Drone Project

CS420/ 520

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Through this assignment, our team can create a program that correlates with a drone to simulate medication dropoff. Pharmaceutical delivery drones are an improvement to the pharmaceutical business world in many ways to be further explained.The team roles, budget, schedule, and technical approach will be supplied in this report.

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Statement of the Problem:

Currently in modern medicine and technology, there are a few choices to take when obtaining prescribed medication, which are picking up medicine, getting medicine through postal mail, or having a delivery driver drop it off. What does one do when they have nobody to take them to the pharmacy, can't wait too long for mailed medication, and doesn't want to risk their privacy for medication?

Objective:

A pharmaceutical delivery drone is the solution to these issues. While this could save a lot of money for pharmacy companies, a pharmaceutical delivery drone could positively change the expected time patients get their medication,and reduce the need for mailed medications and pharmaceutical delivery drivers.

Technical Report:

In order to implement a solution for this objective, we will utilize Java FX to create a UI that will be able to input/select the addresses of patients. If an address is selected, it will set off an event that will cause the drone to fly toward the given address's location, drop the medicine off, and then return. We will do this by connecting ActionEvents with the functions found within the Java API of the Tello Drone.

Project Schedule:

Gantt.pdf (Based off of the interactive and incremental design pattern).

Deliverables:

Our team plans to create a user interface, where addresses can be inputted and accessed for drone flights, and the ability for the drone to take off, path towards a destination, land and return back. If time permits, our team will attempt to edit the drone's path if there are obstacles interfering with landing.

Budget:

If this was a project with an actual budget, we would most likely need a bigger drone that is able to carry enough medicine that it doesn't need to go back to the home base to refill. I believe The DJI D FlyCart 30, with its lifting capacity of 66 lbs and advanced sensors and video monitoring with a speciality in long distances, would be the best option. They typically go around for $16,590. Expected amount of hours overall spent on this project would probably be 6 hrs a week/10 weeks overall/4 people, so 240 hours in total. The average hourly wage of a programmer in Alabama is 43.97, so ($43.97*4*$240)+$16,590 is $58,801.20.

Team Qualifications:

Chelsea's strengths are being punctual, planning, and can take the lead. Her weaknesses are that she finds debugging tedious, and can get overwhelmed. Her role will be

the leader. Zakiyyah's strengths are being able to work in long periods of time, and planning. Her weaknesses are being forgetful, can find debugging tedious, and can get overwhelmed. Her role is a general use programmer. Nikitha's strengths involve being good in most roles, but she finds debugging tedious. Her role is a general use programmer. Shaniyah's strengths are being attentive, detail oriented and organized, but her weaknesses are overthinking, and doesn't enjoy debugging. Her role is a general use programmer.

Sources:

Places we looked at for help and reference:

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