An empirical study on the lifespan of code odors in mobile applications

This repository contains all the material required to replicate our analysis, including (i) the raw input data (ii) the statistical analysis scripts, and (iii) the analysis results in the form of data, plots, etc.

Data collection

The data used for this study can be obtained by executing the scripts available in Scripts Folder:

- **Repodriller :** RepoDriller is a Java framework that helps developers on mining software repositories. With it, we extracted Commits (Availaible here).
- **Checkout_commits.py:** checkouts commits.
- **aDoctor.py:** Detects Android smells.
- **Organic.py:** Detects Object Oriented smells.
- **Organic_JSON.to.CSV.py:** Parses JSON files (returns of Organic) and converts them to CSV files.
- **All_CSV_merge.py:** Merges CSV files.
- **Merge.commits.Hash_aDoctor :** Merges CSV files of the results of the checkout commit file and the analysis results of the aDoctor tools.
- **Merge.commits.Hash_Organic :** Merges CSV files of the results of the checkout commit file and the analysis results of the Organic tools.

Analysis replication

The totality of the statistical analysis scripts utilized for the study are available in Results folder:

- **Q1:** How prevalent is code odor in Android apps?
- **Q2:** What is the lifespan of odor codes “code smells survivability”?