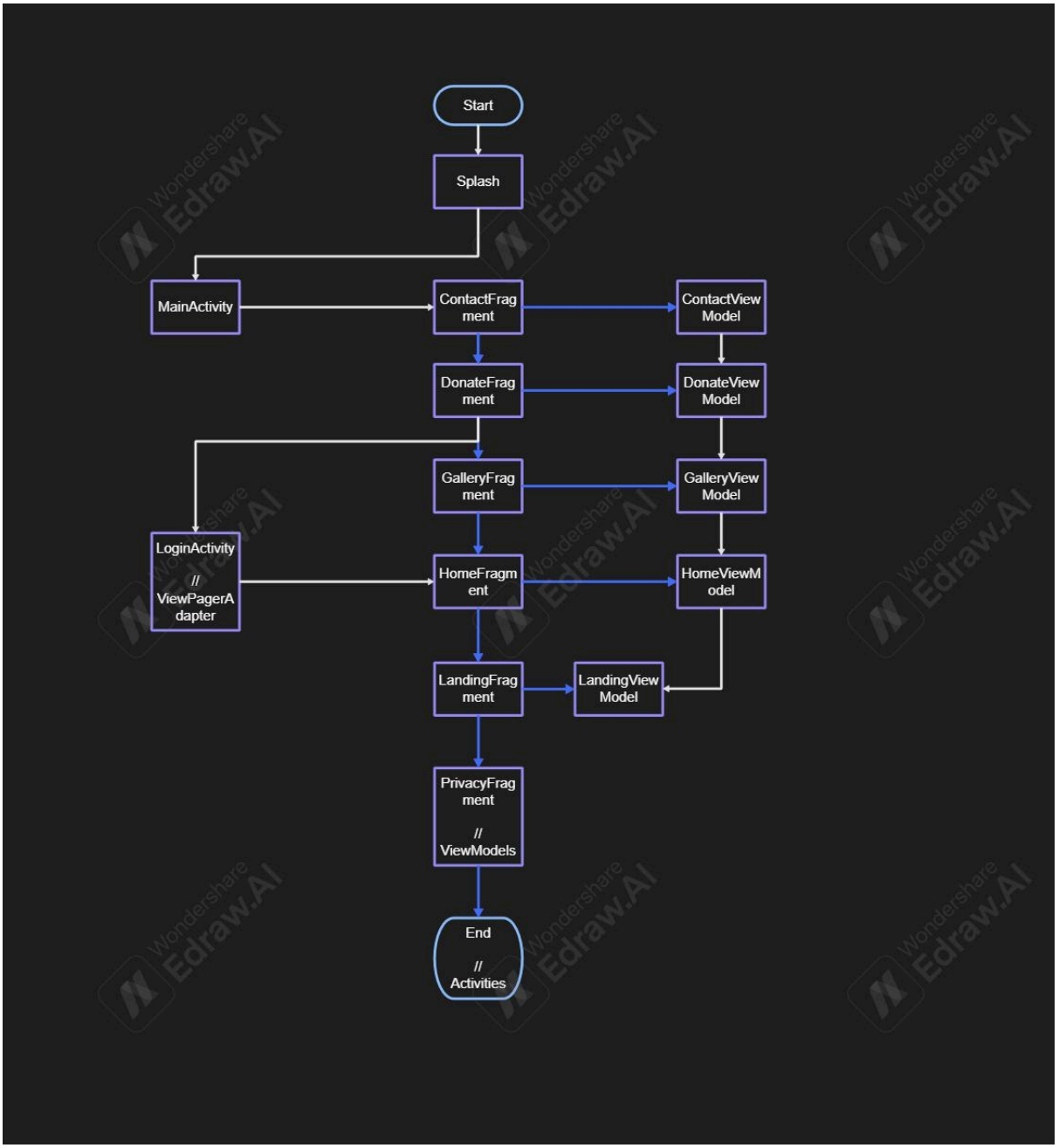
Authentication and Authorization: To guarantee that only authorised users may access administrative services, the application must incorporate secure authentication procedures. (Firebase authentication) For further protection, this entails enforcing strict password regulations and maybe putting multi-factor authentication into place, particularly for administrators handling sensitive data.

Data Protection: Encryption is required for all sensitive data, including donor and transaction information. For instance, protecting user data from interception during online login or account management tasks can be achieved by utilising firebase security for all data communications. (Fushia, M. (n.d.))

Input Validation: The application will validate all user inputs to prevent injection attacks and other security vulnerabilities. For instance, validating inputs on the login form will prevent malicious entries that could compromise the database, ensuring the integrity of user data.

Analysis artifacts

Domain modelling



Contexts and Descriptions

1. **User Management**
    - **Description**: This context encompasses user authentication and profile management, particularly for the administrator role. It includes features like secure login, authentication (e.g., password and authentication), and user session management.
    - **Entities**: Administrator, Authentication, UserSession
    - **Responsibilities**: Ensures only authorised users access sensitive sections of the app, like donation records and content management.

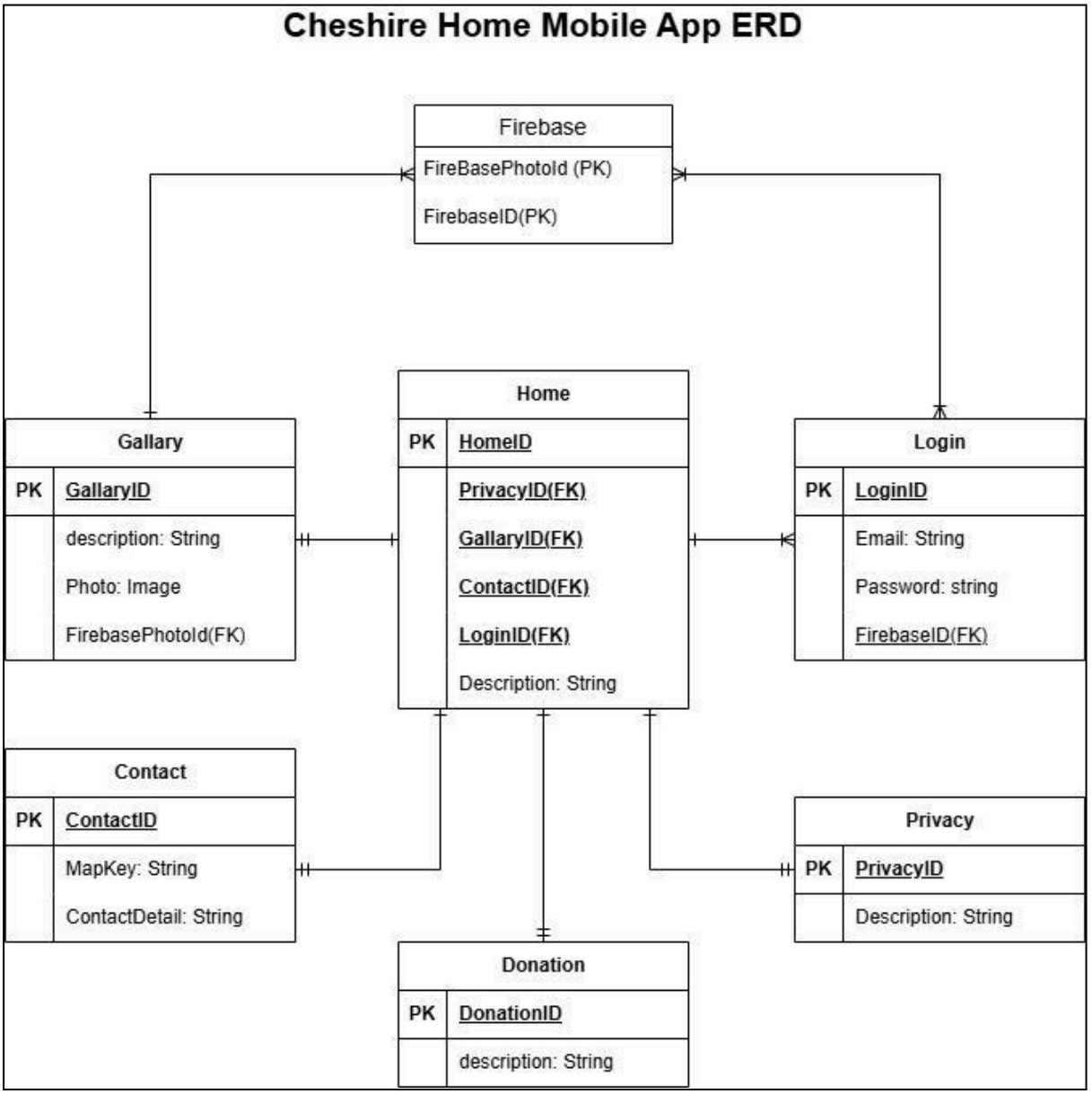
2. **Content Management**
    - **Description**: This context allows administrators to manage informational content within the app, including sections like "About Us," "Privacy," and the Gallery. It provides the tools for uploading images, adding event details, and updating organisational information.
    - **Entities**: Content, Image, Event, PrivacyPolicy
    - **Responsibilities**: Allows for adding, updating, and removing content to keep information relevant and engaging for users.

3. **Donations**
    - **Description**: This context facilitates the donation process, enabling donors to view banking details.
    - **Entities**: Donation, Donor, PaymentDetails
    - **Responsibilities**: Handles donation flow and records, ensuring secure processing and compliance with financial and security regulations.

4. **Media and Community Engagement**
    - **Description**: This context manages the gallery and event features, allowing users to view and stay updated on community activities. It covers media storage, event scheduling, and updates.
    - **Entities**: Gallery, MediaItem, Event, Comment (if applicable)
    - **Responsibilities**: Promotes community engagement by displaying events, photos, and activities, thereby connecting external users to the Cheshire Home’s initiatives.

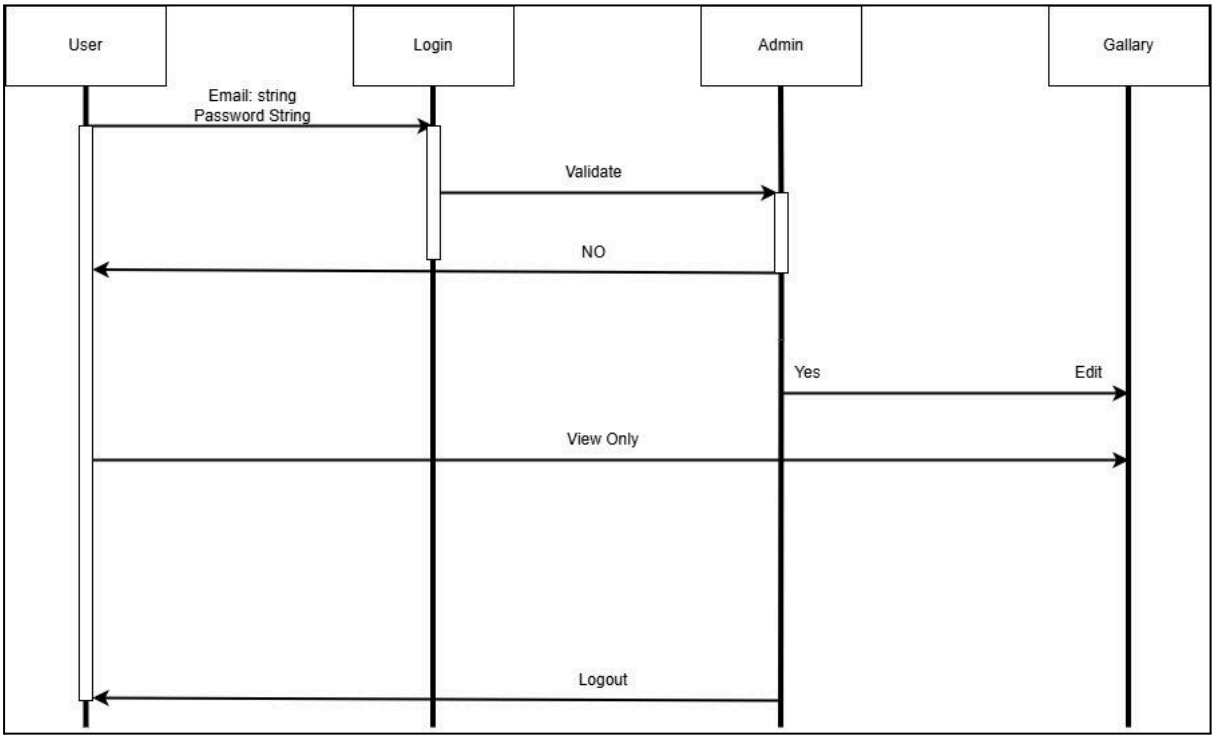
Design artifacts

Following the definition of the bounded contexts and domain model, we created implementation models to direct the coding and integration processes. In order to describe the structural and behavioural features of the program, the entity-relationship diagrams (ERD) as needed.



Implementation Documentation

Sequence diagram



Sequence diagram depicting the flow of how to change the photo in the gallery.

Deployment

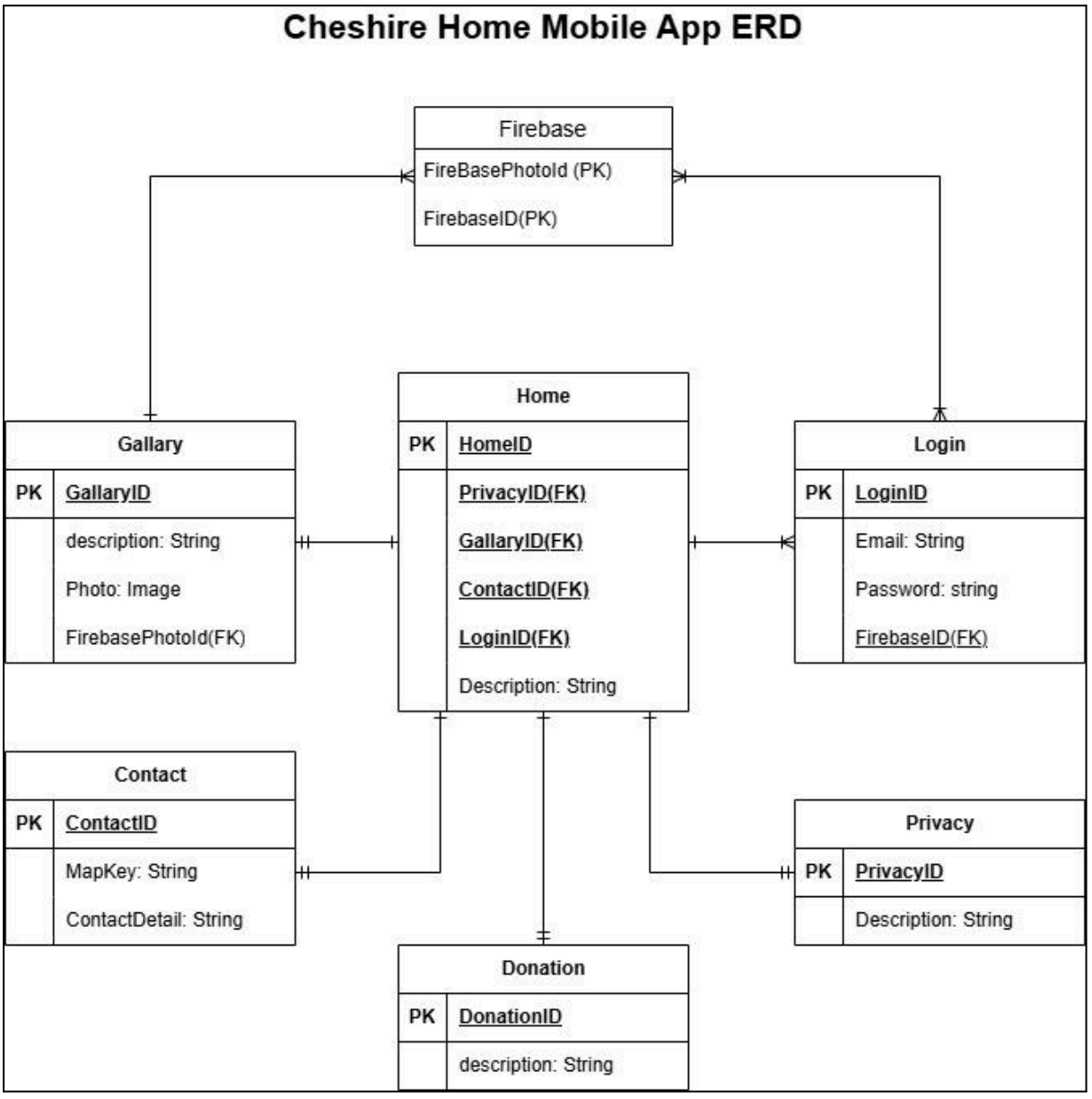
The implementation of the Queensburgh Cheshire Home mobile application necessitates a meticulously designed setup that makes use of Firebase as the database and the Google Play Store for distribution. This takes careful planning in order to ensure that the user experience is both secure and seamless. Secure HTTPS endpoints are established specifically for the purpose of managing content updates and user requests, particularly those pertaining to donations, authentication, and gallery management.

These backend APIs connect to the Firebase realtime database and authentication system, which is designed to hold user profiles, information about contributions, events, and gallery material. These APIs are equipped with specific collections and security rules that guarantee access control depending on user responsibilities. For the purpose of protecting sensitive information, Firebase Security Rules have been implemented. Users are able to download and update the application in a short amount of time due to the fact that it is released on Android platforms and is available through the Google Play Store.

While adhering to stringent security and reliability constraints, this deployment strategy optimises data access and application speed by using Firebase's scalability. Data access and application speed are both optimised.

Data Schema Documentation

With this setup, the majority of the content in the mobile application is still available to the general public without requiring a login. Only administrators have access to the login system, which gives them privileged control over managing app content, updating events, and keeping track of donations.



With this ERD it can be shown how the application connects to the database by logging in and editing the photo and then displaying the photo to all users in the app.

Administrator-Only Authentication: The Administrators collection holds secure, hashed passwords and email-based recovery information. This role manages content, such as donations, events, and gallery updates, ensuring only approved administrators have editing rights.

Public Data Access: The Events and Gallery collections remain accessible to general users without login, ensuring smooth browsing without compromising administrator functionality.

Storage type: The application uses Firebase storage to hold the photos and then uses a real-time database to then register which admin posted which photo and create a link back to the firebase storage.

Architecture Artifacts

The Cheshire Home mobile app was designed with a focus on scalability, security, and maintainability. Each architectural choice aimed to ensure that the app is accessible to users, straightforward for administrators to manage, and optimised for the cloud-first deployment model that leverages Firebase for backend services.

Design Patterns

Model-View-ViewModel (MVVM):

- **Reason**: Because it allowed for a clear division of responsibilities between UI (View), business logic (ViewModel), and data (Model), MVVM was chosen. The software can be tested and maintained more easily thanks to this framework, especially when new features are added. Effective data binding is made possible by MVVM's compatibility with Firebase's real-time updates and the application's dynamic user interface. (michael stonis,(n.d))
- **Implementation**: The app's ViewModel layer serves as the intermediary between Firebase (Model) and the Android UI (View), allowing for a reactive UI that updates with changes in Firestore or user interactions.

Singleton Pattern:

- **Reason**: Singleton was chosen for the Firebase and network client instances to ensure only one instance is created and accessed across the application. This helps in managing the lifecycle of these resources and prevents unnecessary memory usage or network overhead. (Suman, A. (2024))
- **Implementation**: Firebase authentication and Firebase database access are managed through Singleton classes that handle user authentication and database queries.

Architecture Pattern

The application was built using the **Client-Server Architecture**, designed with a multi-layered structure to improve scalability and data flow:

- **Client-Server Architecture**:
    - **Reason**: A client-server approach was chosen due to the nature of Firebase's cloud-hosted NoSQL solution, where the client (mobile app) communicates with the backend (realtime database and Firebase Authentication). This architecture is suited for mobile applications that need cloud-based storage and remote access for user data and content. (Terra, J. (2024))
    - **Implementation**: Firebase acts as the server, hosting data for Events, Gallery, and Donations. The mobile client app retrieves data over HTTPS through secure API calls to Firebase, providing a streamlined experience for users while securing sensitive operations for administrators.

Cloud Architecture

The cloud architecture of the Cheshire Home mobile app makes use of google play store for material that is visible to the public, Firebase Cloud Storage for media, Firebase Authentication for user management, and Firebase Realtime Database for data storage.(*Cloud Messaging*. (n.d.))

Firebase Realtime Database:

- **Purpose**: Stores structured app data, such as information on events, donations, and gallery content. Realtime Database was chosen for its real-time data syncing capability, which allows instant updates across all devices connected to the app.
- **Network Segregation and Protocol**: Realtime Database communicates over HTTPS to ensure secure data transmission between the client app and the database. This provides fast, real-time updates for app users, making it especially suitable for displaying events and gallery updates. (Firebase,(n.d))

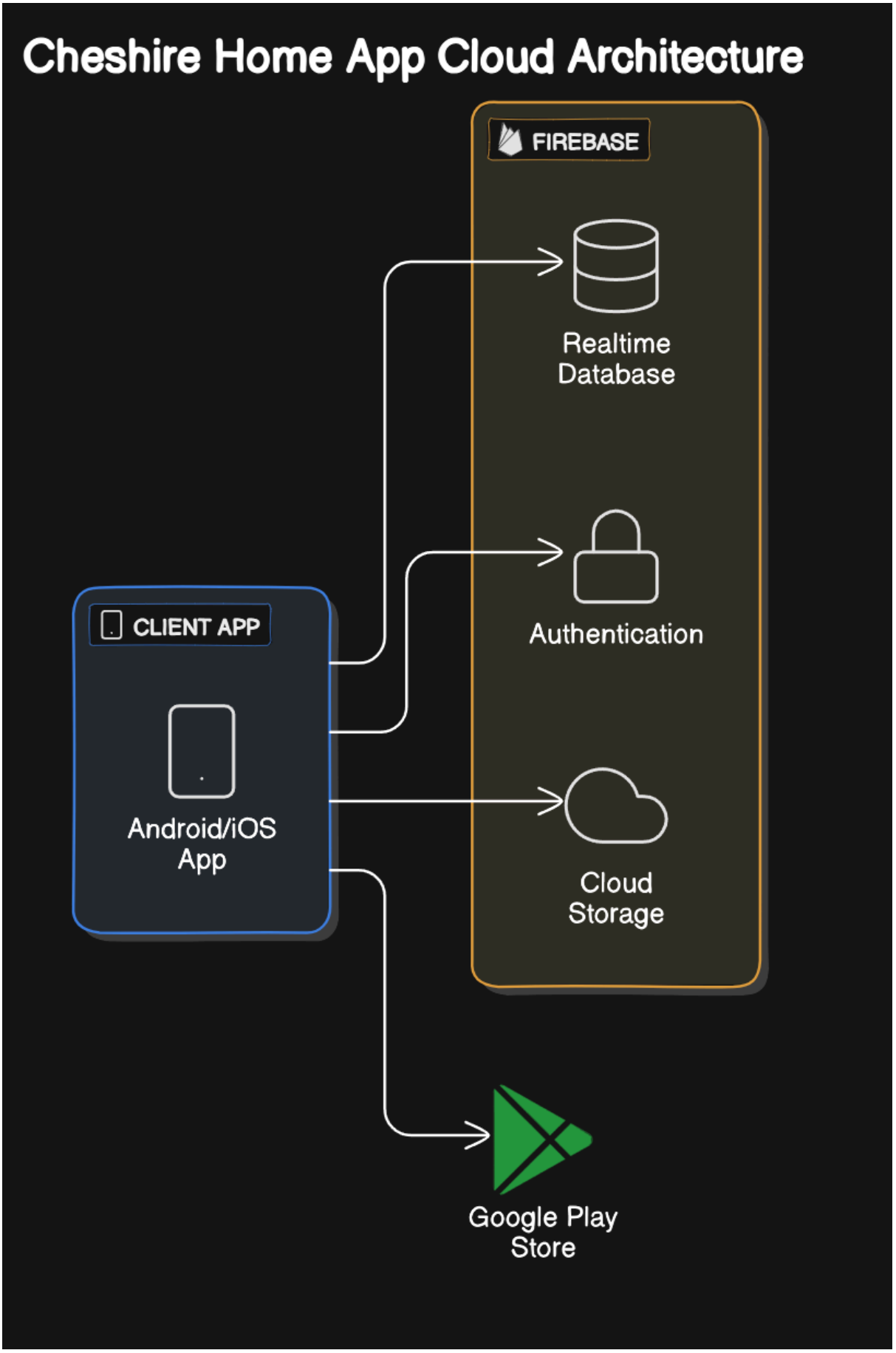
Firebase Authentication:

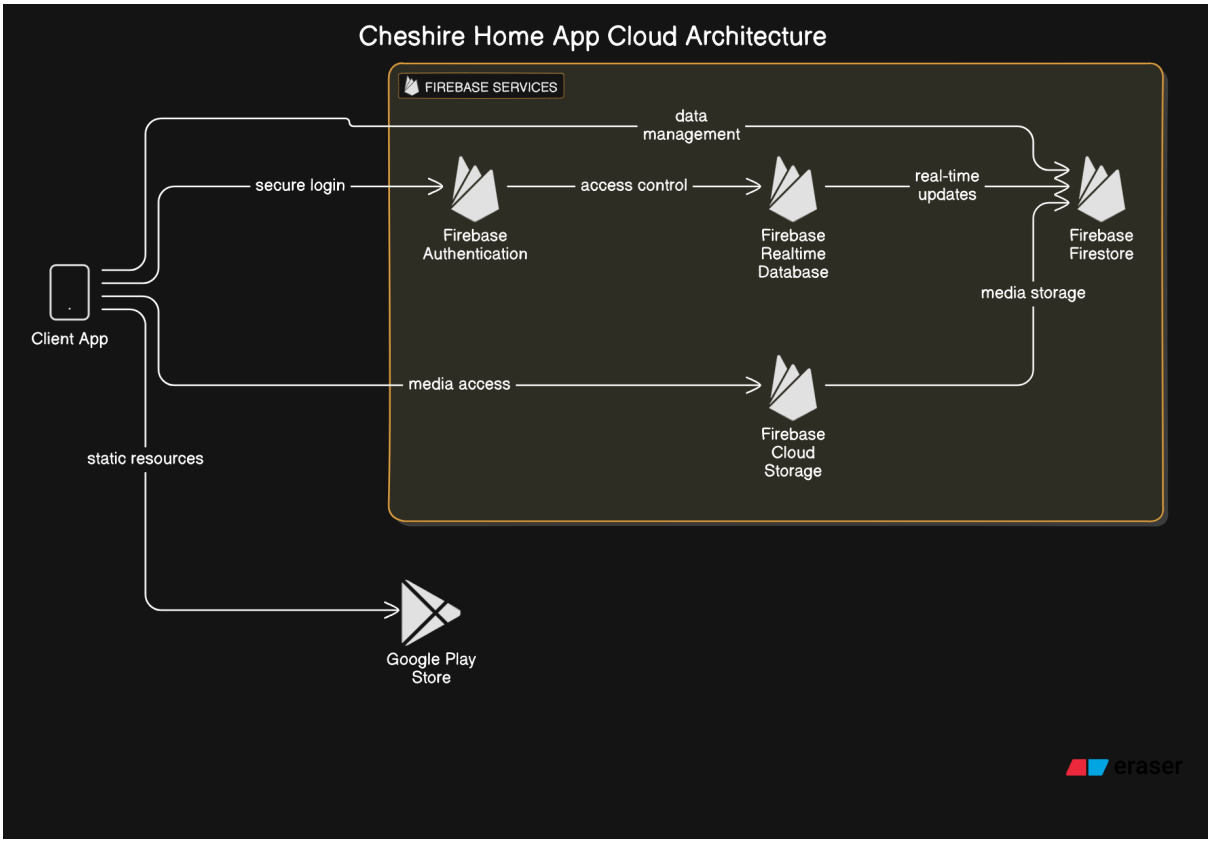
- **Purpose**: Manages administrator logins with a secure, password-based system. Only administrators can log in to access restricted app management features, while general users have browsing-only access.
- **Security Protocol**: Authentication requests are encrypted over HTTPS, and Firebase's role-based access control is used to restrict administrative functions to logged-in admins only.

Firebase Cloud Storage:

- **Purpose**: Used to store media files like images and videos for the gallery. Firebase Cloud Storage provides scalable storage and secure access to files, allowing administrators to manage content while general users have read-only access.
- **Access Control**: Only admins have permissions to upload content, while public users can view images. Firebase's security rules ensure access is restricted accordingly.

(*Firebase & Google Cloud*. (n.d.))


Cheshire Home App Cloud Architecture
FIREBASE
Realtime Database
Authentication
Cloud Storage
CLIENT APP
Android/iOS App
Google Play Store


Cheshire Home App Cloud Architecture
FIREBASE SERVICES
data management
secure login
access control
real-time updates
Firebase Authentication
Firebase Realtime Database
Firebase Firestore
media storage
Client App
media access
Firebase Cloud Storage
static resources
Google Play Store
eraser

Security

Network Security:

- **HTTPS Encryption**: The app, Firebase services, and Google Play Store all transmit data via HTTPS. This encryption safeguards sensitive information, including personal data and logon credentials, from interception during transmission.
- **Firebase Realtime Database Rules**: Custom security policies are implemented in Firebase Realtime Database to regulate data access. These regulations enforce read and write restrictions that are determined by user roles, guaranteeing that only authorised administrators have the ability to manage sensitive content.
- **Network Segregation**: We can improve our control over various categories of network traffic by segregating Google Play Store for public-facing content and Firebase-based services (data, authentication, and storage). This approach limits the attack surface and exposure.

  (google,(n.d))

Authentication and Access Control:

- **Firebase Authentication**: Administrator access is secured through Firebase Authentication with role-based access controls. Only administrators can log in and access sensitive management features, while all other users can browse the app without login requirements.
- **Password Security**: Firebase Authentication uses secure, salted, and hashed passwords, and enforces secure password policies to prevent unauthorised access.

  (*Firebase Security Rules*. (n.d.))

Cloud Storage Security:

- **Firebase Cloud Storage Rules**: Firebase Cloud Storage security rules ensure that only administrators can upload media, while all users have read-only access to view content in the gallery. This setup prevents unauthorised modifications or deletions of media files.
- **Access Control for Media**: Media files are protected using Firebase's security rules, which prevent unauthorised downloads or access to restricted content, minimising data exposure.

Devops

GitHub Actions Pipeline

The GitHub Actions pipeline is designed to support rapid and reliable deployment. It automates key stages in our development workflow, from code validation to deployment, ensuring that only thoroughly tested and approved code reaches production.

Pipeline Overview Trigger: The pipeline is initiated by code push or pull request events on specific branches, such as the main and development branches.

- **Build Stage**: The application is developed in a containerized environment that mirrors the production environment, utilising Gradle for Android builds or.NET for backend components.

This stage ensures that the code can compile successfully, thereby preventing the progression of syntax errors or dependency issues further down the pipeline.

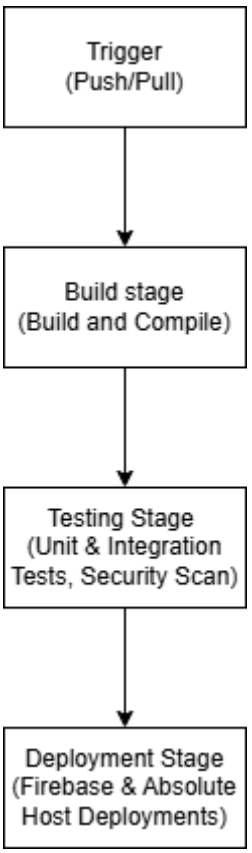
- **Testing Phase**: Unit and integration tests are implemented to guarantee that critical components of the application operate as anticipated. The pipeline is halted in the event of any unsuccessful tests, enabling the team to resolve any issues prior to deployment.

Potential vulnerabilities in the codebase are identified through security tests, including static analysis.

- **Deployment Stage**: The pipeline advances to deployment if the build and testing stages are effective. The app's infrastructure, which encompasses the Realtime Database and Cloud Storage, is deployed to Firebase using Firebase CLI commands.

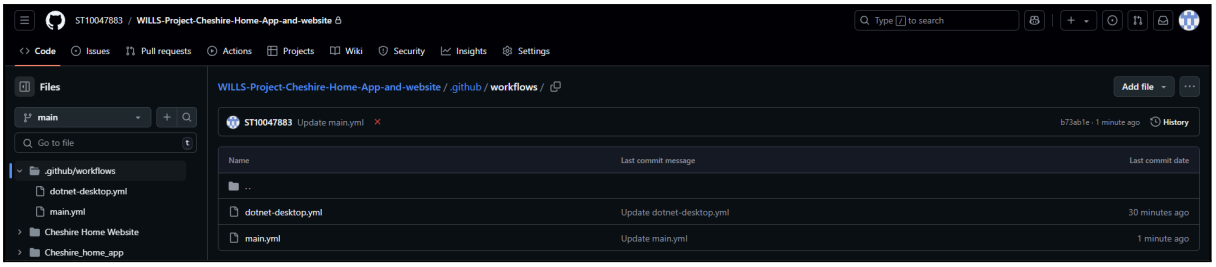
Instantaneous updates to public-facing pages are enabled through the deployment of inert content or front-end updates to the Google Play Store.

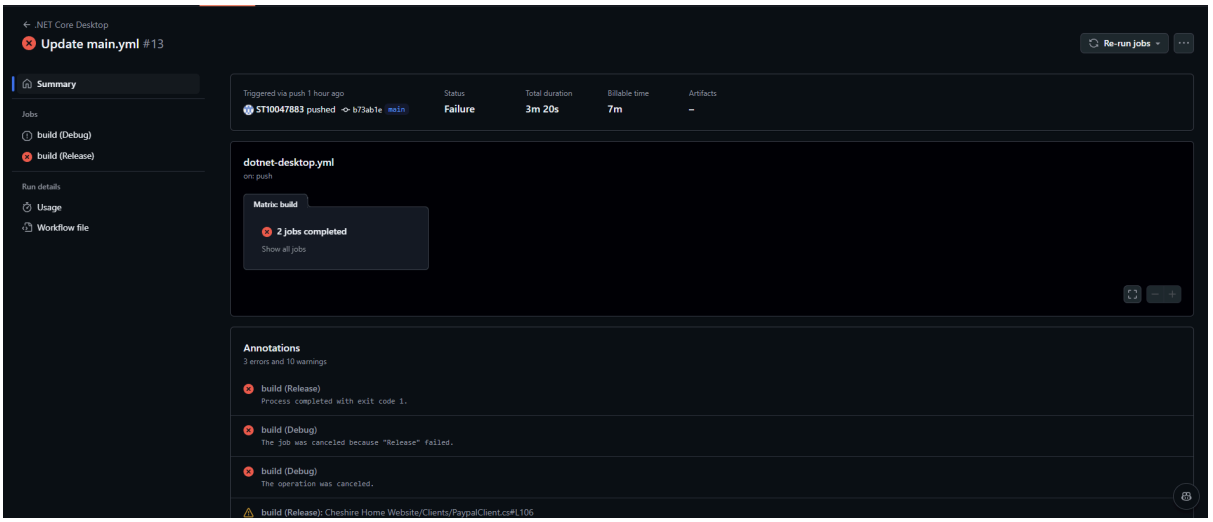
PS. The current pipeline does not work, but in theory this is what is supposed to happen.



The flowchart illustrates the stages of a GitHub Actions CI/CD pipeline designed for streamlined and automated application deployment. Here's a breakdown of each stage in the flow:

1. **Trigger (Push/PR)**: The pipeline is triggered whenever a new code push or pull request (PR) is made to the repository. This initiates the CI/CD workflow.
2. **Build Stage (Build and Compile)**: In this stage, the pipeline checks out the code and runs build commands, which compile the code and prepare it for testing. This ensures the code is in a runnable state and ready for further processing.
3. **Testing Stage (Unit & Integration Tests, Security Scan)**: The testing phase involves running unit and integration tests to verify the functionality and integrity of the code. Additionally, a security scan is conducted to check for potential vulnerabilities, ensuring the code adheres to security standards.
4. **Deployment Stage (Firebase & google play store Deployments)**: After successful testing, the code is deployed to the specified environments:
    - **Firebase** for managing data, authentication, and hosting dynamic content.
    - **Google play store** for hosting static pages and non-dynamic resources.


ST10047883 / WILLS-Project-Cheshire-Home-App-and-website
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Files
main
Go to file
.github/workflows
dotnet-desktop.yml
main.yml
Cheshire Home Website
Cheshire_home_app
WILLS-Project-Cheshire-Home-App-and-website / .github / workflows /
Add file
ST10047883 Update main.yml
History
Name
Last commit message
Last commit date
dotnet-desktop.yml
Update dotnet-desktop.yml
30 minutes ago
main.yml
Update main.yml
1 minute ago


.NET Core Desktop
Update main.yml #13
Re-run jobs
Summary
Jobs
build (Debug)
build (Release)
Run details
Usage
Workflow file
Triggered via push 1 hour ago
ST10047883 pushed
Status
Failure
Total duration
3m 20s
Billable time
7m
Artifacts
dotnet-desktop.yml
on: push
Matrix build
2 jobs completed
Show all jobs
Annotations
3 errors and 10 warnings
build (Release)
Process completed with exit code 1.
build (Debug)
The job was canceled because "Release" failed.
build (Debug)
The operation was canceled.
build (Release): Cheshire Home Website/Clients/PaypalClient.cs#L106

Workflow file

```
name: .NET Core Desktop
on:
  push:
    branches: [ "main" ]
  pull_request:
    branches: [ "main" ]
jobs:
  build:
    strategy:
      matrix:
        configuration: [Debug, Release]
    runs-on: windows-latest
    env:
      Solution_Name: Cheshire Home Website/Cheshire Home Website.sln
      Test_Project_Path: Cheshire Home Website/Cheshire Home Website.csproj
      Wap_Project_Directory: Cheshire Home Website
      Wap_Project_Path: Cheshire Home Website/Cheshire Home Website.wapproj
      DOTNET_ROOT: C:\Program Files\dotnet
    steps:
    - name: Checkout
      uses: actions/checkout@v4
      with:
        fetch-depth: 0
    # Debugging step to verify the file structure in the runner environment
    - name: List directory contents
      run: |
        echo "Listing root directory:"
        ls
        echo "Listing Cheshire Home Website directory:"
        ls "Cheshire Home Website"
    - name: Install .NET Core
      uses: actions/setup-dotnet@v4
      with:
        dotnet-version: 8.0.x
    - name: Setup MSBuild.exe
      uses: microsoft/setup-msbuild@v2
    # Restore dependencies for the solution
    - name: Restore dependencies
      run: dotnet restore "Cheshire Home Website/Cheshire Home Website.sln"

    # Build the solution
    - name: Build solution
```

```
      run: dotnet build "Cheshire Home Website/Cheshire Home Website.sln"
--no-restore --configuration ${{ matrix.configuration }}
    # Execute all unit tests in the solution
    - name: Execute unit tests
      run: dotnet test "Cheshire Home Website/Cheshire Home Website.csproj"
--no-build --configuration ${{ matrix.configuration }}
    # Restore the application to populate the obj folder with RuntimeIdentifiers
    - name: Restore the application
      run: msbuild "Cheshire Home Website/Cheshire Home Website.sln" /t:Restore
/p:Configuration=${{ matrix.configuration }}
    # Decode the base 64 encoded pfx and save the Signing_Certificate
    - name: Decode the pfx
      run: |
        $pfx_cert_byte = [System.Convert]::FromBase64String("${{
secrets.Base64_Encoded_Pfx }}")
        $certificatePath = Join-Path -Path $env:Wap_Project_Directory -ChildPath
GitHubActionsWorkflow.pfx
        [IO.File]::WriteAllBytes("$certificatePath", $pfx_cert_byte)
    # Create the app package by building and packaging the Windows Application
Packaging project
    - name: Create the app package
      run: msbuild "${{ env.Wap_Project_Path }}" /p:Configuration=${{
matrix.configuration }} /p:UapAppxPackageBuildMode=${{
env.Appx_Package_Build_Mode }} /p:AppxBundle=${{ env.Appx_Bundle }}
/p:PackageCertificateKeyFile=GitHubActionsWorkflow.pfx
/p:PackageCertificatePassword=${{ secrets.Pfx_Key }}
      env:
        Appx_Bundle: Always
        Appx_Bundle_Platforms: x86|x64
        Appx_Package_Build_Mode: StoreUpload
        Configuration: ${{ matrix.configuration }}
    # Remove the pfx file after packaging
    - name: Remove the pfx
      run: Remove-Item -path $env:Wap_Project_Directory\GitHubActionsWorkflow.pfx
    # Upload the MSIX package as a build artifact
    - name: Upload build artifacts
      uses: actions/upload-artifact@v3
      with:
        name: MSIX Package
        path: ${{ env.Wap_Project_Directory }}\AppPackages
```

Running costs

Predicted User Growth and Scaling Points

- **Predicted User Growth Documentation:**
    - *Growth Scenarios:* We have developed predictive models for best-case, worst-case, and average user growth over a two-year span, with the projections broken down on a monthly basis.
        - **Best-case growth:** Assumes maximum adoption and word-of-mouth within the community, leading to rapid monthly user increases.
        - **Worst-case growth:** Considers minimal adoption, possibly due to limited reach or lack of awareness.
        - **Average (mean) growth:** Based on moderate adoption, with users slowly increasing as awareness of the app grows.

As a result of its regular pricing tier, Firebase's Realtime Database is able to accommodate an increase in the number of concurrent users that can reach thousands. However, according to our best-case growth projection, it is possible that we may hit the tier restrictions of Firebase over the next 18 months. This would cause us to explore either upgrading our Firebase tiers

Predictive Models for User Growth:

- *Three Scenarios:*
    - **Best-case scenario:** Projected at 15% monthly growth, peaking at approximately 20,000 users by the end of two years.
    - **Worst-case scenario:** 2% monthly growth, resulting in roughly 2,500 users after two years.
    - **Average scenario:** 7% monthly growth, ending with about 8,000 users over two years.

Month	Best-Case Users	Worst-Case Users	Avg-Case Users
1	1000	1000	1000
6	2011	1126	1513
12	4025	1267	2281
18	8054	1427	3437
24	20254	2525	8000

The projected monthly costs include Firebase services (Realtime Database, Cloud Storage, Authentication), as well as Google Play Store fees for distribution. Here's an estimated breakdown for the first 24 months.

Month	Firebase Cost (Database)	Firebase Storage	Google Play Fees	Total Running Cost
free plan	free	free	R500 (once off)	R500
1	pay as you go	pay as you go	R500 (once off)	R500
6	pay as you go	pay as you go	R500 (once off)	R500
12	pay as you go	pay as you go	R500 (once off)	R500
18	pay as you go	pay as you go	R500 (once off)	R500
24	pay as you go	pay as you go	R500 (once off)	R500

The firebase database is free to use however long the owner wants, however if additional storage/user capacity the owner if capable of buying additional space As the user/storage capacity continues to grow.

Alternative Technologies for Scalability:

- *Potential Technology Transition Points:* As Firebase's Realtime Database approaches its user limit, Firestore offers a natural scaling option within Firebase's suite, which can handle higher loads with more flexibility and lower latency for larger datasets.

Comparison Costs:

- **Firestore:** Expected to be more scalable than Realtime Database with costs of around $0.18 per GB for storage and approximately $0.06 per 100,000 reads.
- **AWS DynamoDB:** Offers high scalability and may be a better long-term solution if the user base exceeds 50,000, with pricing around $1.25 per WCU (write capacity unit) and $0.25 per RCU (read capacity unit).

(*Pricing | Firestore*. (n.d.))

Change management

The Queensburgh Cheshire Home mobile application is intended to improve communication, donation processing, and event engagement, in accordance with the home's mission to cultivate stronger community connections and support. Adopting this application will enable the organisation to streamline the management of events, gallery content, and donor interactions by centralising critical information and communication channels. Additionally, the application offers a secure and efficient platform for managing donations, which has the potential to enhance donor engagement and financial support for the home's programs.

The organisation would likely adopt the software for the following reasons:

- **Efficiency:** It streamlines content management (e.g., updating event details, “About Us” sections, and gallery images), reducing administrative time and resources.
- **Enhanced Donations:** The app offers a dedicated, easy-to-navigate donation page that builds trust and encourages contributions.
- **Increased Community Engagement:** By providing users with a real-time view of the home’s activities, the app strengthens community relationships, which can lead to more community support and volunteerism.

User Adoption of the Software

The app gives consumers a flawless, centralised experience to keep updated on events and activities of the Cheshire Home, make safe donations, and see the results of their support. Features like the "About Us" section, real-time event announcements, photo browsing, and donation confirmation combined with the app's safe and easy UI inspire users to interact with the organisation.

Users are likely to adopt the software for the following reasons:

- **Ease of Use:** The app's simple and intuitive interface makes it easy to stay connected and contribute without hassle.
- **Transparency:** Users can readily access financial information and certifications, increasing trust in the organisation.
- **Personal Impact:** Receiving donation confirmations and viewing updates on their contributions fosters a sense of personal connection to the Cheshire Home’s work.

Strategy to Maintain and Support the Software

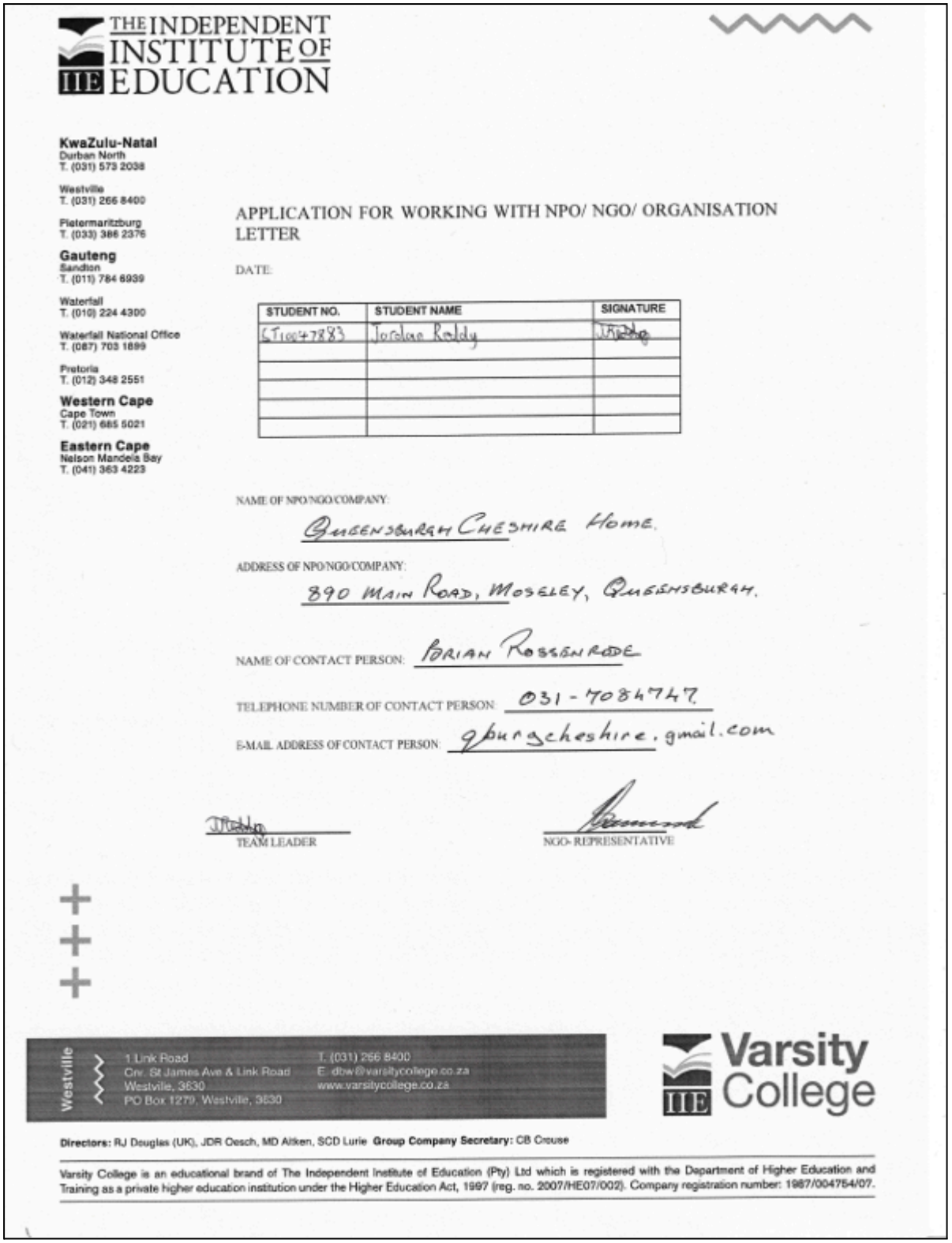
In order to guarantee that the application remains functional, pertinent, and current, the subsequent support and maintenance strategies are advised:

1. **Regular Updates**: The application will be updated on a regular basis to satisfy the changing needs of both the organisation and its users, taking into account user feedback and security requirements.
2. **User Assistance**: Offering a dedicated assistance section within the application and responsive customer support channels to address users' inquiries or concerns. Technical issues will be resolved by a support team, which will also manage user feedback and provide prompt solutions.
3. **Feedback Loop**: Utilising in-app prompts and surveys to collect user feedback, which will be analysed to enhance the app's performance, usability, and features periodically.
4. **Change Management**: By addressing organisation-wide communication about app updates and improvements, changes are announced to staff and users in advance, minimising disruptions and promoting a smooth adoption experience.

With a strong emphasis on training, promotional efforts, user incentives, and structured maintenance, the organisation and users alike will find value in adopting the app, with the support in place to ensure its longevity and effectiveness.

Appendices

Declaration of Authenticity



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Waterfall National Office
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Pretoria
T. (012) 348 2551

Western Cape
Cape Town
T. (021) 685 5021

Eastern Cape
Nelson Mandela Bay
T. (041) 363 4223

APPLICATION FOR WORKING WITH NPO/ NGO/ ORGANISATION LETTER

DATE:

STUDENT NO.	STUDENT NAME	SIGNATURE
ST10047883	Jordan Reddy	

NAME OF NPO/NGO/COMPANY: Queensburgh Cheshire Home.

ADDRESS OF NPO/NGO/COMPANY: 890 Main Road, Moseley, Queensburgh.

NAME OF CONTACT PERSON: Brian Rossenrode

TELEPHONE NUMBER OF CONTACT PERSON: 031-7084747

E-MAIL ADDRESS OF CONTACT PERSON: qburgcheshire.gmail.com

TEAM LEADER

NGO- REPRESENTATIVE

Westville
1 Link Road
Cnr. St James Ave & Link Road
Westville, 3630
PO Box 1279, Westville, 3630
T. (031) 266 8400
E. dbw@varsitycollege.co.za
www.varsitycollege.co.za

Varsity College

Declaration of authenticity

I, Ethan beckx ID Number, 0303275188082

hereby declare that this portfolio, and any evidence included therein, contains my own independent work and that I have not received help from other groups.

I confirm that we have not committed plagiarism in the accomplishment of this work, nor have I falsified and/or invented experimental data.

I accept the academic penalties that may be imposed for violations of the above.

STUDENT SIGNATURE **DATE** 20 November 2024

Declaration of authenticity

I, Tyrell Anthony ID Number, 0309055173087

hereby declare that this portfolio, and any evidence included therein, contains my own independent work and that I have not received help from other groups.

I confirm that we have not committed plagiarism in the accomplishment of this work, nor have I falsified and/or invented experimental data.

I accept the academic penalties that may be imposed for violations of the above.

TRAnthony

STUDENT SIGNATURE

20/11/24

DATE

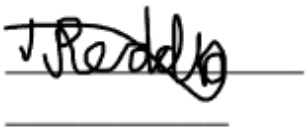
Declaration of authenticity

I, Jordan Reddy ID Number, 0211265058084

hereby declare that this portfolio, and any evidence included therein, contains my own independent work and that I have not received help from other groups.

I confirm that we have not committed plagiarism in the accomplishment of this work, nor have I falsified and/or invented experimental data.

I accept the academic penalties that may be imposed for violations of the above.



STUDENT SIGNATURE DATE 11/20/24

Declaration of authenticity

I, Kirath Govender ID Number, ST10072682

hereby declare that this portfolio, and any evidence included therein, contains my own independent work and that I have not received help from other groups.

I confirm that we have not committed plagiarism in the accomplishment of this work, nor have I falsified and/or invented experimental data.

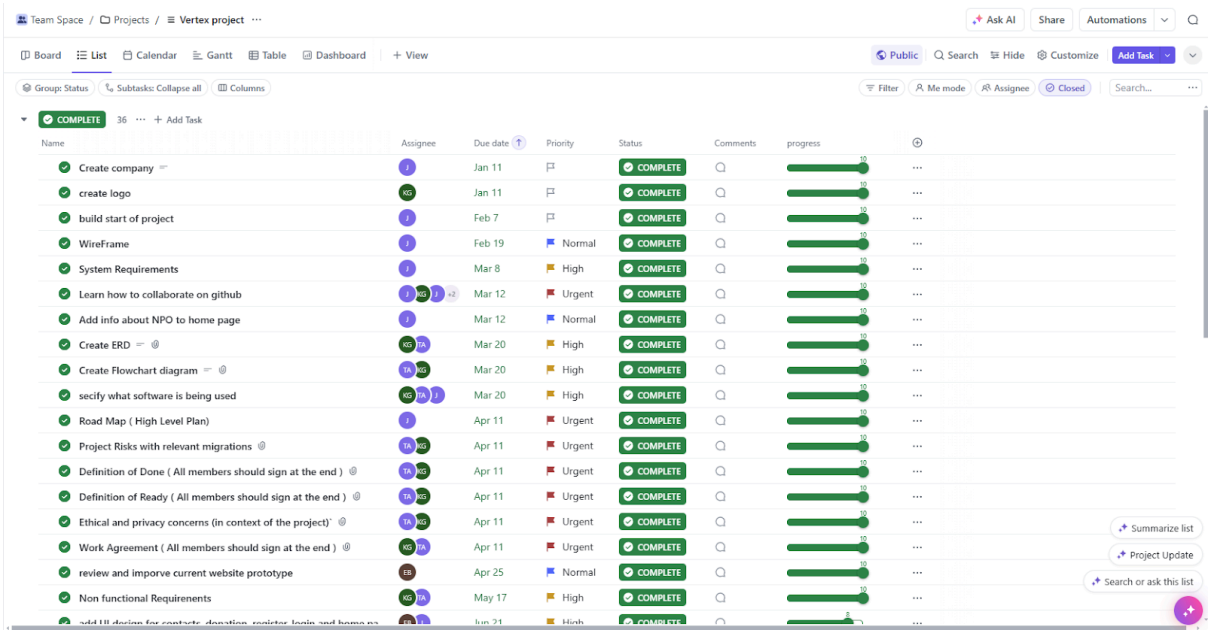
I accept the academic penalties that may be imposed for violations of the above.

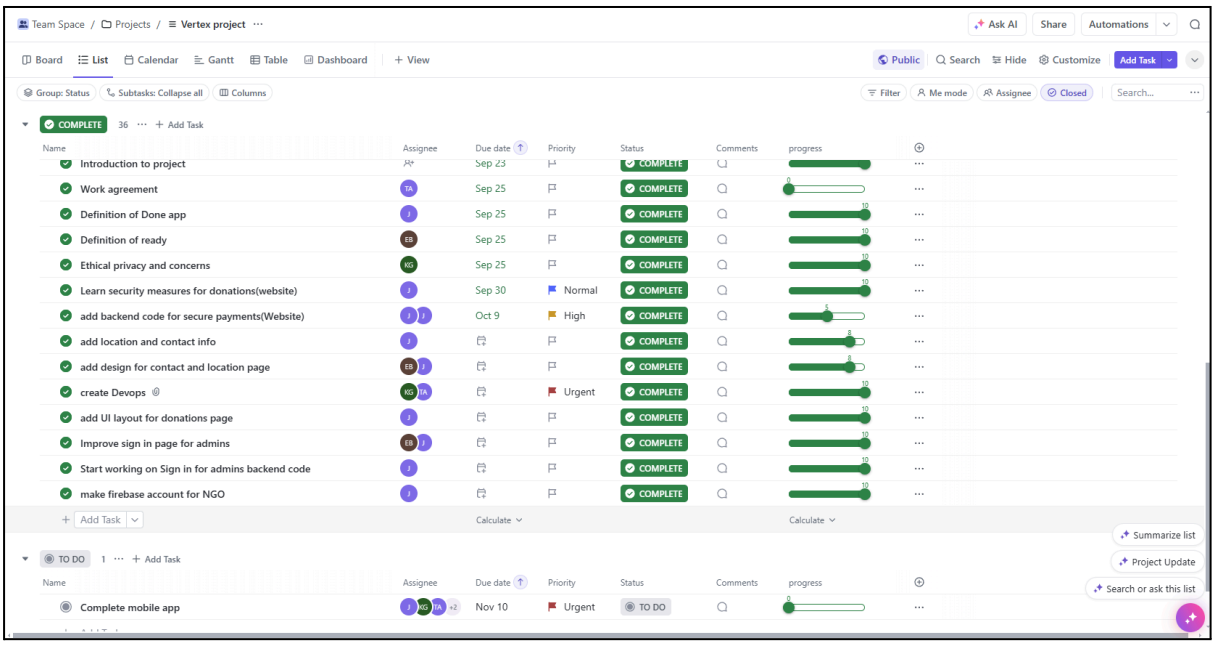
Kirath Govender

STUDENT SIGNATURE

20/11/2024
DATE

Scrum Artifacts





MEETING NO: 1 HELD ON 4 NOVEMBER 2023		Attendance
NAME	SURNAME	
Jordan	Reddy	x
Tyrell	Anthony	x
Ethan	Beckx	x
Kirath	Govendor	x
Johan-Frans	Kleyn	x
MEETING NO: 2 HELD ON 23 FEBRUARY 2024 TO DISCUSS ROLES		
NAME	**SURNAME**	Attendance
Jordan	Reddy	x
Tyrell	Anthony	x
Ethan	Beckx	x
Johan-Frans	Kleyn	x
MEETING NO: 3 HELD ON 11 March 2024 For checkup and further discuss roles		
NAME	**SURNAME**	Attendance
Jordan	Reddy	x
Tyrell	Anthony	x
Ethan	Beckx	x
Johan-Frans	Kleyn	x
Kirath	Govendor	x
MEETING NO: 4 HELD ON 11 July 2024 To Prepare For Presentation.		
NAME	**SURNAME**	Attendance
Jordan	Reddy	x
Tyrell	Anthony	x

Ethan	Beckx	x
MEETING NO: 5 HELD ON 22 July 2024 For Presentation Run Through		
NAME	SURNAME	Attendance
Jordan	Reddy	x
Tyrell	Anthony	x
Ethan	Beckx	x
Kirath	Govendor	x
Johan-Frans	Kleyn	x
MEETING NO: 6 HELD ON 19 September 2024 For workload update		
NAME	SURNAME	Attendance
Jordan	Reddy	x

Privacy

https://popia.co.za/

(1) This Act does not apply to the processing of personal information in the course of a purely personal or household activity;that has been de-identified to the extent that it cannot be re-identified again;by or on behalf of a public body—which involves national security, including activities that are aimed at assisting in the identification of the financing of terrorist and related activities, defence or public safety; or the purpose of which is the prevention, detection, including assistance in the identification of the proceeds of unlawful activities and the combating of money laundering activities, investigation or proof of offences, the prosecution of offenders or the execution of sentences or security measures, to the extent that adequate safeguards have been established in legislation for the protection of such personal information; by the Cabinet and its committees or the Executive Council of a province; or relating to the judicial functions of a court referred to in section 166 of the Constitution. ‘‘Terrorist and related activities’’, for purposes of subsection (1)(c), means those activities referred to in section 4 of the Protection of Constitutional Democracy against Terrorist and Related Activities Act, 2004 (Act No. 33 of 2004)

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Group Name	VertexCode Labs
Sprint	NGO - Valid

Date	16/09/2024
Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs
Sprint	Apk/ Aab/Keystores

Date	16/09/2024
Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs
Sprint	Github actions

Date	16/09/2024
Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs
Sprint	Presentation

Date	16/09/2024
Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs		Date	16/09/2024
Sprint	Splash / Landing / Base design / nav		Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs		Date	16/09/2024
Sprint	Aboveut / settings		Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs		Date	16/09/2024
Sprint	Playstore/ hosting		Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs		Date	16/09/2024
Sprint	Github		Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs
Sprint	Privacy/ popia

Date	16/09/2024
Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs
Sprint	Socails / fb / ig/ twitter links

Date	16/09/2024
Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

Group Name	VertexCode Labs
Sprint	Attendance demo presentations

Date	14/11/2024
Signed	

	Backlog grooming	Sprint planning	Sprint review	Sprint Retrospective	Daily scrums
Attendees					
Client					
WIL Coordinator					
Lecturer					
Team members					
Jordan Reddy	1	1	1	1	1
Tyrell Anthony	1	1	1	1	1
Etan Beckx	1	1	1	1	1
Johan Frans	1	1	1	1	1
Kirath Govender	1	1	1	1	1

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