

Raven

MASST Inc.

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Team Overview



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SE Junior
Java
Full-Stack
Developer



Carson Sharp
CS Sophomore
Java, C++
Back-end Developer



Natasha Trayers
SE Sophomore
Java, C++
Back-end Developer



Mohammed Alotaibi
SE Junior
Java, C++, Python
Back-end developer



Mustafa Sadriwala
CS Junior
Java, JS, Python
Full-Stack
Developer

Company Overview



raven

- Raven is the flagship product of MASST Inc.
- MASST Inc. was started by five dedicated individuals to provide professional-level software solutions to college campuses.
- Raven is a social media and marketplace application for the benefit of college students
- MASST Inc. is looking to make UT Dallas the first deployment environment for Raven.

Business Overview Section

- This will be an effective way to connect students in universities and create a sense of community
- It will also allow university officials to connect with students, so they are aware of the issues that matter to students
- It is a part of UTD's mission to create a more inclusive and connected community on campus and will allow them to market their university as one of the first to implement such virtual neighborhood applications.
- It will be used most of the year and it is flexible to change
- Overall, this will result in good reviews for the university

New vs Tradition

- Currently, the main functionalities supported by the Raven software, social media and marketplace, are completed by individual external applications. These applications are determined by popularity.
- The focus behind Raven is to provide an application that brings these two things together in an application that is centered around a specific community.
- The Raven application also gives more management power to the administrative body.

Business Model Section

- The Raven application will cost the university \$153,400
- Raven can be integrated into multiple university environments
- MASST Inc. will be responsible for the initial development, configuration, testing, and deployment of the product and will then train a university-appointed maintenance team
- The customer can save money on the cost to build this service in-house. This includes the salaries of 5 engineers (\$600k) to develop it for a year and 3 engineers (\$300k) to maintain it yearly.

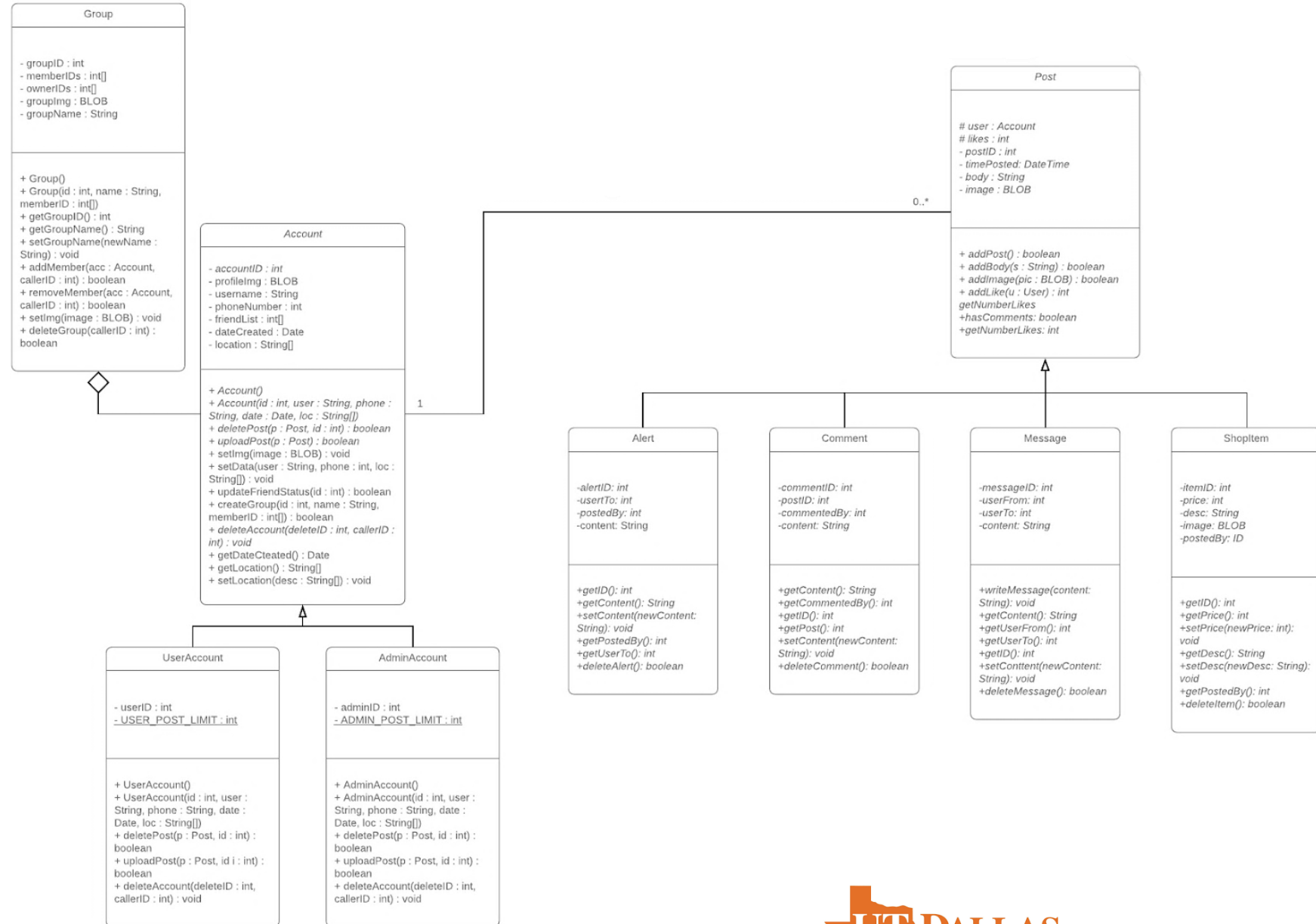
Solution Section: Overview

- This application will make it easy for students to find local resources, ask other students for recommendations, and alert one another of events such as crime
- Students will be able to post and view items for sale in a virtual marketplace
- Students can message each other, comment and like posts, and add each other as friends creating a virtual community
- It will also allow university officials to connect with students so they are aware of the issues that matter to students

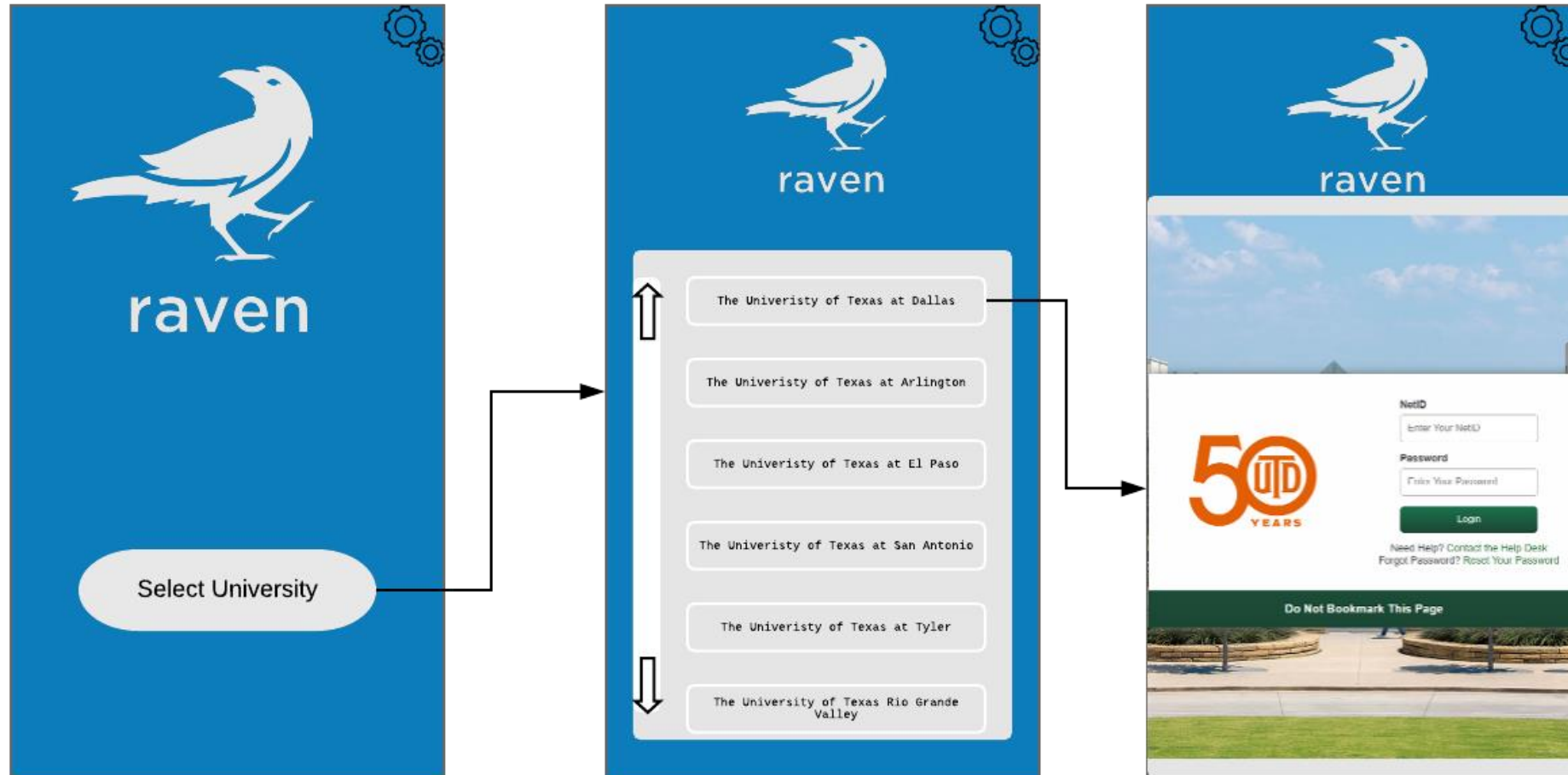
Solution Section: Requirements

- Functional Requirements
 - Front-End Elements
 - Posts and Items-for-sale will be displayed in a feed view similar to social media apps
 - User shall be able to register an account with UTD SSO
 - User shall be able to like or dislike posts
 - Back-End Elements
 - Data is backed up on a constant basis (Utilizing UTD's hosted database system (RDS))
 - Reports will be generated to University officials for complaints of content moderation
 - Server to handle real-time messaging, commenting, and alerts
- Non-functional Requirements
 - App should load within 3 seconds
 - Users should be able to login with UTD SSO within 5 seconds
 - The account should lock after 5 failed attempts

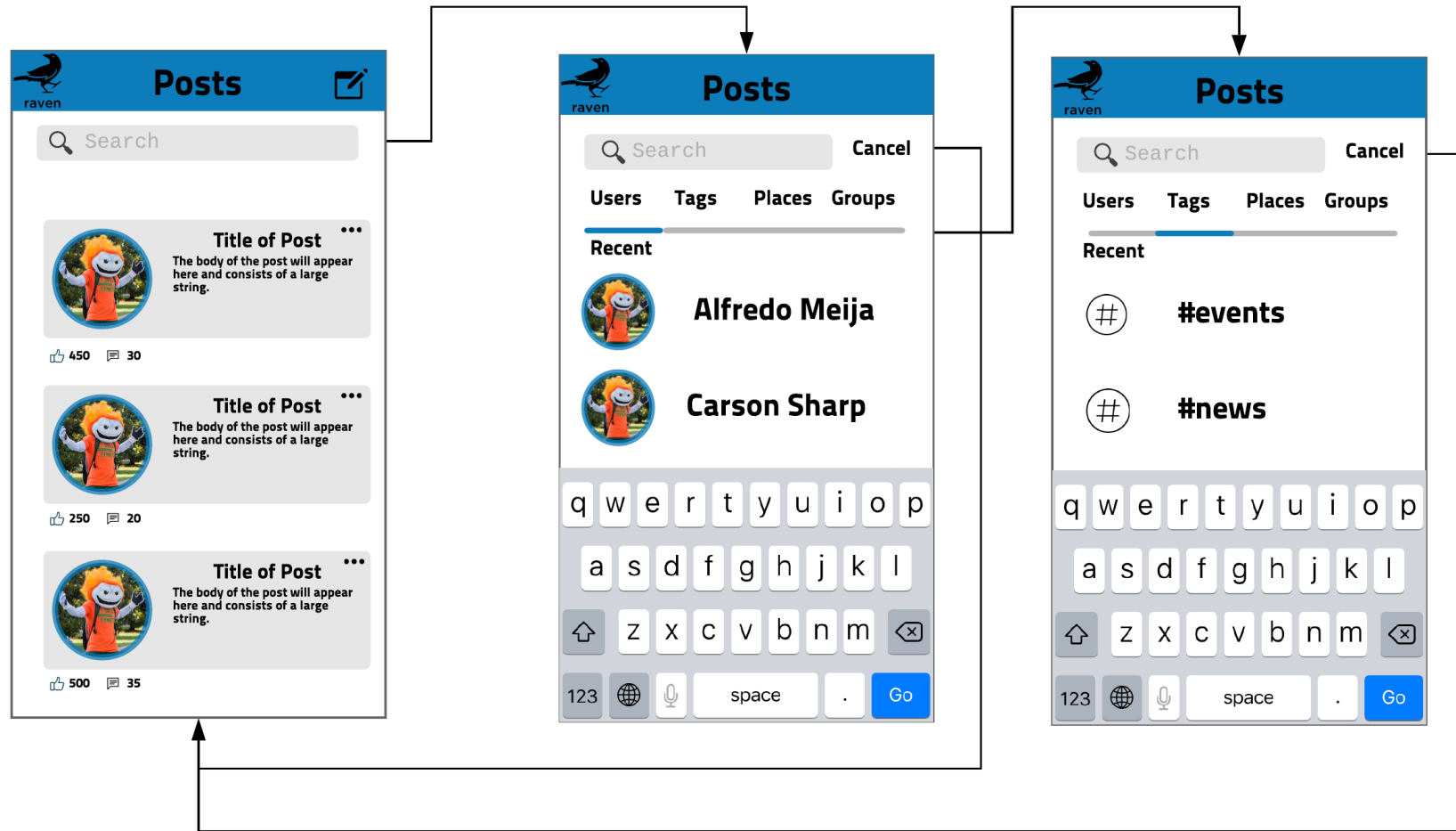
Solution Section: UML Diagram



Solution Section: Posts Feed Wireframe



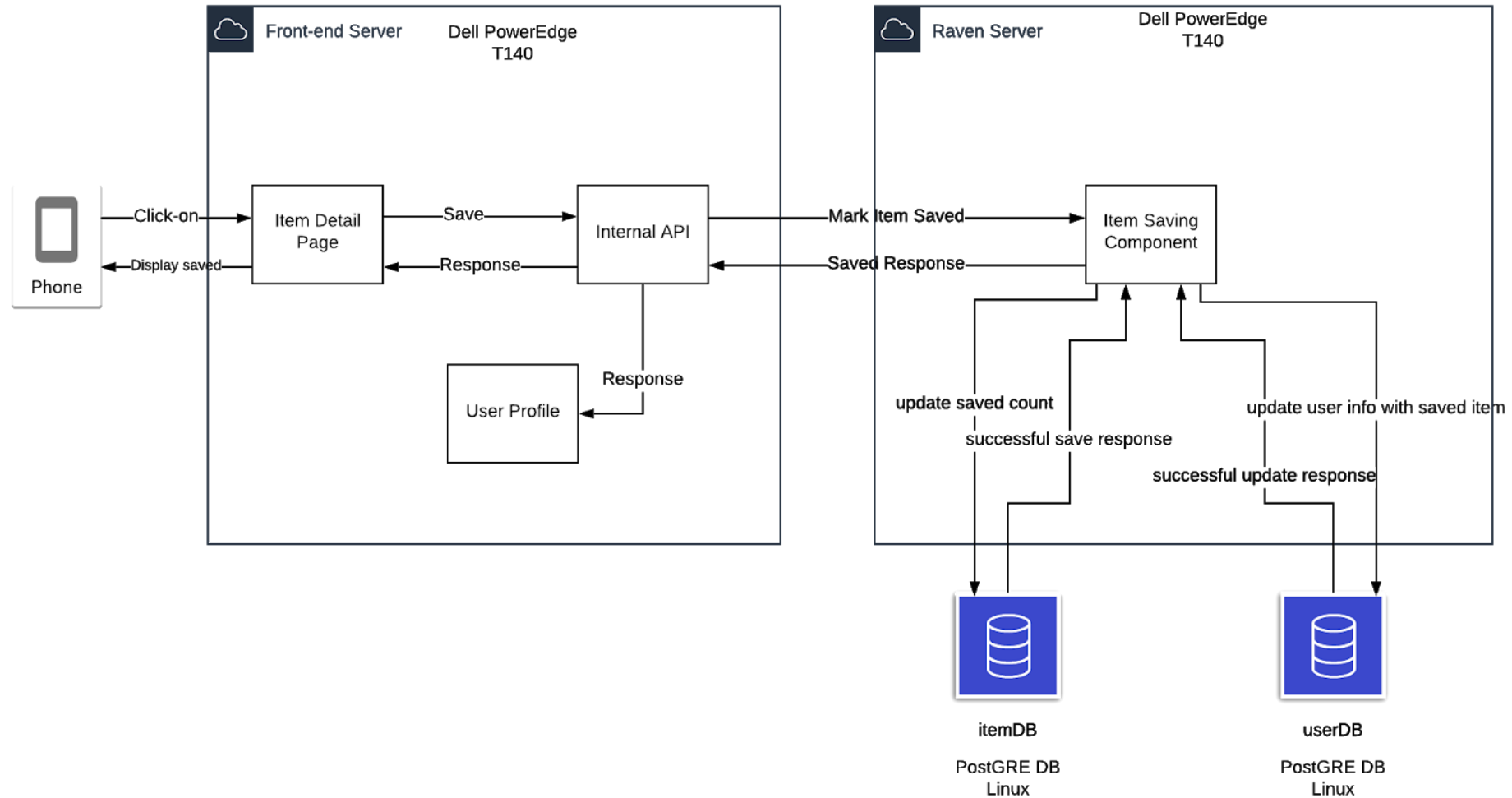
Solution Section: Posts Feed Wireframe



Technical Section: Coding Overview

- Our solution will be built using React-Native, Express.JS, and MySQL
- These technologies allow us to employ cutting-edge solutions to issues of design, reliability, and cross-platform integration
- We wanted our selected technologies to be able to seamlessly talk to one another and require minimal configuration
- We wanted to offer an intuitive and attractive design since the product's target audience would be students
- We will be using an iterative development model with 2-week sprints

Technical Section: Mid-Level Design



Technical Section: Testing Overview

- We will maintain testing standards throughout our development
- The development team will manage Regression testing, completing unit and component testing for all sprints and system testing during later sprints
- Once development is completed, the testing team will work in phases:
 - Scenario and Performance Testing
 - Alpha and Beta Testing
 - Acceptance Testing

Technical Section: Deployment and Transition

- We will deploy our Front-End and Middle-end code onto Raven servers: DELL PowerEdge T140s
- Once testing has completed, we will build our React-Native application into native iOS and Android builds and – once approved – will publish these onto the Apple App Store and Google Play Store, respectively
- Proper documentation will be provided to assist with maintenance
- The maintenance team will require someone savvy with mobile application development, someone experienced with database management, and general proficiency with JavaScript

Future Phases and Lessons Learned

- Raven is a mobile application dedicated to UTD students to receive alerts and allow students to create an online marketplace.
- This application can easily be expanded to other universities and with added functionality of delivering goods via robots and having transactions in the application.
- Teamwork and communication is crucial to coordinate work evenly and tie together ideas from multiple areas that are being worked on by different people.
- Finally, our last lesson learned is that online classes are challenging.

