Software Requirement Doc

Target release	End of Semester
Epic	Type /Jira to add Jira epics and issues
Document status	DRAFT
Document owner	Oscar Fox, Nicholas Haug, Lou Vaughn
Designer	@ Oscar Fox
Tech lead	@ Lou Vaughn
Technical writers	@ Nicholas Haug
QA	@ Nicholas Haug

🎯 Objective

Foresight's object is safety. People constantly look down at their phone and are unaware of their surroundings. Foresight's mission is to tap into a person's camera, obtain objects around them, us AI to detect if there is a potential problem and if there is, notify the person via notification. We are using google co-labs (Colaboratory) and python.

Goal	Metric
Have application detect webcam / camera	Shall read webcam / camera and ability to use it
Application detects objects	Shall detect an object and obtain a "boarder"
Application sends a notification of hazard	Shall detect an hazard in range and notify user

🤔 Assumptions

- User's shall have a current up to date smartphone
- Application shall detect an object
- application shall detect the distance of an object
- Application shall decide if an object may cause potential harm
- Application shall notify user
- User shall allow application to use camera

🌟 Milestones

📔 Requirements

Requirement	Importance	Jira Issue	Notes
User shall be able to start a video	HIGH	For-6	
User shall be able to capture a photo	HIGH	For-7	
Connect Kafka for event streaming	HIGH	For-9	
Load an image from a file	HIGH	For-10	
Implement object detection module FasterRCNN+InceptionResNet V2: high accuracy	MEDIUM	For-11	
Implement detector on loaded image	MEDIUM	For-12	
Handle events (topics) to notify user	MEDIUM	For-13	

🎨 User interaction and design

❓ Open Questions

Question	Answer	Date Answered
What would be a trip hazard?	something along the dimensions of a book	10/20/22
What is the distance to give a notification?	5 feet detection of an possible hazard to give a notification	10/20/22

⚠️ Out of Scope

- running in the background of the phone instead of having the app open
- runs on all cellphone platforms and phones