



Project Name: REDLIGHT | GREENLIGHT

Administrator: Lauren Liddell

Project Sponsor: Eddie Burris

REDLIGHT | GREENLIGHT targets mobile phone users who operate motor vehicles.

Purpose

The main purpose of our application is automobile safety. Because of the number of mobile phone related collisions, we have decided to develop a security application that restricts users' mobile phones while the device is traveling at speeds greater than fifteen miles per hour. When in restrictive mode, the user is able to access emergency services and a limited number of preselected telephone numbers.

By developing this application, we hope to reduce the number of mobile phone related motor vehicle accidents.

Budget

Sapience has no financial requirements. We will devote as much time as is necessary to successfully complete our goals.

Constraints

RedLight|GreenLight will be constrained by the Java Programming language and Open Handset Alliance's Android software development kit.

Start Date
January 17, 2008

End Date
April 29, 2008

Goals & Objectives

Sapience will write a mobile security application for the Android platform.

More specifically:

- RedLight|GreenLight will have a friendly, easy to use user interface.
- RedLight|GreenLight can be enabled and disabled from remote locations.
- While enabled, RedLight|GreenLight will be able to determine the speed at which the mobile device is traveling.
- RedLight|GreenLight will restrict usage of the phone while the device is traveling at or above fifteen miles per hour.

Schedule

- 2/1/08 - Project charter approved
- 2/7/08 - Release plan complete
- 2/14/08 - Requirements document complete
- 2/26/08 - Iteration plan complete
- 2/28/08 - Technology prototype complete
- 3/6/08 - UI prototype approved
- 3/13/08 - Architecture document complete
- 3/20/08 - Release candidate one complete
- 4/10/08 - Release candidate two complete
- 4/24/08 - User guide and system documentation complete
- 4/29/08 - RedLight|GreenLight complete



Project Priorities and Degrees of Freedom

If early iterations show promise, we may be able to add beneficial features to the project that were not defined in the project charter. If early iterations do not go as planned, no additional features will be added.

There is some flexibility with regards to early task completion. Deadline extensions are not permissible.

Approach

An evolutionary prototyping approach is planned. The main goal is to complete a fully-functional Android platform application that could be installed on any Android compliant platform. Our secondary goal will be to design a framework that will be portable to non-Android platforms with minimal reprogramming. This will be accomplished by programming to an interface.

There are several technical risks involved with this project: first and foremost is the programmers' lack of experience with the technologies being used to create the application. Another significant risk is the immaturity of the Android program stack. To alleviate these risks, we will complete many technical prototypes to ensure that the technology aspects of the application are feasible.

Some of the technical prototypes we plan on completing include running programs after the platform finishes booting, retrieving the speed from GPS data, intercepting incoming communications, and blocking outgoing communications.

Assumptions

We assume that the application will work on any physical Android hardware.

Success Criteria

The overall project will be a success if we show that the application performs to the specifications outlined in this charter in the Android emulator. Additional criteria for success include a functional installation package and a framework that will allow the application to be easily ported to additional hardware architectures.

Risks and Obstacles to Success

The developers have little experience developing with the immature Android platform. Nor do they have experience with cell phone application development. We are optimistic that the developers will have little trouble learning the programming environments and technologies in a limited time period.

The immaturity of the Android platform and its accompanying documentation may also contribute to difficulties in the developers' understanding of the technology.

Scope

We feel the features of the application will be enough to require significant work for team Sapience. However, we feel the project structure is limited enough to be feasibly completed within the time constraints outlined on page one.