Sprint2

Hong Xin

Starting...

- 1. What is the goal?
 - a. Build static code analyzers that identifies 7 types of bugs for Android apps

Starting...

1. What is the goal?

- a. Build static code analyzers that identifies 7 types of bugs for Android apps
 - i. Runtime errors.
 - ii. Logic errors.
 - iii. Compilation errors.
 - iv. Syntax errors.
 - v. Interface errors.
 - vi. Resource errors.
 - vii. Arithmetic errors.

Starting...

1. What is the goal?

- a. Build static code analyzers that identifies 7 types of bugs for Android apps
 - i. Runtime errors.
 - ii. Logic errors.
 - iii. Compilation errors.
 - iv. Syntax errors.
 - v. Interface errors.
 - vi. Resource errors.
 - vii. Arithmetic errors.

2. Why do we care?

- a. automatically vs manually
- b. Customize analyzer based on different types of Android apps

- 1. The ToDoList app is done
- 2. I am in the process of training model



1. Phase 1: Build an Android App and use ML classifiers to measure the accuracy of Detekt library

- Phase 1: Build an Android App and use ML classifiers to measure the accuracy of Detekt library
- 2. Phase 2: Use feature vectors to train different types of classifiers and benchmarking their performance to Detekt's performance. Then, select the best classifier

- Phase 1: Build an Android App and use ML classifiers to measure the accuracy of Detekt library
- 2. Phase 2: Use feature vectors to train different types of classifiers and benchmarking their performance to Detekt's performance. Then, select the best classifier
- 3. Phase 3: Find source codes of a complicated app or build a complicated app and further train those classifiers based on 7 types of most common errors

- 1. Phase 1: Build an Android App and use ML classifiers to measure the accuracy of Detekt library
- 2. Phase 2: Use feature vectors to train different types of classifiers and benchmarking their performance to Detekt's performance. Then, select the best classifier
- 3. Phase 3: Find source codes of a complicated app or build a complicated app and further train those classifiers based on 7 types of most common errors
- 4. Phase 4: A static code analyzers that identifies 7 types of programing errors for Android apps

Technology Selection

- 1. Development Environment: Android Studio
- 2. Coding Language: Kotlin
- 3. Library (Benchmark): Detekt

Technology Selection

Classifiers:

- 1. Logistic Regression
- 2. Naïve Bayes
- 3. K-Nearest Neighbours
- 4. Random Forest

Questions?