Raspberry Pi Final Project

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For our final Pi project, we have decided to make a puzzle. This puzzle will consist of two

main parts; morse code, and a caesar cipher. The morse code will get the user a password which will lead to the caesar cipher and finally to the goal. We will be using a Raspberry Pi, a button, two LEDs, wires, a keyboard and mouse, and a breadboard.

First, the user will walk up to the Pi connected to the LCD where he or she will be presented with a field requesting the name of a team which will be logged into a standard Linux account (CS1). The team name will eventually give a specialized password to an account with the same name as the team. The user will need to figure out that they will need to press a

button to start the puzzle process. Once the button has been pressed, the user will be

presented with a new screen with a password field. Unbeknownst to the user, when the button

is pressed, a timer begins that will reset the program every five minutes signaled by two LEDs

blinking at the same time. The user will have no way of knowing that the timer exists other

than the flashing LEDs to indicate that the timer has run out where they will be re-presented with a blank GUI scene where they will need to press the button again to start over. During the five minutes, the user will need to figure out that the LEDs are flashing a code in Morse; a

password to the password field presented on the Pi screen. When the password is entered

into the field correctly, the user will receive a password and the username and IP to a

separate user account (CS2) on the Pi (ssh user@192.168.0.1). This Linux account (CS2) is

intended to be accessed via SSH with the password provided from the successful Morse code

entry. In terminal, the user will navigate to Documents where a plain text document with the

name of a constellation encoded with a caesar cipher. This will be the password to the new

password field presented to the user in the CS1 profile. When the Python program receives a

correct password, the user will be presented with their goal - a word, number, or picture that

they can bring to a scorekeeper(?) which will end the puzzle.

| Gantt Chart | | | | | |
| --- | --- | --- | --- | --- | --- |
| 04/09/17-04/15/17 | 04/16/17-04/22/17 | 04/23/17-04/29/17 | 04/30/17-05/06/17 | 05/07/17-05/13/17 | 05/14/17-05/20/17 |
| Plan project, make technical decisions, assign group member objectives. |  |  |  |  |  |
|  | Wiring and morse code programming |  |  |  |  |
|  |  | Create linux users and timer code |  |  |  |
|  |  |  | Create Caesar ciphers and correlating code |  |  |
|  |  |  |  | Program Caesar field code for user |  |
|  |  |  |  |  | Test and retest and test some more. |