



SP-3: GETOUT!

Pretzel Development



4850-01 SR. PROJECT

FALL 2022

Sharon Perry

Overview

Background

Smartphones play a large role in our everyday lives. We use them for communication, news, directions, and more. At least 85% of Americans own a smartphone, and that number is expected to continue climbing (Pew Research Center, 2021). Telemarketers and scammers found great success in taking advantage of smartphone users by harassing them with automatic phone calls and text messages, reaching millions of people each day without even pressing a button.

Mobile carriers offer *some* protection against these calls, but it is not enough. Instead, smartphone users depend on apps to protect them. We are creating GetOut, a mobile app for Android 7+ and iOS 10+, to provide smartphone users with another way to protect themselves from unwanted calls and texts.

Objectives

We decided to split our objectives into two separate phases. Phase 1 will consist of all the “must-have” requirements that we feel are the most important to users. This includes silent call blocking, configuration, a call log, and optionally blocking all non-contacts.

Phase 2 will consist of all the “nice-to-have” requirements that users will benefit from, but we may not have time to implement. This includes using public API’s to heuristically identify spammers, SMS text blocking using the same algorithm as call blocking, an additional Machine Learning algorithm to intelligently block spam texts, and spoofed number detection.

Scope

The scope of the GetOut app is to intercept and block unwanted calls based on user configuration. This includes detecting incoming calls and checking the phone number against a whitelist and blacklist. The whitelist is a list of phone numbers to **allow**, while the blacklist is a list of phone numbers to **block**. Calls will be intercepted in the background, only showing a silent notification to the user if a call is blocked.

All calls will be displayed in a call log, which will have options for the user to block or unblock callers manually. A settings menu will allow users to view and edit the whitelist and blacklist directly, enable or disable features, and change the app’s theme. Additionally, *if time permits*, we can extend this to text messages, add spoof detection, use 3rd-party APIs, and use machine learning to filter spam text messages.

Project Team

Roles	Name	Responsibilities	Contact
Project Owner	Sharon Perry	Ownership of project, provide requirements	sperry46@kennesaw.view.usg.edu 770-329-3895
Team Leader	John Hussey	Schedule meetings, assign tasks, submit group deliverables, code	john.luke.hussey@gmail.com 678-608-7254
Team Members	Ryan Kim	Frontend Development	ryankim0830@gmail.com 678-770-0121
	Nick Nguyen	AI Development	nicholasnguyen66@gmail.com 470-505-8993
	Colin Allen	Backend Development	colinallen.home@gmail.com 678-822-3861
	David Shipman	Documentation	dshipman@hotmail.com 404-731-5873
Advisor / Instructor	Sharon Perry	Facilitate project progress; advise on project planning and management.	sperry46@kennesaw.view.usg.edu 770-329-3895

Project Website

<https://pretzeldev.com/getout/>

Final Deliverables

1. Android App
2. iOS App
3. Final Report
4. Website
5. Source Code

Milestone Events

#1 - By 10/22/2022:

- Prototype - Working mobile app prototype written in React Native.

#2 - By 11/19/2022:

- Draft of final report

Meeting Schedule

We meet every Sunday at 5:00pm EST. We will meet October 16 to discuss our milestone 1 readiness, and we will meet again on November 13 to discuss our milestone 2 readiness.

Collaboration and Communication Plan

We have decided to use Notion to schedule tasks and Discord to communicate and host meetings. We are also utilizing Smartsheet to create and maintain the overall project schedule via the Gantt chart. For file sharing, we will use Discord and Google Drive. David (or John, if David is not present) will take and distribute meeting notes within an hour after each meeting. Furthermore, John will send a biweekly status report via email to the project owner, Sharon Perry.

General expectations for internal team communications are as follows:

- Members must reply to discussions and messages on Discord within 24 hours.
- Members must RSVP at least 24 hours before each meeting
 - If not present, members must go over meeting notes
 - Members who miss two consecutive meetings will be reported
- Members must be responsible for completing assigned tasks by given deadlines
 - Must notify John of any issues or delays of given tasks

Risk Assessment

Privacy is our primary concern, because this application will have access to users' information, including contacts, call logs, call states, and text messages (phase 2). While all the information will be stored locally on the user's phone, an attacker could have access to this information if the application or database is breached. To mitigate this risk, we will be transparent on what data we collect, and we will follow security practices to the best of our ability.

Version Control Plan

Using GitHub and GitHub Actions, we will be able to collaborate and partially automate the development process. We will have a master branch, development branch, and separate feature branches. Code changes must only be pushed to the feature branches. The code changes will then be reviewed and merged into the development branch. Then, the tester will clone, build, and test the development branch before merging it into the master branch.

Test Plan

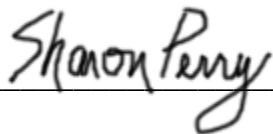
Requirements	Pass	Fail	Severity
Must get permissions from the user			High
Must have a view for the call log			Medium
Must have a view for the whitelist			Low
Must have a view for the blacklist			Low
Must have a view for the settings			Low
Must intercept incoming calls			High
Must verify that the call is incoming			High
Must get the caller's phone number			High
Must check if the number is in contacts			Low
Must check if the number is blacklisted			Low
Must check if the number is whitelisted			Low
Must determine if call should be blocked			Low
Must add details to call log			Low
Must return response within 5 seconds			High

References

Pew Research Center. (2021, April 7). *Mobile Fact Sheet*.

<https://www.pewresearch.org/internet/fact-sheet/mobile/>

Signed By:

A handwritten signature in black ink that reads "Sharon Perry". The signature is written in a cursive style with a large initial 'S' and 'P'.

Project Owner

9/25/2022

Date