Textual analysis on popular free games
CSDS 448: Smartphone Security
Group 3

Problem:

- Many mobile applications (most often free-to-play games) offer various monetization models. Some games are free and run ads from time-to-time while others rely on pushing users to spend money on in-game currencies to continue progress or purchase things like cosmetic items for characters. There is often no easy way to tell what the monetization model of an application is without running it, and many of these models are built in a predatory way which looks to get as much money out of users as possible.

Importance:

- While some mobile games have reasonable monetization models, many incredibly popular games rely on so-called “whales” to shell out absurd amounts of money on in-game currency or boosts in order to make a profit. These games are specifically built to be as addictive and predatory as possible toward users and can often lead users to spending more than they can reasonably afford in order to continue. Popular match-three puzzle game “Candy Crush” reportedly brought in close to $600,000 daily from users during its first year after launch, almost entirely from users paying to skip levels they were stuck on. There are many articles across the internet describing the insane lengths that some players have gone to in order to continue progressing in their game of choice, some spending upwards of $1,000 daily. Other games trick users into signing up for repeated purchases without them realizing, or target children with their guardian’s payment information connected to the application.

Solution:

- We believe that through textual analysis of mobile games, we can flag games that may have predatory monetization models as a form of protection against addictive spending, as well as providing regular users the opportunity to understand whether or not they will be harassed to spend money by a game they are looking to play.
- We will perform analysis through application’s descriptions, reviews and cross check between them to find out if they are in agreement with each other (i.e user’s complaint or satisfaction with the game)

Expected Results:

- The basic idea is to break free-to-play mobile games up into several categories based on their monetization model in order to inform and protect users.
- Potentially create a framework that would be able to inform users of the monetization model before downloading.

Summary of work:

- Rembrandt van der Ploeg

    - Scripting of automated textual analysis tools, background research on mobile game monetization models.
- Phan Trinh Ha
    - Collect APKs from the play store, and other android stores
    - Data visualization on textual analysis results
- Ben Trabold
    - Scripting of automated textual analysis tool
    - Analysis of comment and review trends
    - Final report writing and editing
- Yash Goswami
    - Scripting of automated textual analysis tool.
    - Collecting data outside APKs like app descriptions
    - Final report writing and editing