Sprint1

Hong Xin

Product

Goal: Build a classifier that distinguishes errors from Android apps

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Marcilio, Diego, et al. “SpongeBugs: Automatically Generating Fix Suggestions in Response to Static Code Analysis Warnings.” *Journal of Systems and Software*, Elsevier, 1 June 2020, https://www.sciencedirect.com/science/article/pii/S016412122030128X?casa_token=QHXh0DkbDzcAAAAA%3AAkAjF6S_LjPcI6WDvbbuUMYRJuo0kuIRLp8QRFjGg2JqsBc3-oI7BIMJMT0zmnNGQKS2TuSa.

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   a. Kotlin and Android Studio

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4. Extra log files from good and bad Android Apps
   a. Drain3

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    a. Drain3
5. Train a machine learning classifier
6. Evaluate the performance

User stories and MVP

User Stories

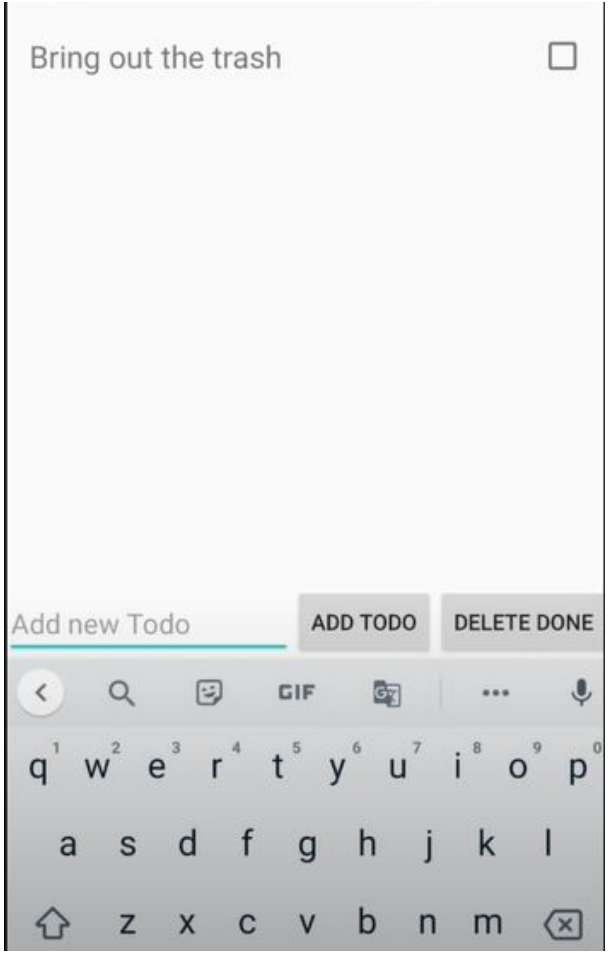
1. Engineers and developers who want to exam codes in an Android app project

MVP

1. Classifier reads through codes in a text file
2. Classifier marks the errors and/or vulnerabilities in the codes
3. Classifier outputs a log file

Android App

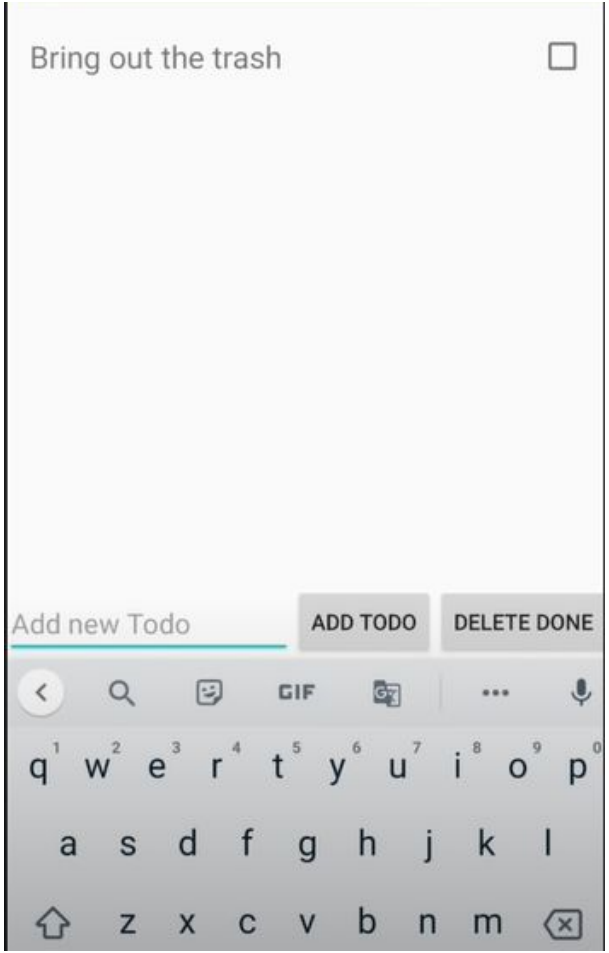
1. To-Do list



Bring out the trash □

Android App

1. To-Do list
2. User can ...
   a. Add new ToDo
   b. Cross out ToDo
   c. Delete ToDo



Bring out the trash □

Add new Todo

Tools

Kotlin

1. A cross-platform, statically typed, general-purpose programming language with type inference
2. Kotlin interoperates fully with Java

Tools

Android Studio

1. The official integrated development environment for Google's Android operating system

Tools

Detekt

1. A static analysis tool for the Kotlin programming language
   a. analyze Kotlin code with multiple rule sets
   b. flag the code that breaks any of its rules

Tools

Detekt

1. A static analysis tool for the Kotlin programming language
   a. analyze Kotlin code with multiple rule sets
   b. flag the code that breaks any of its rules
2. Complexity reports based on...
   a. lines of code
   b. complexity of the programand
   c. amount of code smells

Tools

Drain3

1. Open source log processing tool
2. Creates a balanced tree-like structure
   a. each leaf is based on the length of a log

Questions?