PROJECT PLANNING

Summary:

The “Smart Park” application will be implemented at Wichita State University and will allow students to find a parking space that is currently available to them. The purpose of this application will be to minimize the time it takes to find a parking spot for students. The application will display a map of the campus parking lot with the available and unavailable parking spots. The student will then be able to access an open parking spot that is closest to their destination. This will be achieved with the use of a Raspberry Pi gateway that will send data collected from various sensors to Google Firebase. The data will be sent utilizing a LoRa signal network with real time updates. The iOS application that will be used for this project will be developed in Swift and will be available for students to download in the app store.

# **Team Skills Analysis:**

## Section 1: The team must have knowledge in python programming, understanding of how to utilize an Arduino for data collection, learning how to configure a Raspberry Pi for gateway setup and data transmission, and an understanding of cloud database technology to store the data. The team must also know swift to develop the iOS application.

## Section 2: The team demonstrates solid understanding of software development skills and diverse backgrounds in programming languages. The team also demonstrates knowledge in database tools and application development. Members have experience in hardware, electrical components, and sensors which are essential to sending and retrieving data.