Final Presentation

Smart Attend

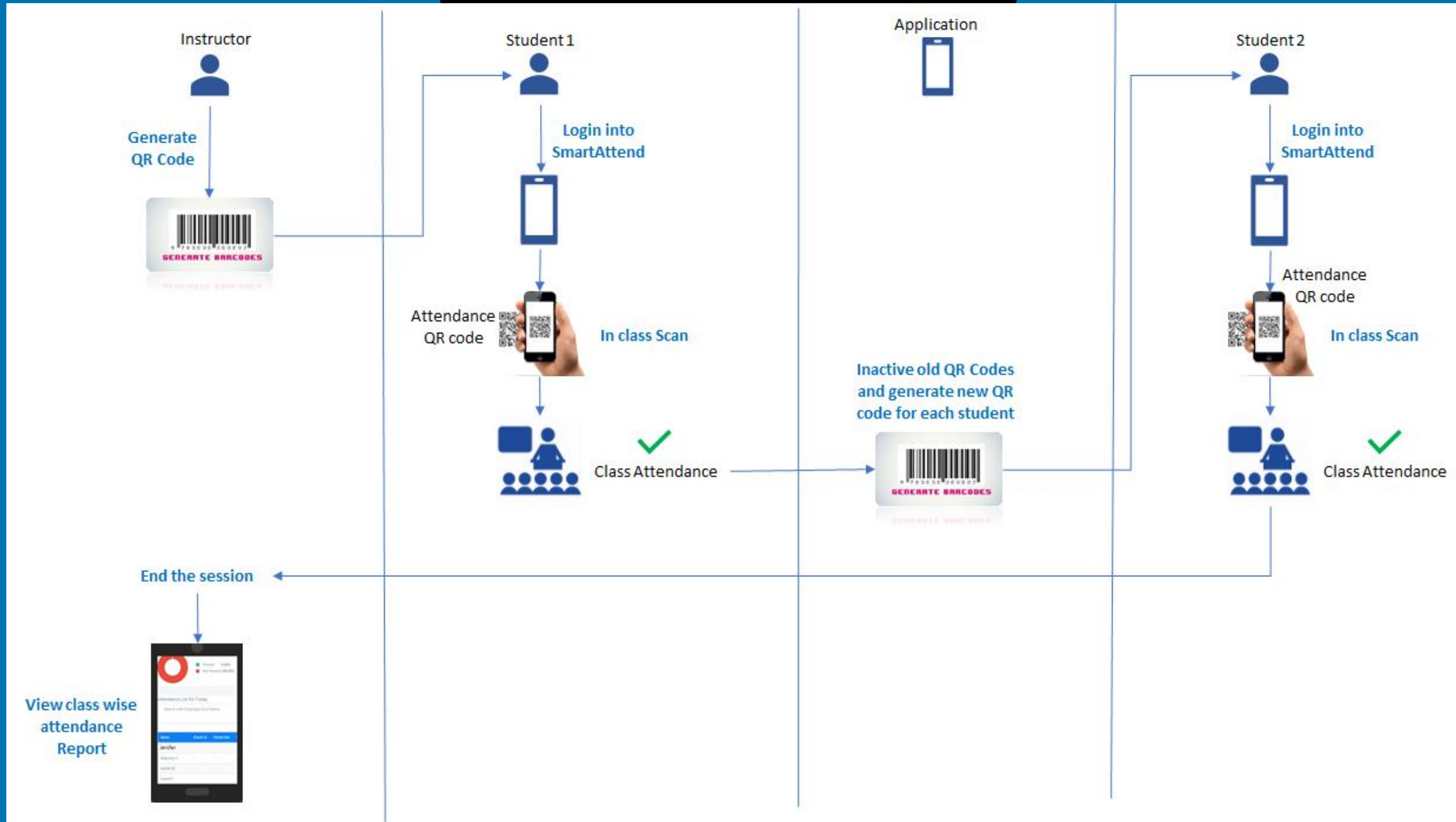
Motivation:

By observing some of the concerns faced by instructors in every class to track the attendance we were motivated to provide a solution to eradicate the issue.

Objective:

To bring ease in tracking the attendance for instructors.

Block Diagram

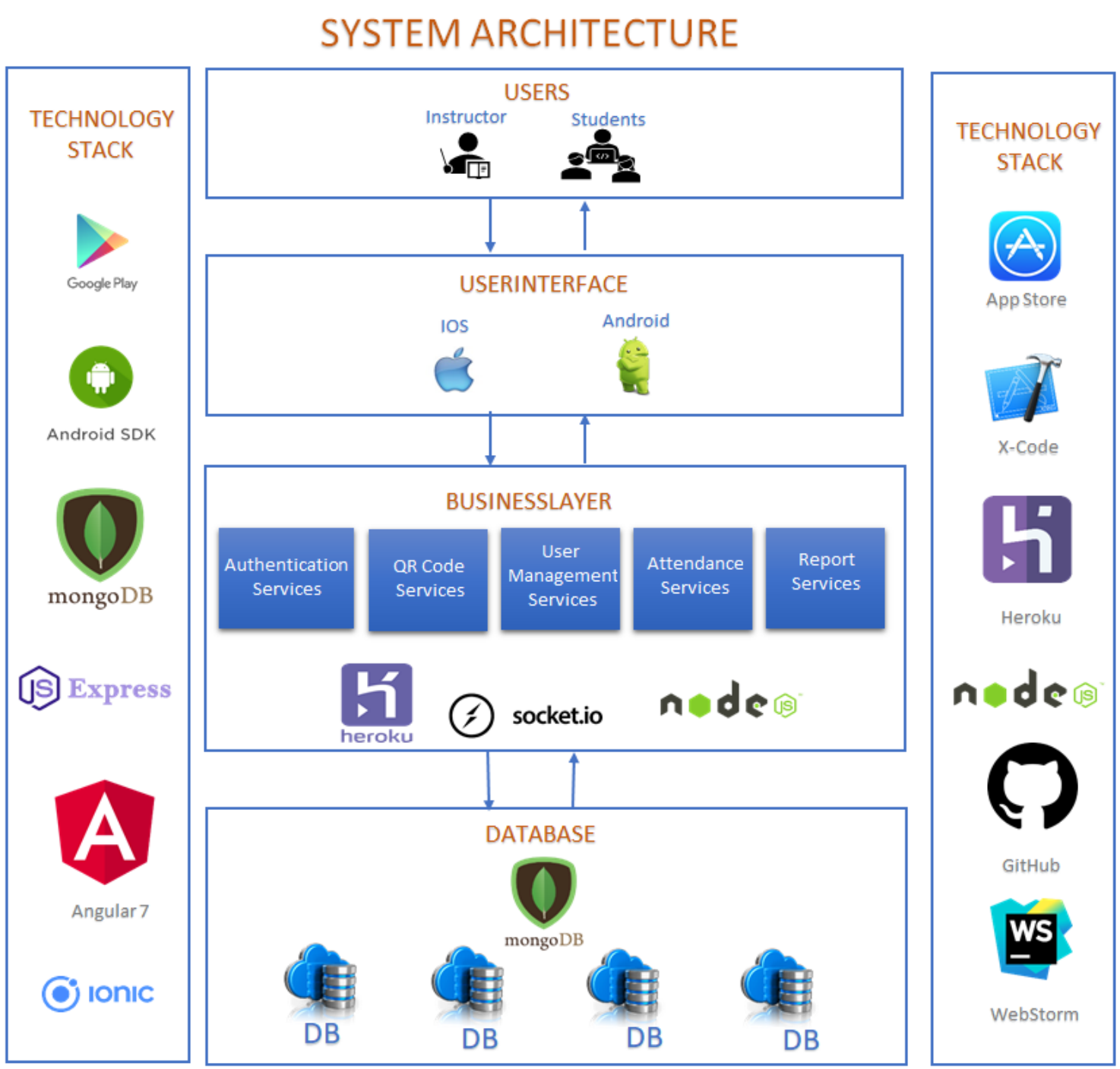


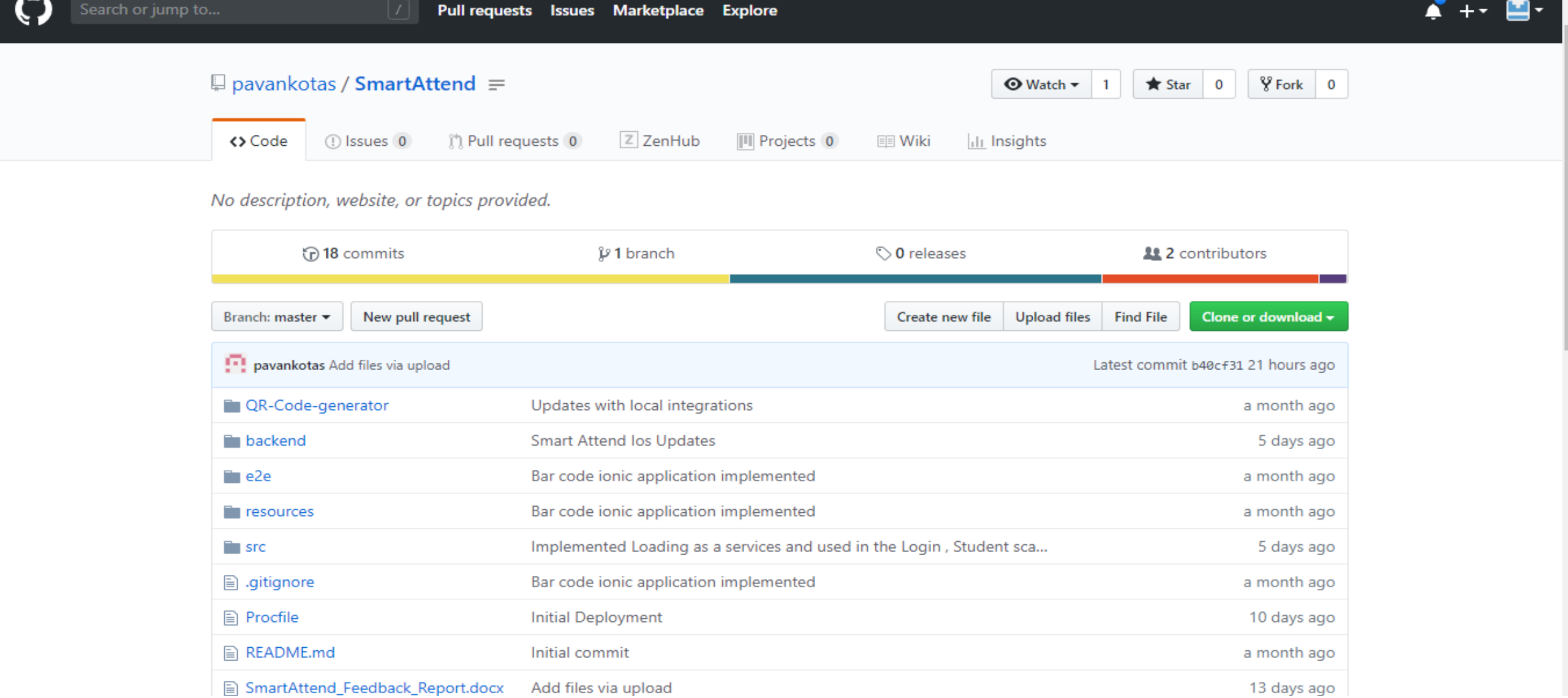
Implementation Environment

1. MongoDB
2. Angular 7
3. Express.js
4. Node.js
5. Ionic 4
6. Android SDK
7. X-Code
8. Heroku

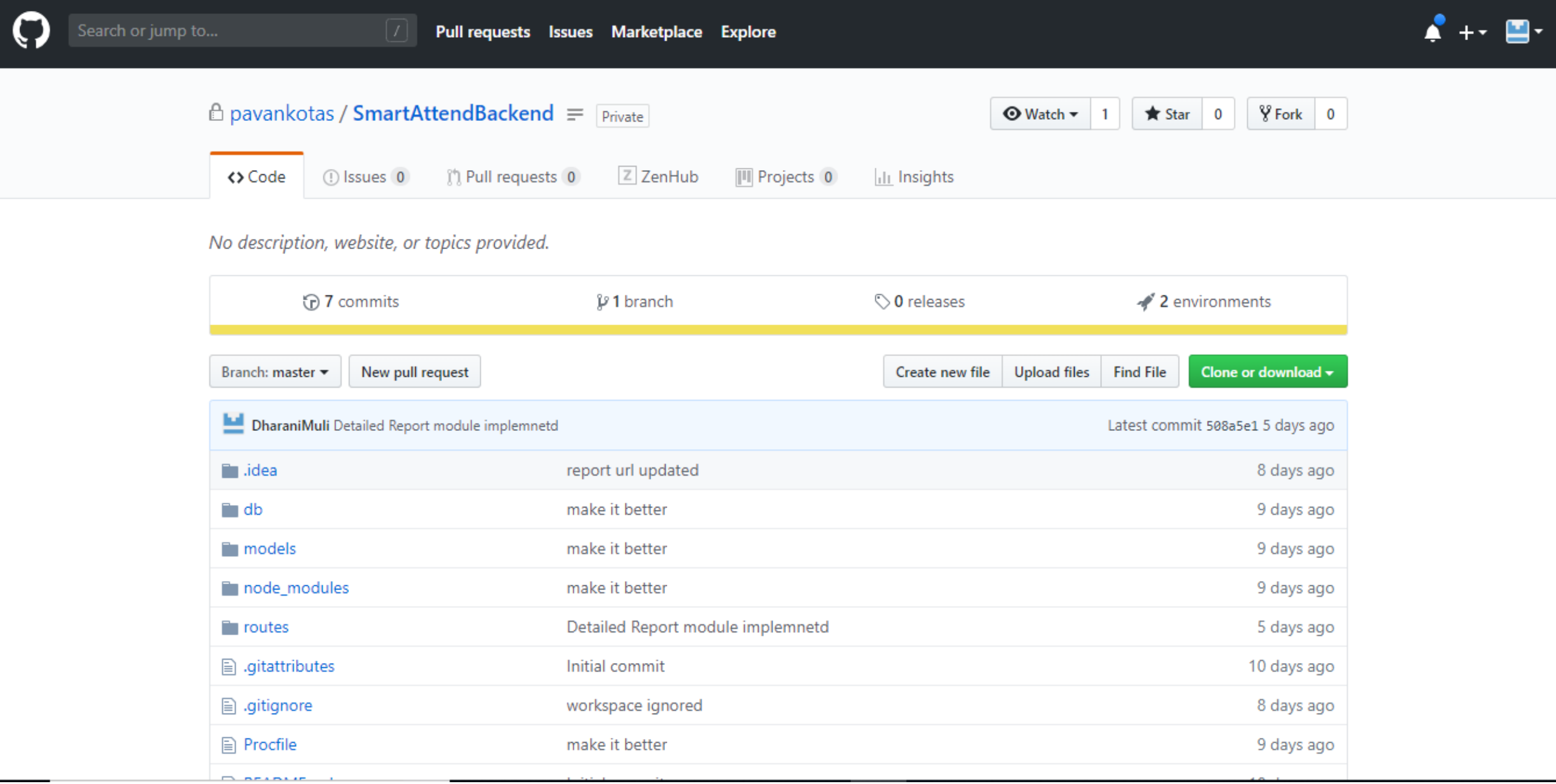
Android SDK

System Architecture

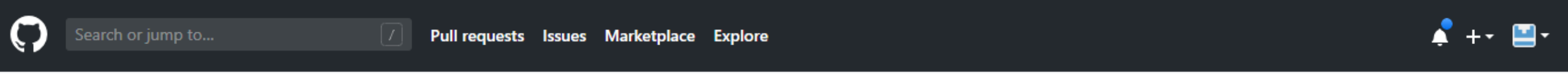




https://github.com/pavankotas/SmartAttend



https://github.com/pavankotas/SmartAttendBackend



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Pages

New Page

Feedback	Last updated 21 hours ago
Smart Attend Project Proposal	Last updated 8 days ago
SmartAttend_ReleaseNote	Last updated 21 hours ago

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https://github.com/pavankotas/SmartAttend/wiki

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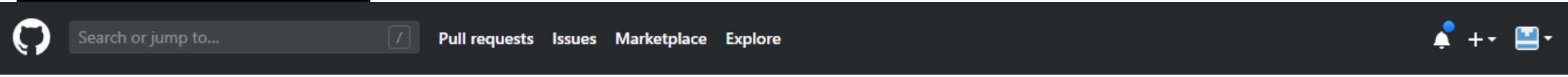

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Feedback

Edit New Page

DharaniMuli edited this page 21 hours ago · 13 revisions

Feedback received on April 2nd

1. What if user have no phone to scan
2. Security challenges as we are getting user mobile config file.
3. **Question:** Why can't Student come with QR code and instructor can scan students QR code. **Answer:** It not user friendly, as instructor will get interrupted each time when student comes into class as students can also come later the class start. Moreover, if many instructors are using our application all the instructor should have their own device to scan so it not cost-effective solution.
4. We are generating new unique QR code for each scan so that Student cannot generate QR code any other means and scan the attendance from any location.

- **Question:** Do Instructor always need to generate QR code manually for each student. **Answer:** No, Instructor has to generate QR code only once the starting of class later our system will

Pages 3

Find a Page...

Feedback

Smart Attend Project Proposal

SmartAttend_ReleaseNote

+ Add a custom sidebar

Clone this wiki locally

https://github.com/pavankot

https://github.com/pavankotas/SmartAttend/wiki/Feedback

Feedback received on Canvas

1. **Question**: Are you also taking measures like the time limit for the activations of barcode? example - the bar code being active only for the particular class so that late attendance for the class can be avoided. **Answer**: Thank you Samhitha for your feedback .We haven't planned for late attendance But definetly it's a good feature to incorporate we will plan this in future once we are done with the initial version.

2. **Question**: let's assume that the last student in the class scanned the barcode, after that a new barcode will be generated and he sends that barcode to his friend who is absent since the second student is not in the class and he has access to the barcode. How are you going to handle that in your app? **Answer**: Thats a deep observation. Yes, we have listed the scenario of last student sending the barcode to his friend. To be frank we don't have exact solution to the problem. However, the solution that we thought of was to send the location from the student device and match it with professor device distance. But, on the otherside no one would like to be tracked.

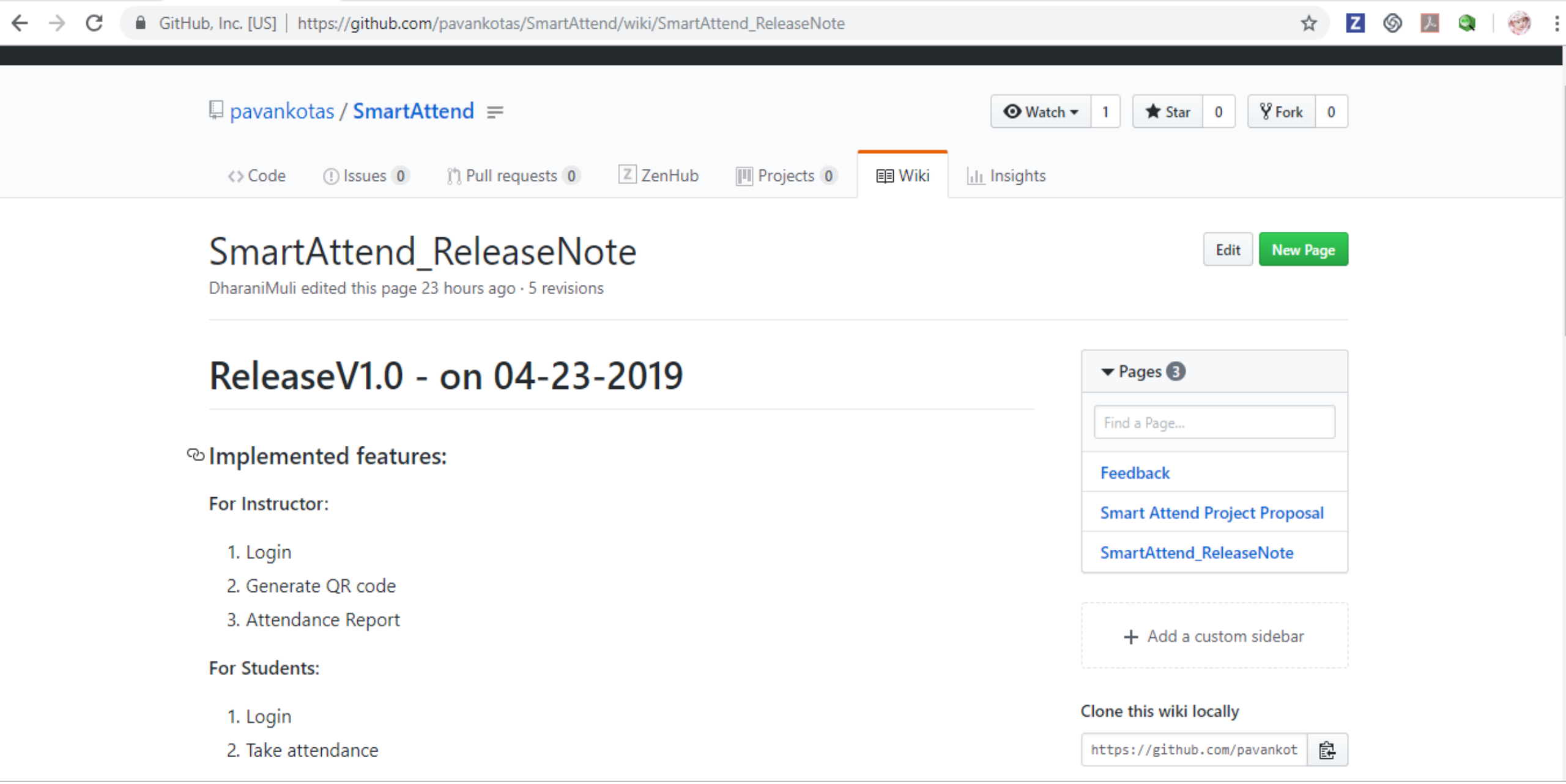
3. **Question**: *Stats that to be provided for Instructor:*

1. providing number of students attended the class. (which was already mentioned in the PPT)
2. providing each student's percentage of attendance in sorted order for particular course. *Stats for the student:*
3. providing the percentage of attendance for each course.
4. Average late arrival time for the class. **Answer**: Yeah, we will add the internal architecture of the system in a detailed way in the presentation. The statistics part that you are talking about, we will definitely consider that. We have them in bucket list too. Good suggestions though.

https://github.com/pavankotas/SmartAttend/wiki/Feedback

Future consideration:

1. Securable application.
2. User should request instructor to add attendance if they user is unable to take the attendance.
   Ex: if student don’t have phone.
3. Build Statistics
4. Late Attendance tracker
5. Course wise attendance.
6. Enhancements in Reports
7. Make Robust



https://github.com/pavankotas/SmartAttend/wiki/SmartAttend_ReleaseNote

1. Login
2. Generate QR code
3. Attendance Report

For Students:

1. Login
2. Take attendance

ReleaseV1.1 - on 04-30-2019

For Instructor:

1. Detailed Dashboard
2. Student wise report

For Students:

1. Attendance Report

Others:

1. Implemented loading functionality.
2. Place the app in play store

SmartAttend_ReleaseNote

+ Add a custom sidebar

Clone this wiki locally

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https://github.com/pavankotas/SmartAttend/wiki/SmartAttend_ReleaseNote

Features yet to implement:

For Instructor:

1. Detailed Dashboard-Enhancements
2. Student wise report-Enhancements
3. Instructor profile
4. Upload student rosters

For Students:

1. Enhanced Attendance Report
2. Student Profile

Others

1. Place the app in apple store
2. User should request instructor to add attendance if they user is unable to take the attendance.
   Ex: if student don't have phone
3. Late Attendance tracker
4. Securable application.
5. Course wise attendance.
6. Build Statistics
7. Make Robust

https://github.com/pavankotas/SmartAttend/wiki/SmartAttend_ReleaseNote

PRODUCT JOURNEY

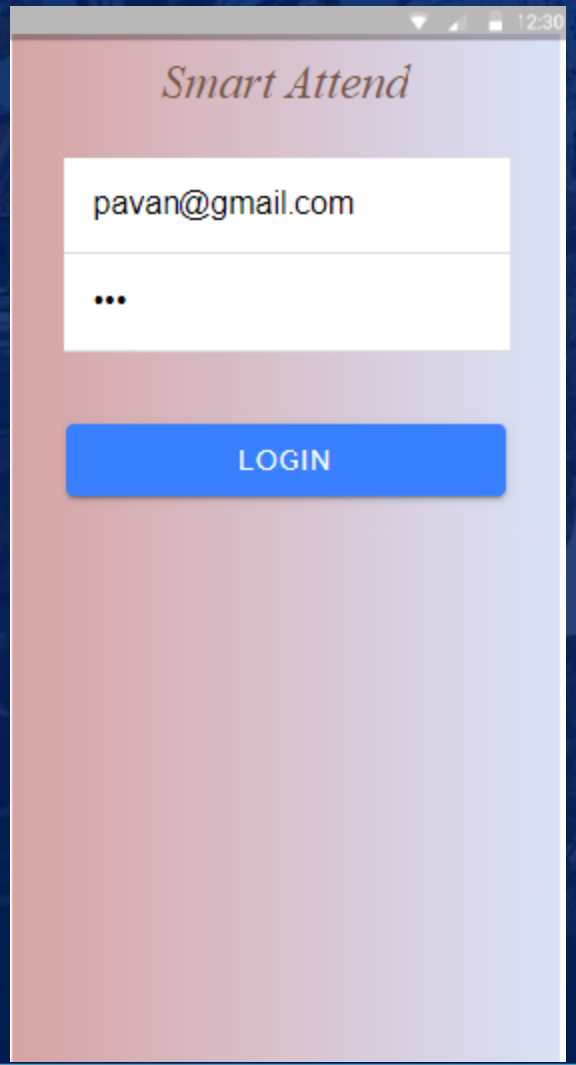
Smart Attend

March 1st2019 - May 1st 2019

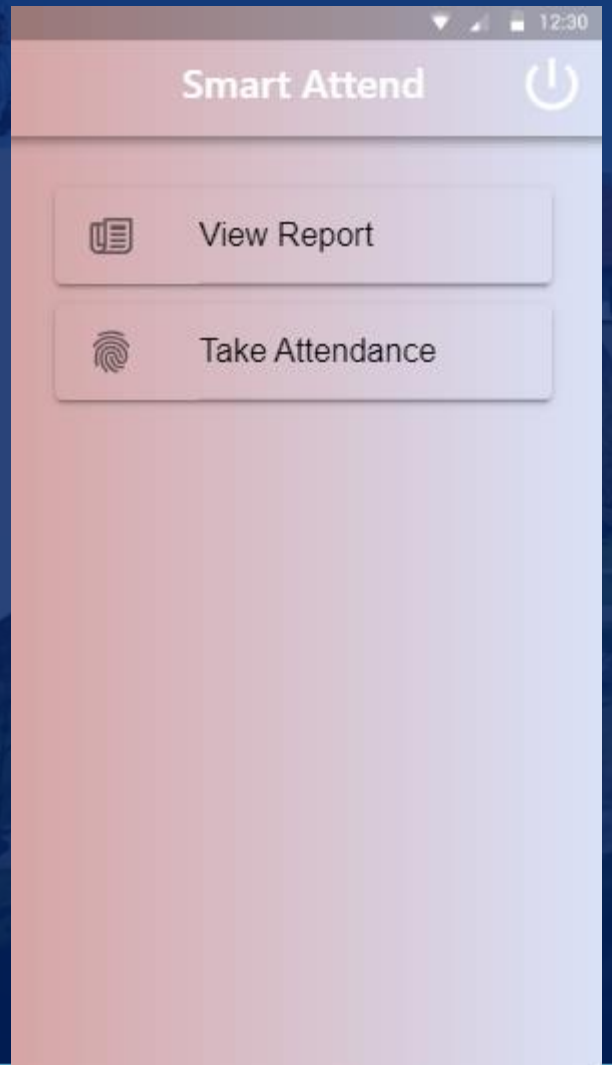
UMKC Smart Attend

Smart Attend V1.0

Professor Login

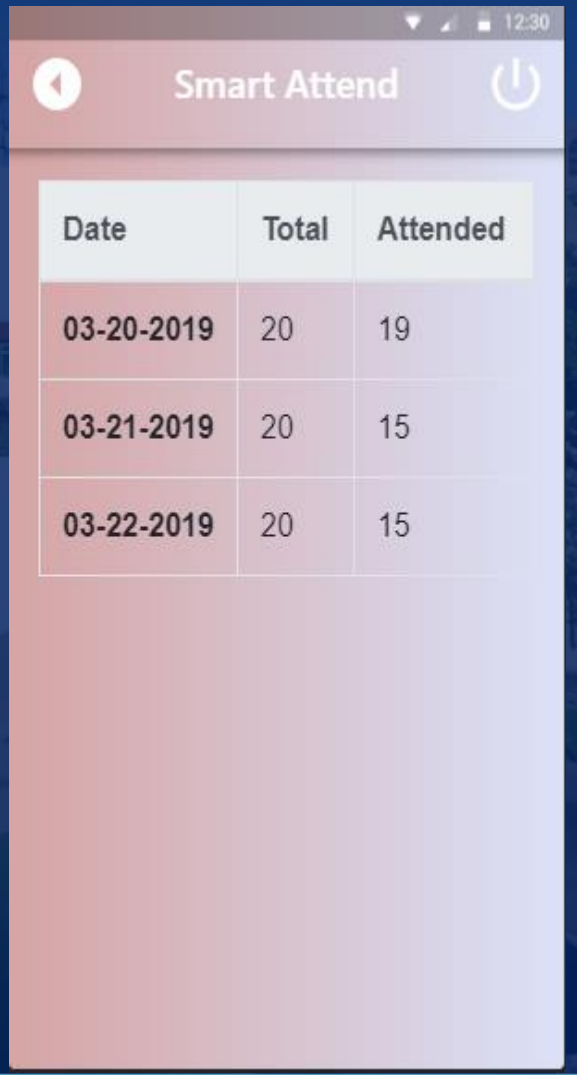


Home Page



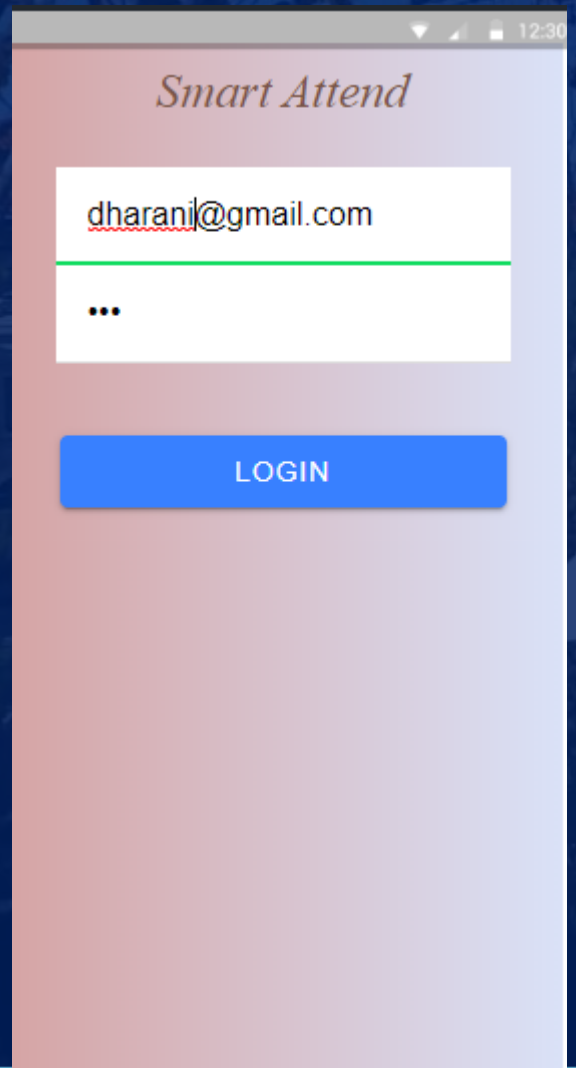
Take Attendance

View Report

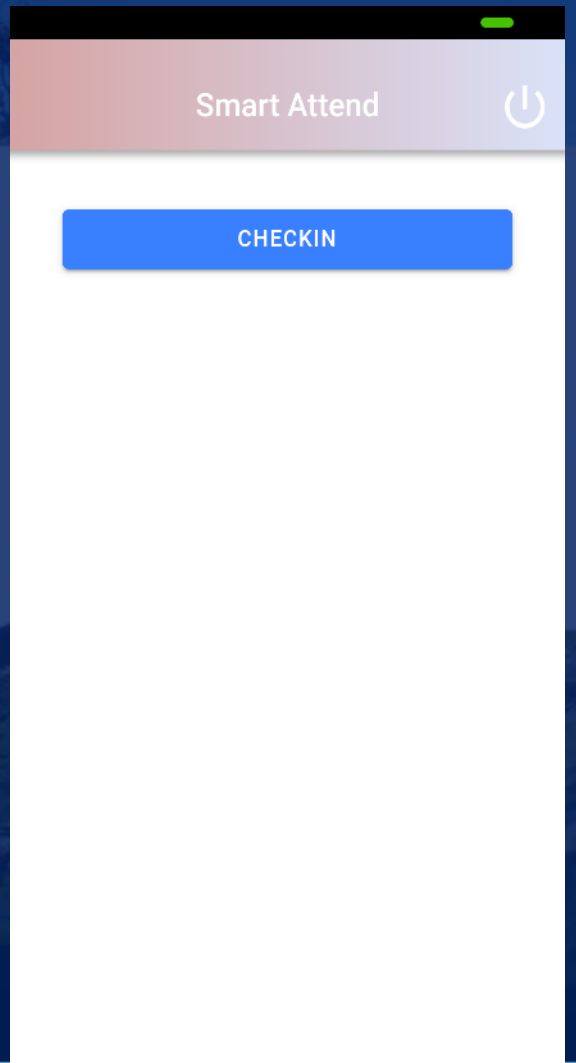


Smart Attend V1.0

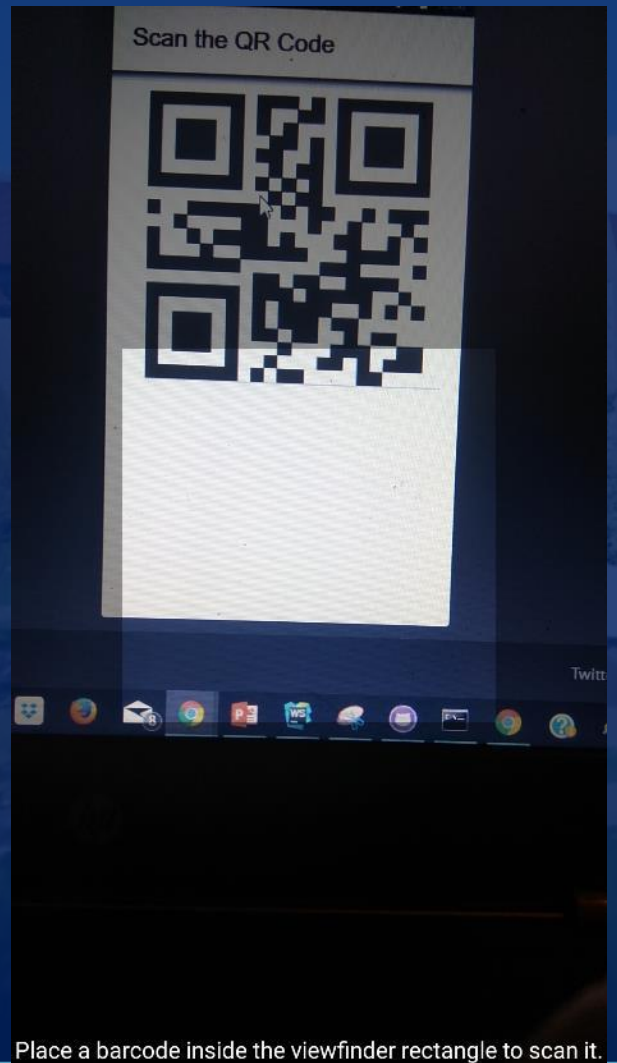
Student Login



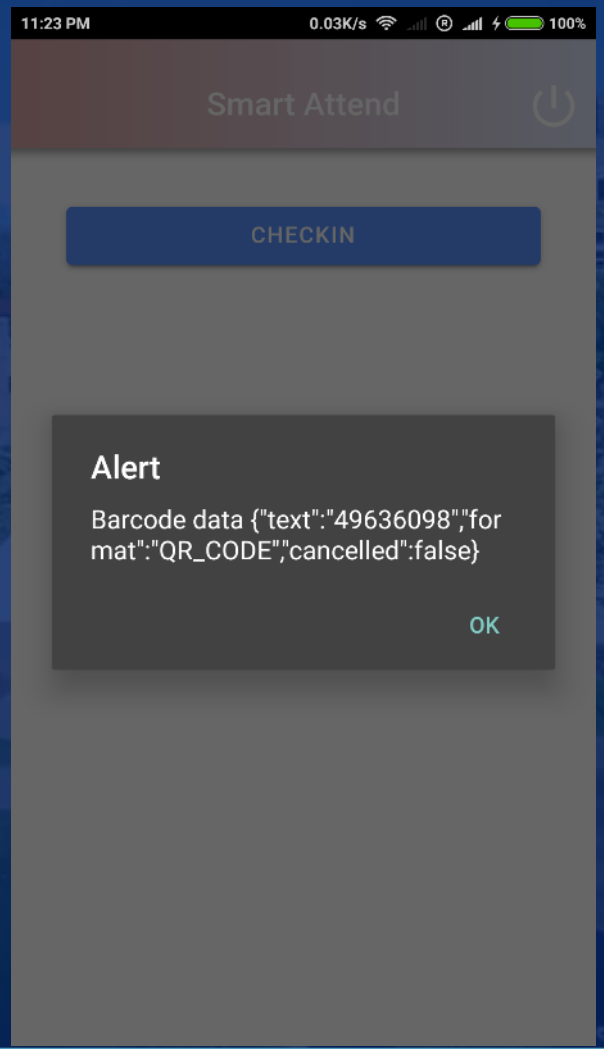
Check in



Scan QR Code



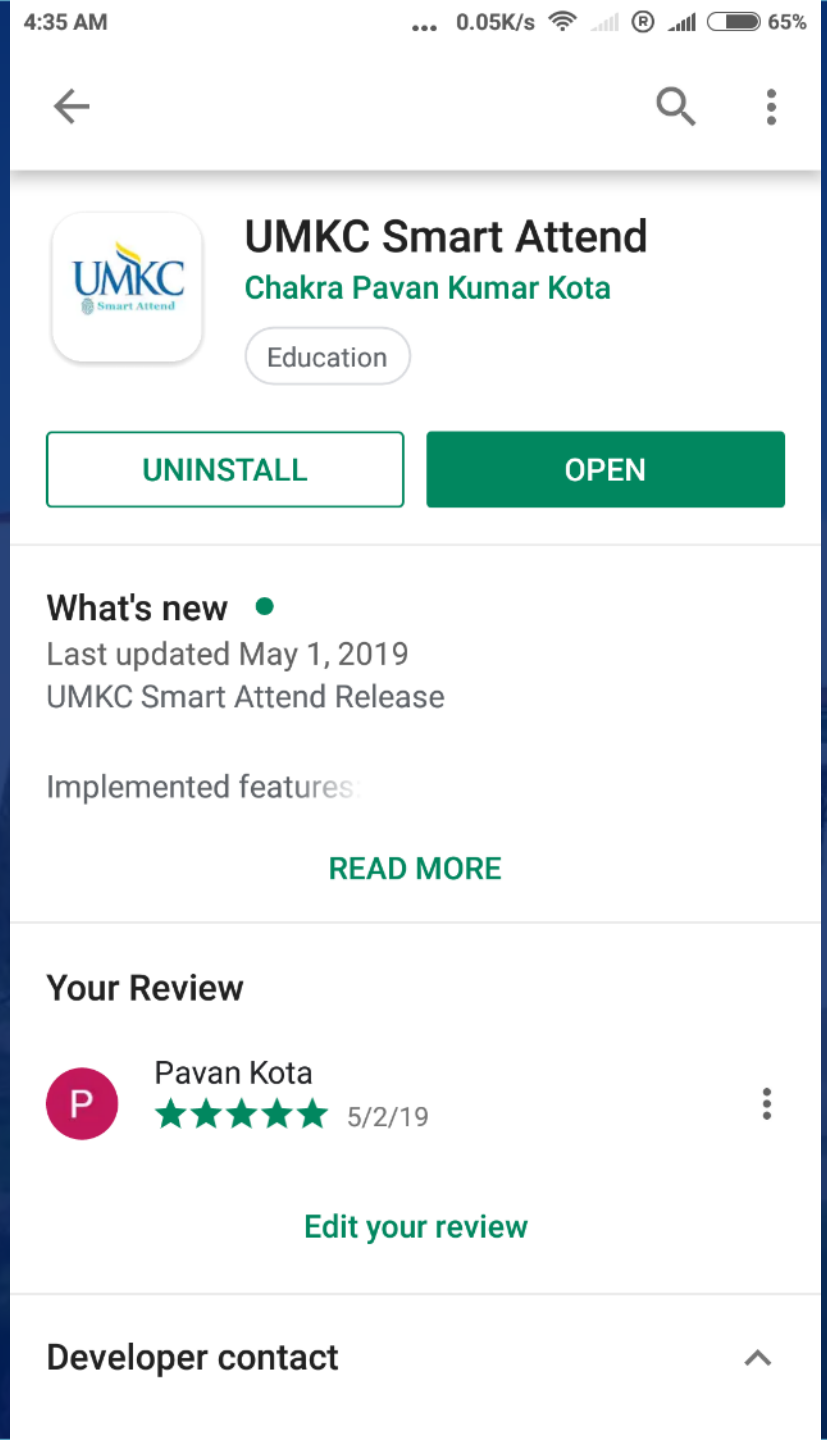
Alert



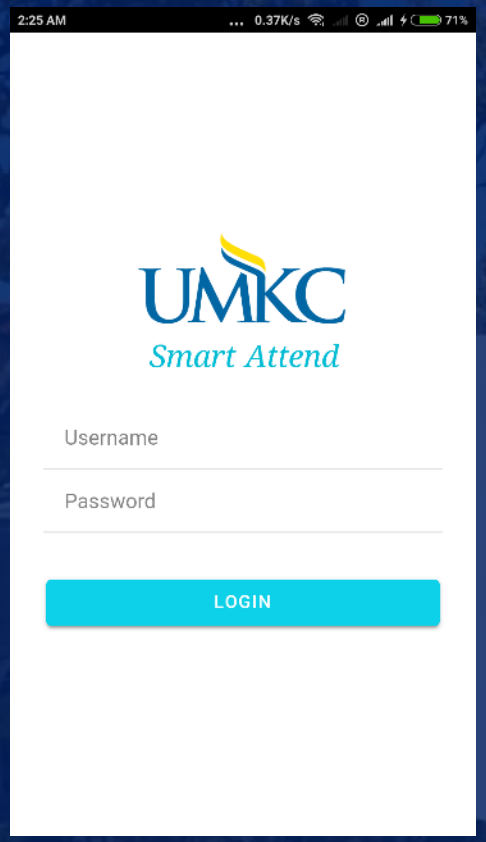
Final Presentation

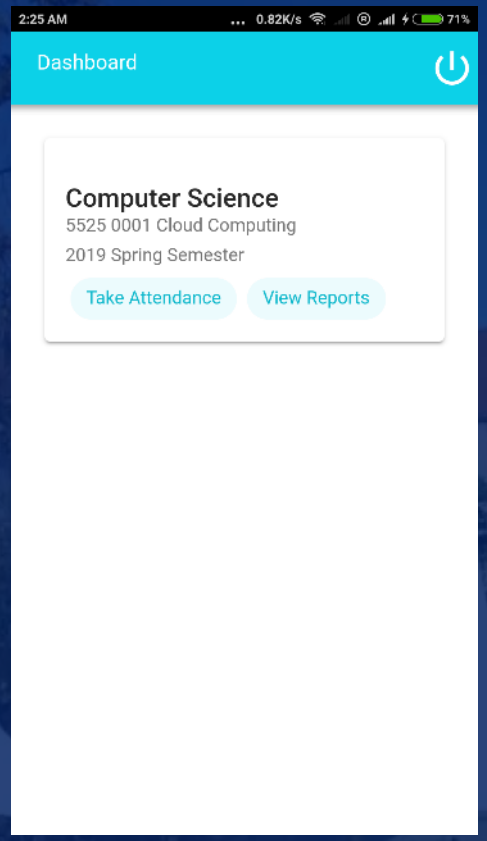
Smart Attend V1.1

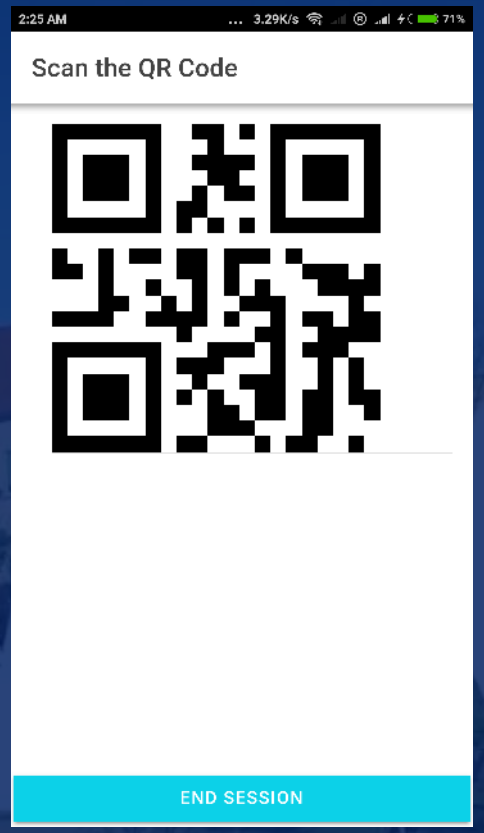
Successfully Deployed in play store

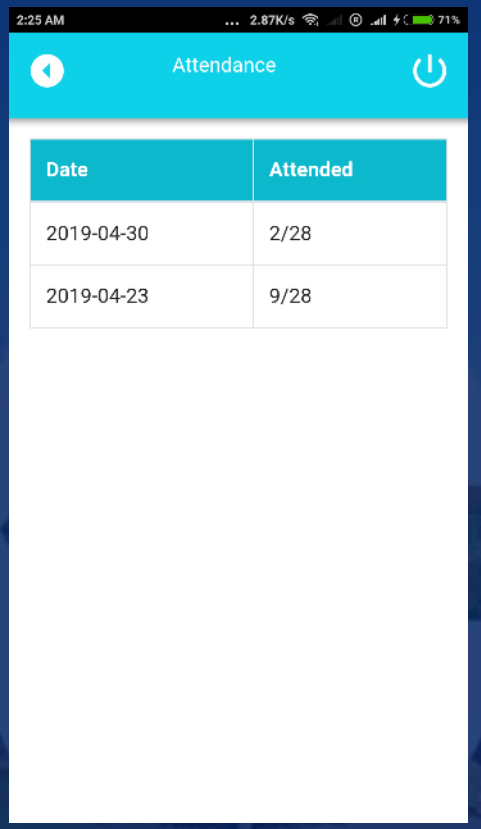


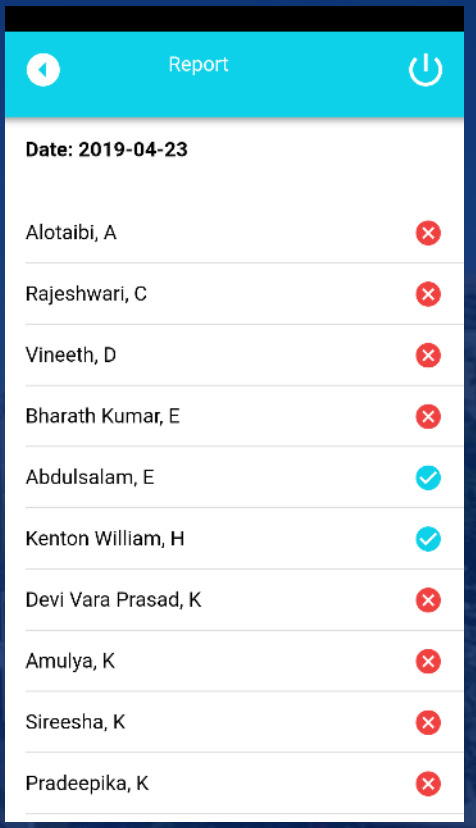
Android : Instructor app Screenshots



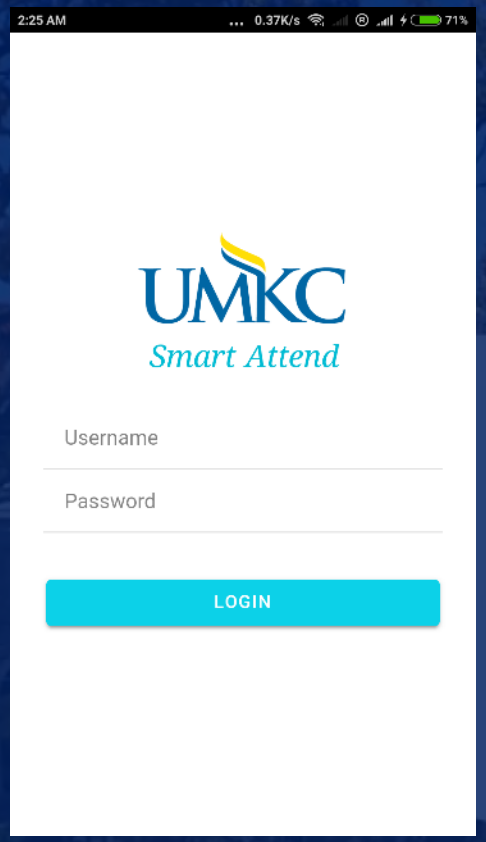


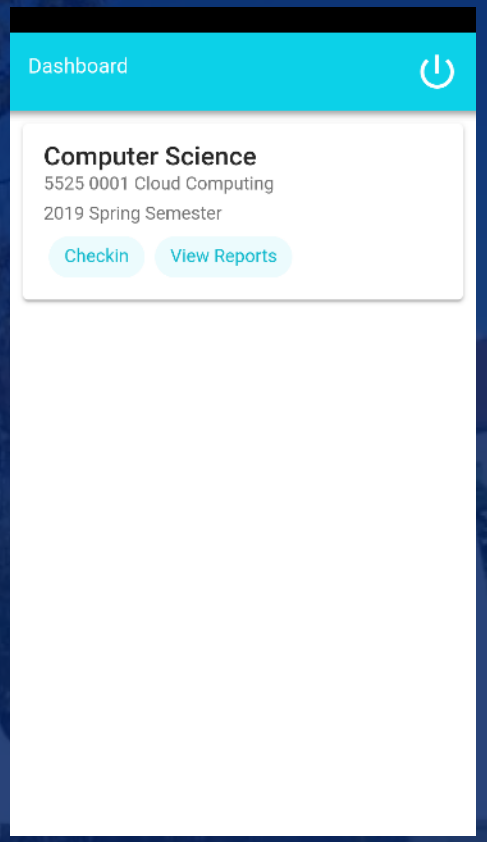


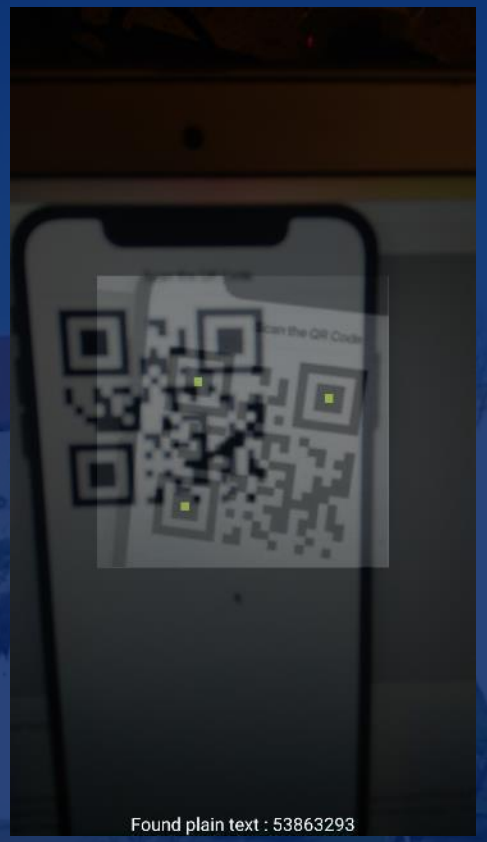


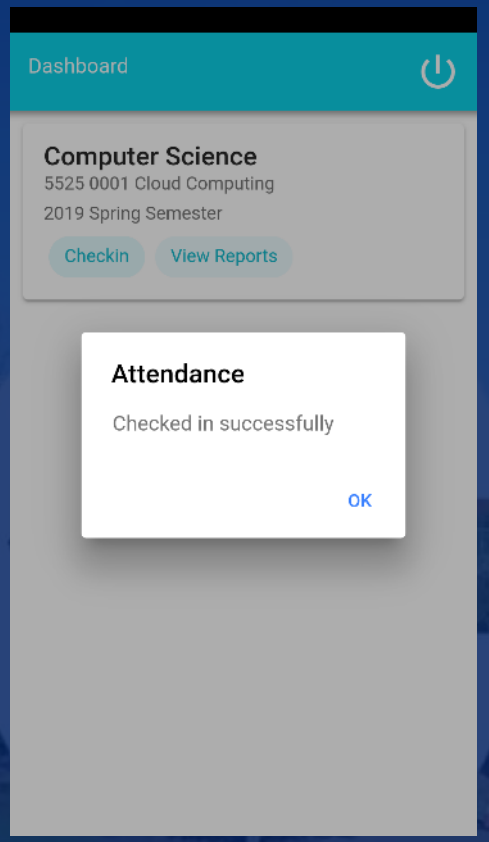


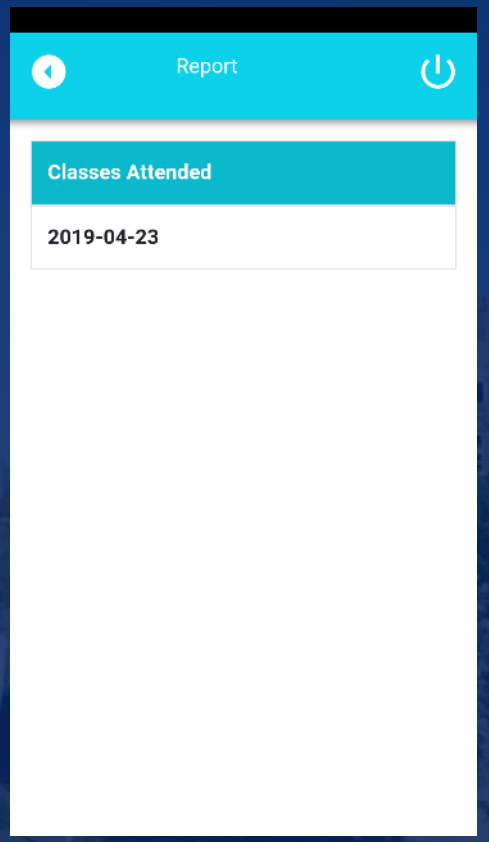
Android : Student app Screenshots



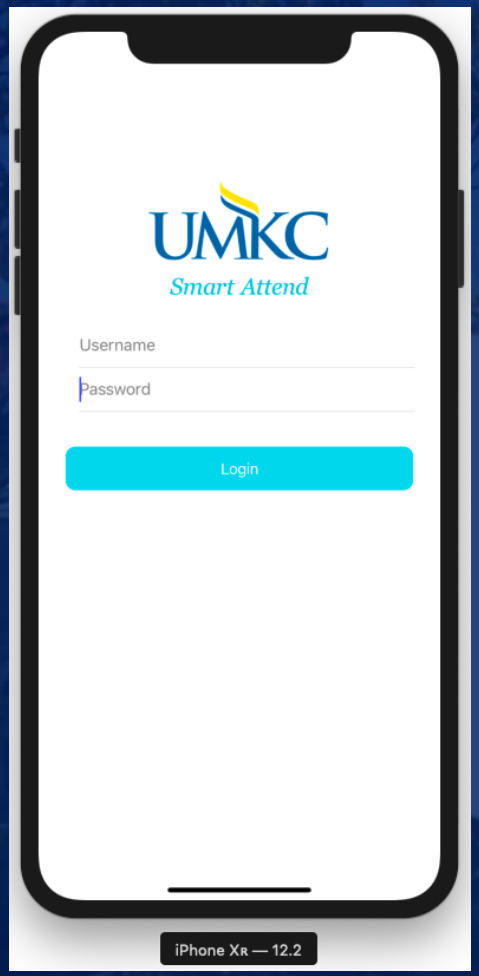


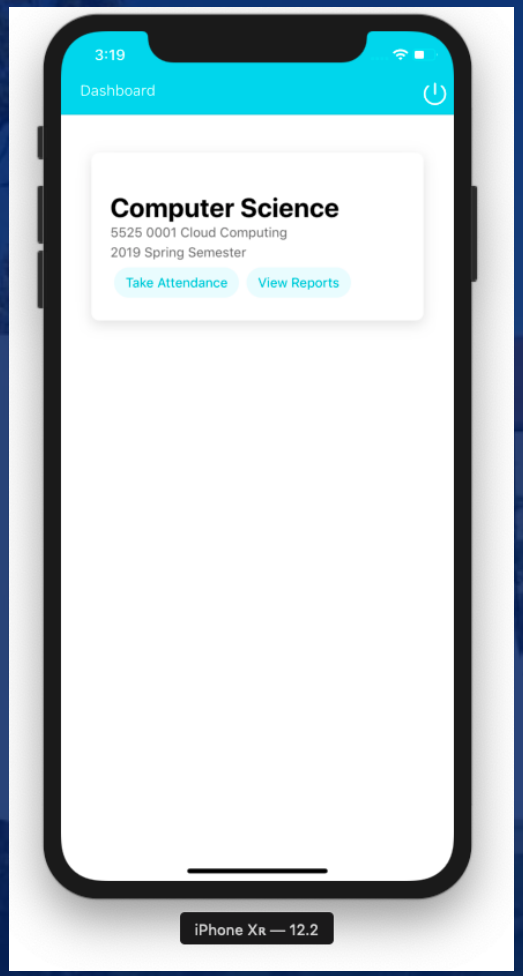


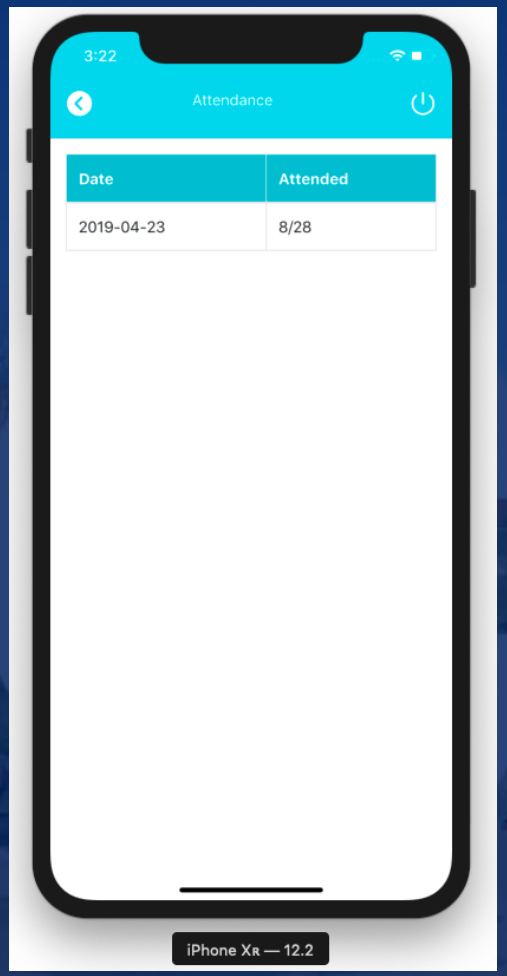


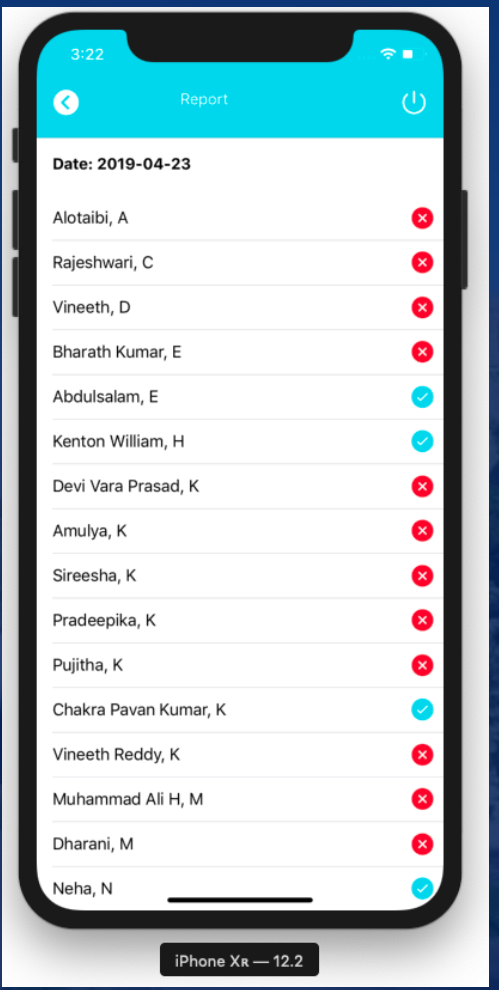


IOS : Instructor app Screenshots

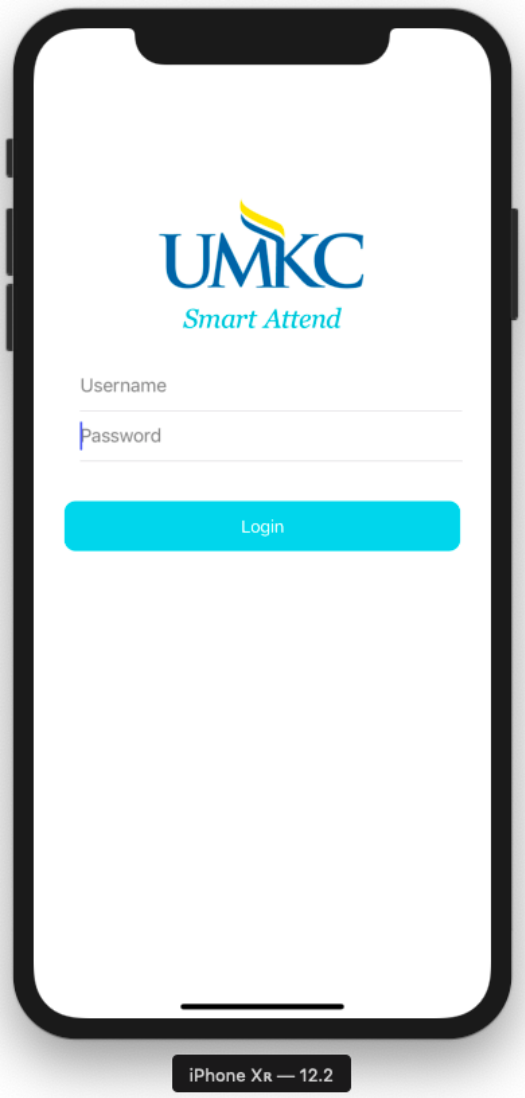


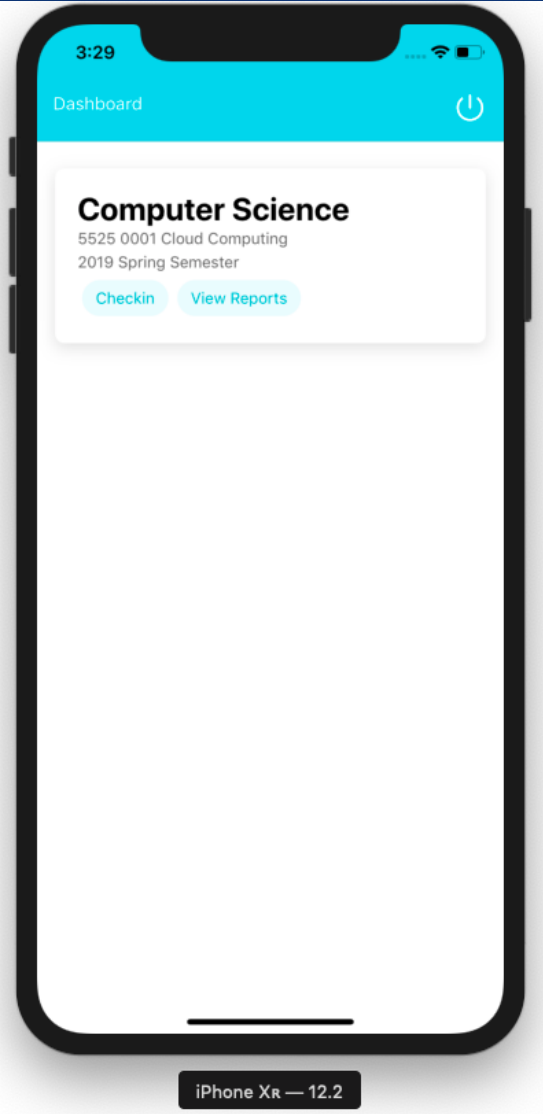


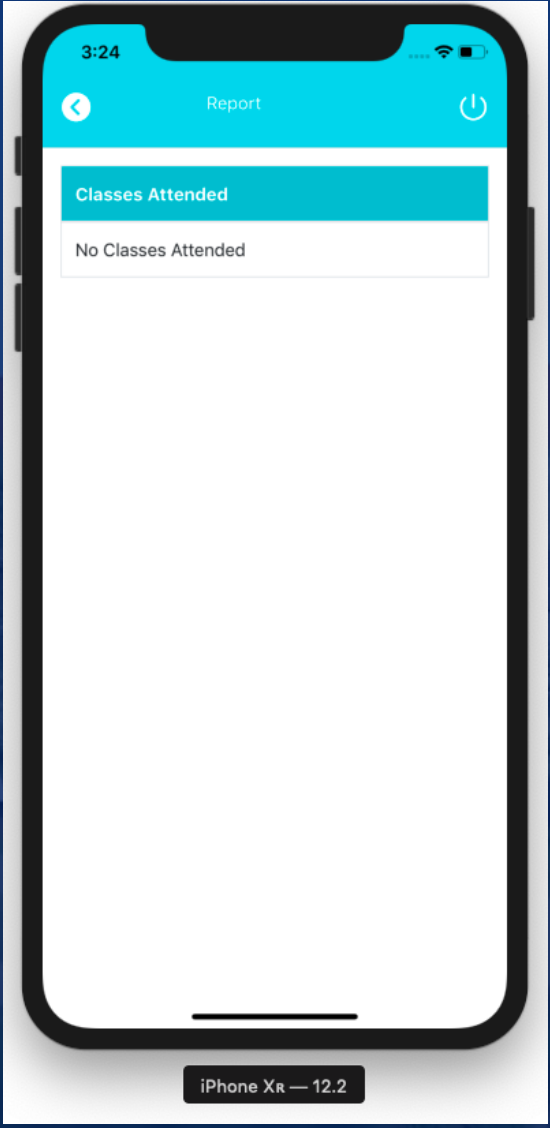


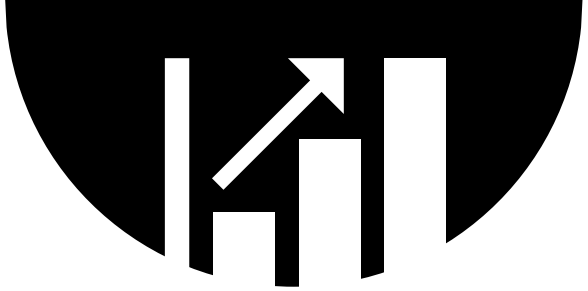


IOS : Student app Screenshots









Challenges and Findings

New QR code generation after every check in.

Socket implementation

Deployment is needed for every change in backend

Implemented CICD using GitHub and Heroku.

Digitally signing apk is a cumbersome process

Hunted through google documentation.

Product Outcomes

1

Built an attendance app

2

Easy to use

3

Support IOS and Android

Team

Individual Outcomes

Chakra Pavan Kumar, Kota

1. By end of the project I had hands-on experience on mentioned software tools.
2. Explored the functionalities of cloud services.
3. Developed and published IOS and Android app.
4. Worked and collaborated in an efficient way with team.

Dharani Muli

1. By end of the project I had hands-on experience on mentioned software tools.
2. Also gained knowledge of the best coding standards.
3. Improved collaboration skills working in a team.

Thank you