



Developing a Smart card System Using Internet of Things - Uni-C

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Introduction

In order to reduce the spread of the coronavirus, the government has limited entry to public places to only fully vaccinated visitors. The security guards at the gateways are committed to checking the health status through the colored QR codes in the Tawakkalna application to see whether or not the visitor is vaccinated.

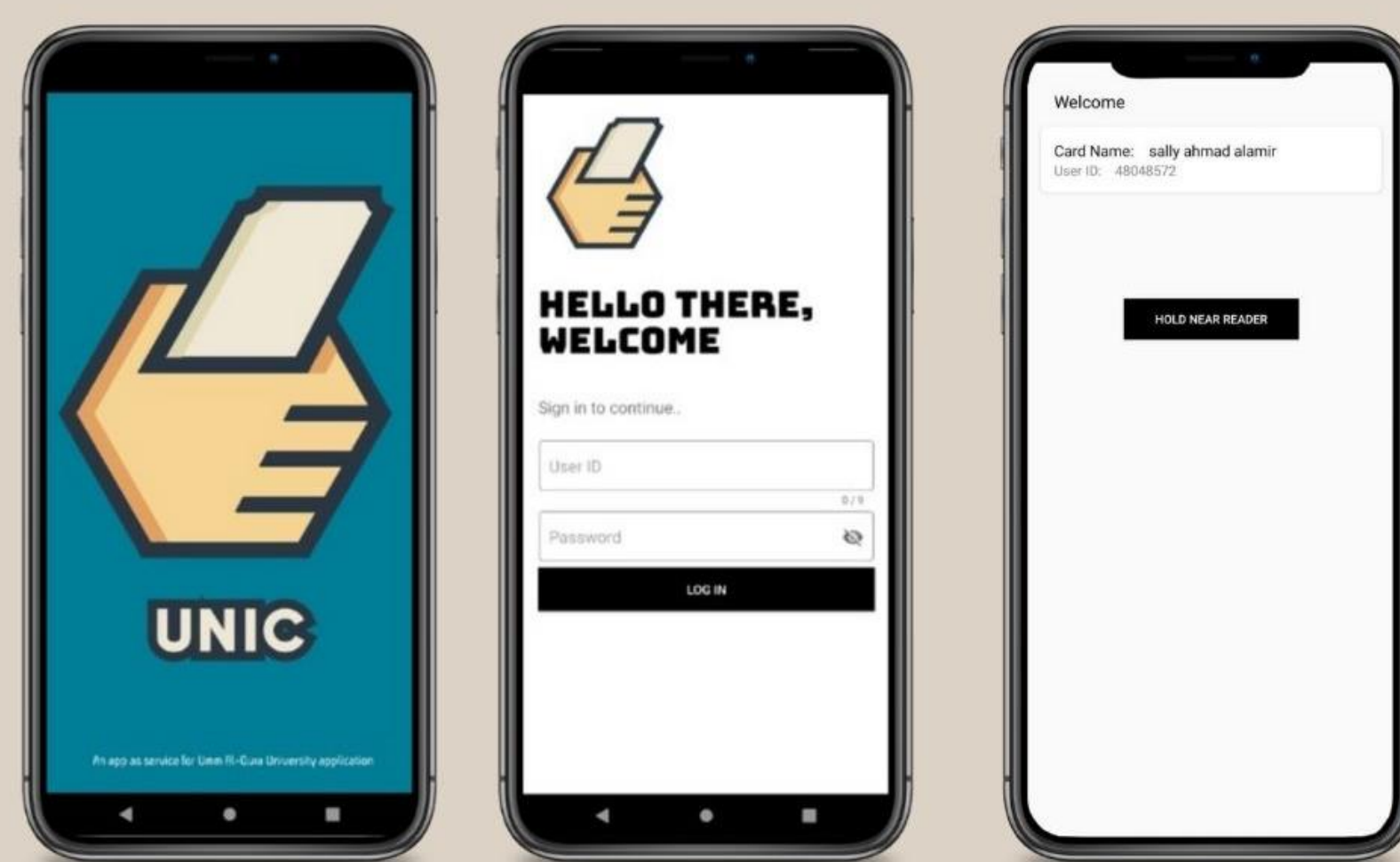
All these processes take a long time and always cause crowds at the gates. Therefore, it is good to work on an application that will help the security guards and make their work easier and more efficient.

This project will propose a solution by merging these applications with the help of NFC (near field communication) technology to solve this problem. This will make the check process much easier and faster to achieve a safe return to the country.

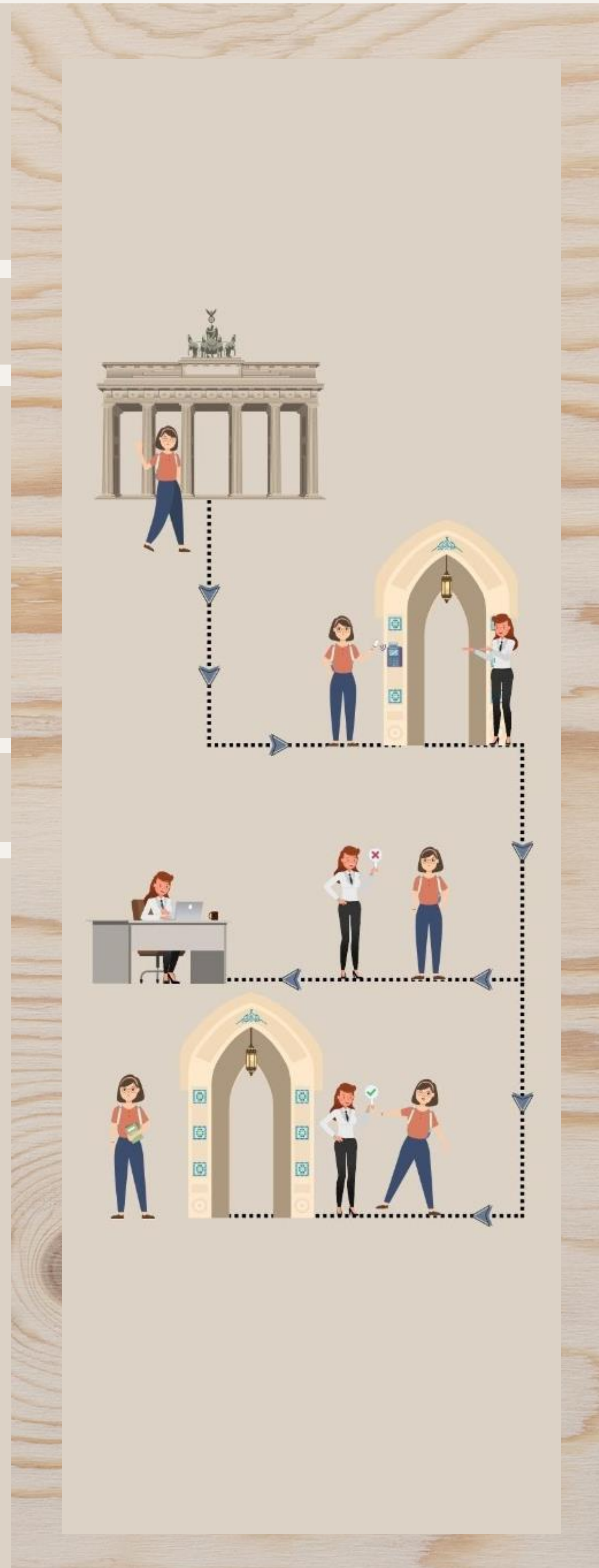
Objective

UNI-C is an application that will convert the student E-card to NFC signals. In order to fulfill the 2030 vision, which will help the security guards control the passing and checking process faster and more efficiently, the NFC reader will give a response if the user can pass the gate or not.

Application Interfaces



Description



Method / Approach

The university has different gates and for implementing the proposed system, each gate should have one or more NFC reader that should be connected with the server. Therefore, the Client-Server (Agent-based) approach has been chosen for this work to allow for communicating in a request-response messaging pattern.

The different benefit of the client-server method is much convenient to the proposed system as:

- All required data are hosted by the server which facilitate easy protection and managing authorization and authentication
- NFC reader as clients should be connected with the system without any interruptions
- Data can be checked without requiring reader and server to be in close proximity
- All readers are independent and can contact the server any time through wifi

Implementation / Tools



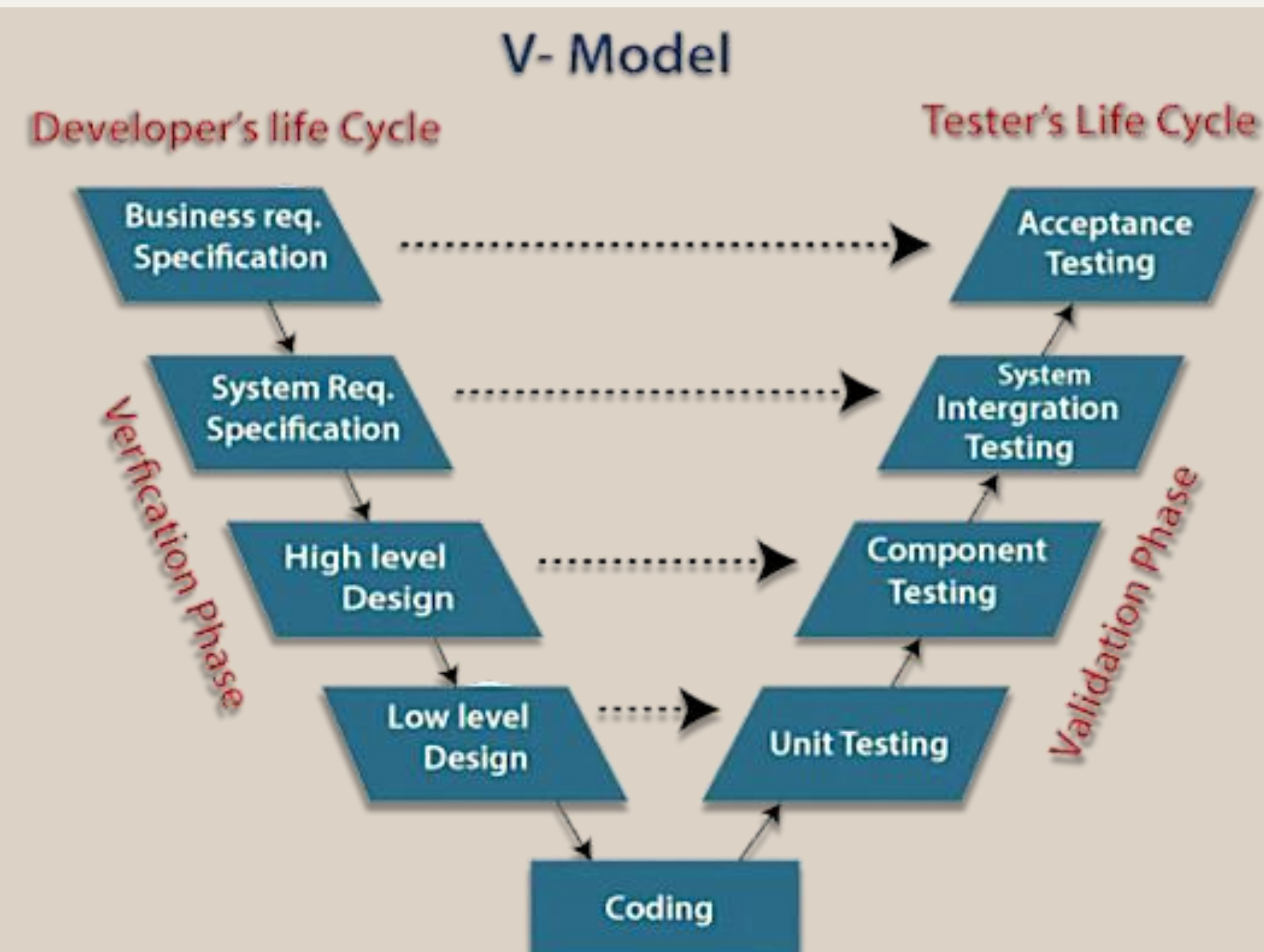
Conclusion

The proposed system will develop a mobile smart card application that is supported by NFC technology through which users' card information can be sent to the reader to share it with the server, and allow the server to perform its checking tasks, sending back the response either accepted or rejected, and accordingly, whether the user can pass or not. The system will reduce the pressure on the security guards and provide a safer and more efficient check mechanism that can be used at any entry gate.

Future Work



Methodology



Contact us

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Dictionary:

You can see the dictionary that was used to represent the sign in this project.



References:

