BUSINESS CASE	
Proposed Project	URXperience
Date Produced	September 21, 2022
Background	For our capstone project we are building a web application for U of R residence. We are building a digital platform that allows U of R residence students to connect with each other, make friends, help each other out academically, and be part of Residence life. There is no doubt that living in residence is lively, but this is not the case for all students. Living on residence for some students could also bring isolation and minor to zero socialization, especially for the students who are international and/or are not from Saskatchewan/Regina, this also includes domestic students. We have a solution to this problem, it does not matter where the students are from and how strong their network is, with this application we can decrease that social gap and give a digital platform for students to broaden their network at U of R [Includes U of R and U of R Residence]. With our web application students will also be updated about events that are taking place at U of R Residence. This is how we will be innovating the campus life for students and make living on campus fun and social for all students.
Business Need/ Opportunity	Currently U of R Residence does not have a dynamic application that brings U of R students together. There is an application for U of R Residence however it is outdated and requires a major upgrade. We believe this is an opportunity for us to build an application for U of R Residence that not only replaces the old application but also enhances the experience of living on campus. Not just U of R, we believe that with this application we have the opportunity to go beyond U of R and share this digital ecosystem with other university residences as well.
Options	Potential Approaches to complete our project include: 1. Web Application - MERN Stack 2. Web Application - FARM Stack 3. Mobile Application - Flutter 4. Mobile Application - React Native
Cost-Benefit Analysis	

Web Application - MERN Stack
- Benefits

- - Zero Cost - MERN is free and open-source stack technology.
    - Experience with JavaScript - Since this is a JavaScript based stack, we would have to spend less time learning the technology. For example, we have learned Node.js and Express.js in our previous courses.
    - Popular Stack - This is a very popular stack and finding resources will not be a problem.
  - Cost
    - Time - The time required to learn MERN stack, for example we will have to invest time to learn the frontend library React, which we have never used in our other courses.
    - Resource Cost - We might need to spend money on online course(s) to learn how the MERN stack works and/or how we apply React to our project. We also might spend a small amount of money to make our project standout and make it more professional, for example acquiring a domain name for our project.
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Web Application - FARM STACK
- Benefits
  - Zero Cost - FARM is free and open-source stack technology.
  - Python/FastAPI - Python is a much easier and flexible language than Node.js and Empress.js and we could complete much more in less lines of code. Not only this, but Python libraries are also very powerful, which positively impacts our project as it scales.
  - Popular Stack - This is a very popular stack and finding resources will not be a problem.
  - Best of Both Worlds - We are using React for frontend which is widely used in the frontend world and is known for its simplicity and ease of use. We are also using Python which is widely known in the backend world because of universality and Python is easy to read/write/understand programming language.
- Cost
  - Time - The time required to learn stack technology, for example the backend framework FastAPI, which we have never used in our other courses.
  - Resource Cost - We might need to spend money on online course(s) to learn how the FASTAPI works and/or how we apply/integrate React and Python/FastAPI to our project. We also might spend a small amount of money to make our project standout and make it more professional, for example acquiring a domain name for our project.

Mobile Application - Flutter
- Benefit
  - Zero Cost - Flutter is free and open-source technology.
  - Popular - Flutter is also very popular and finding resources will not be a problem.
- Cost
  - Complexity - Flutter is not an easy-to-use technology and is very complex technology to apply to our project.
  - Resource Cost - We might need to spend money on online course(s) to learn Flutter.
  - Time - We will also need to invest time into learning Flutter

Mobile Application - React Native

- Benefit   - Zero Cost - React Native is free and open-source technology   - Popular - React Native is also popular for developing mobile applications and finding resources will not be a problem.   - Cost   - Time - We will have to invest time learning React Native   - Resource Cost - We might need to spend money on online course(s) to learn React Native.

Recommendation

MERN Stack