The goal of Knight Vision is to provide an augmented reality Android application, used to tour the Pacific Lutheran University campus, or another university, and display information about buildings and events on campus. The user may use the app to learn the history and purpose of different locations on campus, and keep track of upcoming events and their details. It pulls information from the connected Firebase database and uses the phone’s location and orientation sensors to overlay images and information onto the user’s camera feed in the application. It was created for Android devices, version 4.0+, and requires an internet connection through either WiFi or network data, as well as the phone’s location services and orientation sensors.

We have created a web application for fantasy sports that uses MongoDB on the back-end to store user, player, and game data. Users can play either fantasy football or fantasy basketball, and will play a head-to-head weekly game using the scoring statistics of professional sports. Users have a designated salary cap to spend on their desired players for a game. After players have selected their teams our application will use actual game results to determine the winner of head-to-head matches, and post the results.

Our project was created to help predict future performance of track athletes. By using a Recurrent Neural Network combined with the user’s past events, we can predict future performance. The model learns from past times of an athlete and predicts future times that will be achieved.

We created a program that teaches its users computer security concepts. The program is a cross platform desktop app, built in Qt, Electron framework, which is a platform for building desktop applications using web technologies and allows the application to run on any major operating system. Lightning SFTP strives to give the user a clean interface to work with and its design only shows the essential tools, and factor miniature RSA numbers. Using this, we can show our users circumstances where encryption is secure and processing algorithms whose parameters are determined by user input. The whole process occurs on a 32-bit ARM microprocessor. The resultant signal is then converted back to analog to be used by an external system of the user's choice.

The purpose of this project is to design an Android application capable of sending commands and viewing a live video stream from a server hosted on a Raspberry Pi 3. The basic idea is to use an Android OS device to command a remotely controlled (RC) vehicle through a wireless network. The two primary states of the application are Sport & Surveillance Mode. Sport Mode - motor driven forward and reverse motion and servo-controlled front wheel steering of the RC vehicle. Surveillance Mode - servo-controlled 2-axis pan & tilt camera movements of the RC vehicle. Servo motions are influenced by the Android’s built in accelerometer. Both modes maintain a live video stream viewable from the Android application. These functions are fulfilled through the stages of the Raspberry Pi receiving, processing and transferring commands to an Adafruit Pro Trinket microcontroller over a serial connection while simultaneously using linux-based web-camera drivers to stream video.

We designed a file transfer client that uses the secure file transfer protocol (SFTP). This desktop application is built upon the Electron framework, which is a platform for building desktop applications using web technologies and allows the application to run on any major operating system. Lightning SFTP strives to give the user a clean interface to work with and its design only shows the essential tools, and factor miniature RSA numbers. Using this, we can show our users circumstances where encryption is secure and processing algorithms whose parameters are determined by user input. The whole process occurs on a 32-bit ARM microprocessor. The resultant signal is then converted back to analog to be used by an external system of the user's choice.

The FB BCA students and SCS SCS students created a project to track the progress of track athletes. The team used a machine learning technique called Recurrent Neural Network to predict future performance of an athlete. The model learns from past times of an athlete and predicts future times that will be achieved.

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