Technical Product Specification Paper

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Product Description:

A mobile application will be built to address the ongoing problem of communication problems on campus, where students can get information in one place without struggling to go over multiple sources to get the required information. This mobile application would have information regarding classes, student life, dining hall, athletic, fine arts events, links to Learning Management system (LMS), and other regularly needed information. In addition to providing access to information on and about Tabor College, important links of campus offices, departments, and divisions offering mobile resources and services will be added.

Product Constraints:

- ☐ Server-side scripting can lead to security issues due to poorly implemented password protections.
- ☐ Distributed Denial of Service (DDOS) attacks can cause the server to slow down or crash.
- ☐ Security of the data transmitted between the user and server
- ☐ Poor implementation of server security can cause open ports or password weaknesses
- ☐ App responsiveness for any mobile device; different sizes of mobile devices should not compromise the user interfaces of the app
- ☐ Stability of apps such as no crash report system, no random crashes, or glitches/errors
- ☐ App follows great user interface and user experience principles to meet the users' needs.

Specific Requirements:

- ☐ Multi-Platform (IOS & Android) Compatibility.
- ☐ Log-in function for personalization of Homepage.
- ☐ Self-contained documentation for future use - (Follow on team or Tabor team)
- ☐ Design must match with Tabor College colors / logo
- ☐ Developer Certificate - Certificate for publishing applications on IOS and Android platforms.
- ☐ Airbnb style guide - JavaScript convention for writing code

User Requirements:

- ☐ Application has TLS (Transport Layer Security) login authentication
- ☐ Buttons that route the user to a specific URL within Tabor College
- ☐ A menu interface that lists choices that a user can select to navigate from one place to another within the software program.
- ☐ The application should not have bugs / crash often
- ☐ The application may satisfy ADA (American Disability Act) requirements. Have an accessible text format.

Software tools

- ☐ Git - A version control system used in software development
- ☐ Linux - run commands in the terminal for dealing with web servers, database server, git, and GitHub
- ☐ Expo CLI - A command-line app that is the main interface between a developer and Expo tools. It is also used for testing
- ☐ Web scraper - software for extracting data from websites.

Software Products & Requirements:

- ☐ Operating System (IOS & Android)
- ☐ Microsoft Projects - a project management software for developing schedules, assigning resources to tasks, tracking progress, and managing budget
- ☐ GitHub - to collaborate with team members, manage code and write documentation
- ☐ Figma - Design, and prototype the mobile app
- ☐ Hosting the app on Google Play or Apple Store

Tech Stack requirements

- ☐ JavaScript - High-level programming language used for both frontend and backend.
- ☐ React Native - JavaScript Framework used to develop applications for Android, IOS, Web, and Universal Windows Platform (UWP).
- ☐ Firebase - A platform that assists the backend development. It provides developers a real-time database, authentication, automated cloud functions, and hosting.
- ☐ UI libraries - Use UI libraries that are already built by other developers for the app's user interfaces.

Expenses:

- ☐ Associate Android Developer Certification is $149 USD
- ☐ Apple Developer Program Memberships $99 USD - For advanced app capability, tools needed for development, test, and distribution apps.
- ☐ Firebase - It's free with limited resources but you can upgrade for more functionalities. Prices depend on the choice of the user

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