

Unify All access key
Spring 2023 Group 5
Sharva Thakur, Arijus Trakymas, Russel Tjahjadi, Mohammad Zaid

There are several requirements that we needed to think about when making the app for the Unify keycard and also the production of the keycard. Firstly, when a user uses the Unify keycard for the first time, they would need to sign up and there are several things that we as the developers need to think about when the system processes it. Validation, making sure that the user information is stored in the database, encryption. All of these are to make sure that the user's information is valid and can be accessed through the database and when the user enters their personal information, the stored information can be safely encrypted to prevent malicious events from happening.

The app will also store the data requirements. The system would need to store the user and card information, location records and access levels. Every user will have different usernames, passwords, card information by storing each user's unique information, the system would have to store it to remember those. Similarly as for location records and for the different access levels stored for each user, we would also need to keep track of which locations plan to utilize Unify in order to prevent unauthorized access from a particular location.

When the app is in use, we also would need to consider several factors that might affect the performance of the app. When a lot of users might use the card or the app simultaneously, we would need to find a better and efficient algorithm to process multiple user requests all at once. In addition to performance, precision/accuracy of the app is also important because we thought of having a better encoding for the data used because every user would want to have their personal information private and be able to store their information effectively in the system.

The app must also be dependable when in use. It must be reliable, available, robust and safe. A factor that we could consider is when there is no long downtime. This is when the app is under maintenance and that the system shall store the user's information and protect them until it is up and running again. Since the app will undergo an update every once in a while, the app is ensured to be available 99% of the time without failure. As for being robust, the app can be used (tapping the card for access) even when there is no connection. It should also be safe because a lot of users are storing their bank account information in the app as well.

In addition to that, the app should also have maintenance methods. First is when the account is not used within a specific amount of time, then it will warn the user that it will deactivate their account if not used in a future amount of time.

As more users are downloading the app, the app will be launched and will be able to support at least 100,000 users and as it expands, we aim to target at least 20-25% more users. As a result, we try to make the app available on any operating system that they desire (either Android or IOS devices).

When the user encounters some bugs/faults in the app and does not know how to fix it? The user can just reach out to our service desk which is available 24/7. To prevent bugs/issues or security breaches, the app shall only be used by 1 device only. In the worst case that the app will face malware or any type of viruses, the app will have a firewall system installed to strengthen the protection of user data.

Our app also aims to increase the security of the app as well. It will implement a 2 factor authentication for the user to verify their account in the app. Moreover, the app also monitors and prevents fraud people from selling unverified businesses that might scam people. Of course when the user signs up for the app, they would need to read the privacy policy displayed and that they will need to agree on the terms and conditions set by it.

The application is overall extremely easy to use and learn. The initial setting up of the app is accompanied by a complete walkthrough which makes the user experience smooth and carefree. The walkthrough is also aimed to aid in hearing disabled people by providing visual written instructions, easily readable icons, and also audio files on instruction to aid in their setting up process. The movie recommendations on the home screen allows for filtering movies based on country, language, genre, etc. providing a diverse experience for users. The app also has an inbuilt chatting feature through which the users can share profiles and connect anywhere and anytime. In addition to easily comprehensible icons, the application will remain consistent throughout rendering a simplistic view refraining to use sharp colors which are hard to look at for a long period of time. For visual relief, the fonts and style of the application are customizable.

The RFID is mostly used for accessing subscribed memberships and payments which are mostly expected to take place in an indoor environment, but can also work in the same capacity in any other setting. The application also provides frequent updates with bug fixes, interface customizations, and security fixes and keeps the memory size of the overall application to a minimum.

The product is free to be used by any person looking for an all-in-one easy to use application. The chatting feature of the application is a respectful environment and any immoral behavior or misconduct report may be subject to a permanent ban from the use of the application.

The application also requires user data to function to its full potential. During the setup procedure the user will be prompted to the entire User Data Agreement, which is mandatory for all Unify users to accept to gain access to the application features.