Truecaller SRS - This is the software requirements specification for the software True-caller.

Software Engineering (Lovely Professional University)

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SOFTWARE REQUIREMENTS SPECIFICATION

FOR

TRUE-CALLER

From

LOVELY PROFESSIONAL UNIVERSITY

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INTRODUCTION

PURPOSE

The purpose of the software True-caller is to overcome the situations of responding to an unknown contact. Here the software acts as a guard and allows the user know about any unknown person's details.

DOCUMENT CONVENTIONS

Writing an S-R-S document for the software ensures the safety, security and acknowledgment of the customer. Also it ensures that if there are any kind of errors posed by the software, then the customer has the right to hold responsible the developers or the organization.

INTENDED AUDIENCE AND READING SUGGESTIONS

Readers include developers, users, testers, and documentation writers. If any misconceptions regarding the software is written, any not imposed, then the whole of the writer's team or the developer's team should be held responsible. A sequence for reading the document should be there, beginning with the overview sections and proceeding through the sections that are most pertinent to each reader type.

PRODUCT SCOPE

True-caller, one of the going-to-be successful software in the app market, has an excellent feature of allowing the user to know about any unknown person's details if he/she has phoned. Developments and upgrades were to be done according to that, and most importantly, maintenance is to be done with every upcoming version of this product.

REFERENCES

References taken from "https://www.uccs.edu/Documents/tboult/srs.doc".

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OVERALL DESCRIPTION

PRODUCT PERSPECTIVE

True-caller *is a smartphone application which has features of calleridentification, call-blocking, flash-messaging, call-recording, Chat & Voice which uses the internet. The service requires users to provide a standard cellular mobile number for registering with the service*.

PRODUCT FUNCTIONS

True-caller contains the following input-output functions:

- *QR Scanner*
- *Manage Blocking*
- *Local Services*
- *Call Recordings*
- *Who viewed my Profile*
- *Invite Friends*
- *UPI*
- *Premium*
- *Settings (such as General, Caller ID, Messaging, Block, Backup, Call Recording, Appearance, etc.)*
- *Contacts*

USER CLASSES AND CHARACTERISTICS

Based on frequency of use, subset of product functions used, technical expertise, security levels, educational level, or experience, we can say that this software is much required among the customers. User class may include the different types of end-user, such as ***Free-user*** *or* ***Premium users****. Certain requirements may pertain only to certain users. Free-users can have access to the functions provided, but some extra features will be restricted to them, such has viewing the profile of some other people without letting them know, or recording the call during responding to it.*

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OPERATING ENVIRONMENT

*True-caller is a software that can run on both **iOS** and **Android**, with any kind of hardware. It can also run on any kind of operating system. The current version of True-caller is **version 10.50.8**.*

DESIGN AND IMPLEMENTATION CONSTRAINTS

*True-caller, however, comes with same limitations with the developer if the end-user wishes to run it in **iOS** because it is the **iOS** that restricts some of the features of True-caller.*

- *Interfaces to other applications- True-caller is a simple software. So there are less chances of not working on other Interfaces.*
- *Specific technologies- No specific technology is required for the development of it. It is as the other soft wares, easy to use, very reliable, etc.*
- *Tools, and databases to be used- A huge record of database is to be used and to be maintained so as to keep all the records (data) of the users. Therefore, the database and all its components should be fast, reliable, consistent, modifiable, verifiable, traceable, etc. So latest database soft-wares can be used for better software development.*
- *Language requirements- A basic knowledge of any programming language can be implemented for making the software.*
- *Security considerations- The security should be there. That means, the user can have access to only things that are specified in the description of the software. Personal details (apart from the general details) are strictly prohibited for the user's access.*
- *Design conventions or programming standards- Understandability should be there in the programming standards so as to maintain it, update it or modify it. Design conventions should be properly used as per the user's requirements.*

USER DOCUMENTATION

User manual will be delivered along with the software. Online help is available at "https://www.truecaller.com".

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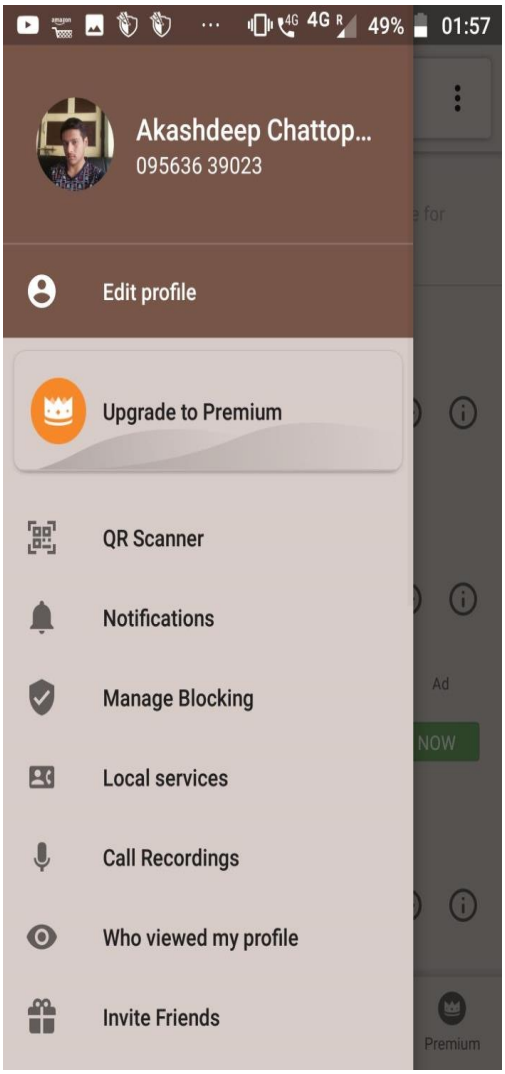
ASSUMPTIONS AND DEPENDENCIES

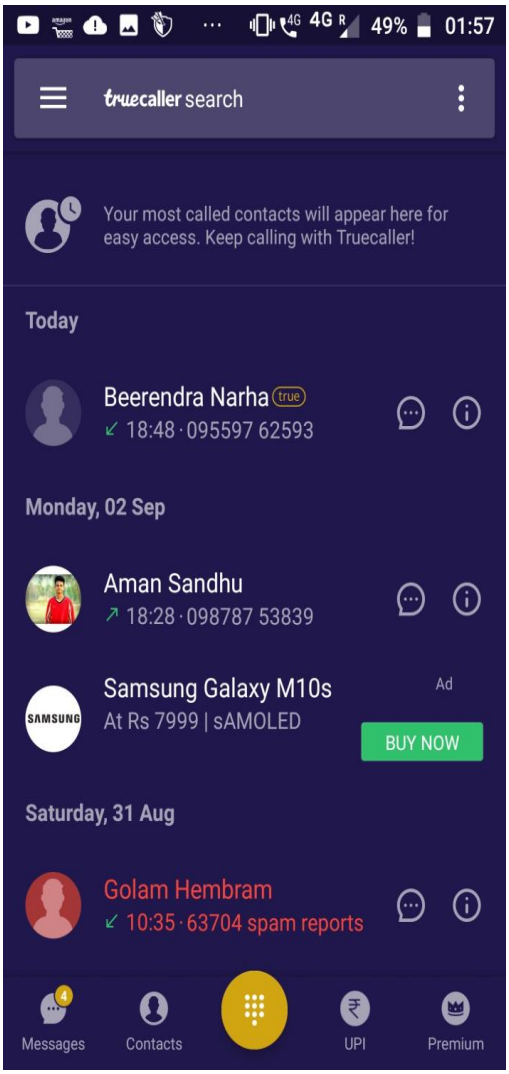
No third-party or commercial components is planned to use, no issues around the development or operating environment, or constraints. Any dependencies by the project has on external factors, such as software components that to reuse from another project.

EXTERNAL INTERFACE REQUIREMENTS

USER INTERFACES

SAMPLE SCREEN IMAGES





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The logical characteristics of True-caller is such that user will find it easy to use in the latest version. GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) will appear on every screen, keyboard shortcuts, error message display standards. The software components for which a user interface is needed are ***Contacts, Messaging, Storage (if necessary), Phone, and Location****. Details of the user interface design is documented in a separate user interface specification.*

HARDWARE INTERFACES

The logical and physical characteristics of each interface between the software product and the hardware components of the system may include the supported device types, i.e., a cell phone or a system, the nature of the data, i.e., some kind of in-built data handler, e.g. storage inside the device and control interactions between the software and the hardware, i.e., the user interface through which the user can communicate.

SOFTWARE INTERFACES

The connections between this product and other specific software components is that this software does not have any dependencies among other software, including databases, operating systems, tools, libraries, and integrated commercial components. The data items or messages coming into the system and going out and describe the purpose of each. The services needed and the nature of communications is a proper network signal for communicating and gathering the details of the person who is calling. The documents that describe detailed application programming interface protocols is the user manual. The data that will be shared across software components is the details of the caller. The data sharing mechanism must be implemented in a specific way i.e., using of a database inside the software for the purpose of gathering the details and showing it to those who require it.

COMMUNICATIONS INTERFACES

The requirements associated with any communications functions required by this product are e-mail, phone number and some personal details like name, address and so on. Define any pertinent message formatting. Communication standards that will be use is HTTP. Communication security or encryption issues are there, no data transfer rates, synchronization mechanisms are there such as proper data visualization.

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SYSTEM FEATURES

Illustrating the organization of the functional requirements for the product by system features, such as ***Call Blocking, Call Recording, Who viewed my profile,*** *etc. and the major services provided by the product, such as* ***Payments, Inviting Friends, Premium Version,*** *etc. It is preferred to organize this section by use case, mode of operation, user class, object class, functional hierarchy, or combinations of these, whatever makes the most logical sense for your product. So, here it goes:*

MANAGE BLOCKING

4.1.1 Description and Priority

A short description of the feature to indicate that it is of High priority. This feature includes updating the list of most reported spam calls to detect them quickly even when offline. Ratings, based on benefit, penalty, cost, and risk: - ***8/9***

4.1.2 Stimulus/Response Sequences

The sequences of user actions is to open the software and to right swipe the screen and to click on ***Manage blocking*** *and to* ***Update top spammers*** *and system responses is that it will update it for this feature. These will result in the updating of spam calls so that they won't disturb anymore.*

4.1.3 Functional Requirements

The detailed functional requirements associated with this feature are:-

Under normal version	***Under Premium version***
Block top spammers	*Automatically update top spammers*
Block hidden numbers	*Extended top spammer list*
Block numbers from foreign countries	*Block 140 series telemarketers*
Block numbers not in the phonebook	--

These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. The product will respond to anticipated error conditions or invalid inputs. Requirements are concise, complete, unambiguous, verifiable, and necessary.

REQ-1: We must have a registered account in the software.

REQ-2: Updates should be there.

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LOCAL SERVICES

4.1.1 Description and Priority

*A short description of the feature to indicate that it is of Medium priority. This feature includes providing the official contacts (such as **Emergency, Airlines, Indian Railway, Banks, Healthcare,** etc.) apart from the unofficial contacts (the list of phonebooks). Ratings, based on benefit, penalty, cost, and risk: - **8/9***

4.1.2 Stimulus/Response Sequences

*The sequences of user actions is to open the software and to right swipe the screen and to click on **Local Services** and to **select** any of the options for this feature. These will result in accessing the options so that one can use them if necessary.*

4.1.3 Functional Requirements

The detailed functional requirements associated with this feature are:-

Under normal version	**Under Premium version**
Access to the contacts of: • *Emergency* • *Bank Balance* • *Airlines* • *Indian Railway* • *Couriers/ Packers* *Electronics* • *Banks* • *DTH* • *Automobiles* • *Healthcare* • *Hotel and Insurance*	*Same as the normal version.*

These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. The product will respond to anticipated error conditions or invalid inputs. Requirements are concise, complete, unambiguous, verifiable, and necessary.

REQ-1: We must have a registered account in the software (which is not necessary)

CALL RECORDING

4.1.1 Description and Priority

*A short description of the feature to indicate that it is of Medium priority. This feature includes recording of calls to for later purpose. Ratings, based on benefit, penalty, cost, and risk: - **7/9***

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4.1.2 Stimulus/Response Sequences

*The sequences of user actions is to open the software and to right swipe the screen and to click on **View Recording Settings** and to click on **Call Recording** and to click on **Start Recording** on the popped up window, so that the system responses to that feature.*

4.1.3 Functional Requirements

The detailed functional requirements associated with this feature are:-

Under normal version	***Under Premium version***
This feature is available only for a limited period of time, say 1 month. After that, it will expire	*This feature is available permanently under the premium version so as to ensure the safety of the user from the caller.*

These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. The product will respond to anticipated error conditions or invalid inputs. Requirements are concise, complete, unambiguous, verifiable, and necessary.

REQ-1: We must have a registered account in the software.

REQ-2: Must have a **PREMIUM** version to have access to it.

WHO VIEWED MY PROFILE

4.1.1 Description and Priority

*A short description of the feature to indicate that it is of High priority. This feature includes gaining access to those persons' details who viewed the user's profile. Ratings, based on benefit, penalty, cost, and risk: - **7/9***

4.1.2 Stimulus/Response Sequences

*The sequences of user actions is to open the software and to right swipe the screen and to click on **Who Viewed My Profile,** and as a result the system will respond to that feature.*

4.1.3 Functional Requirements

The detailed functional requirements associated with this feature are:-

Under normal version	***Under Premium version***
This feature is not available.	*This feature is available permanently under the premium version so as to ensure the safety of the user from the caller.*

These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. The product will respond to anticipated error conditions or invalid inputs. Requirements are concise, complete, unambiguous, verifiable, and necessary.

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REQ-1: We must have a registered account in the software.
REQ-2: Must have a **PREMIUM** version to have access to it.

INVITE FRIENDS

4.1.1 Description and Priority

A short description of the feature to indicate that it is of Low priority. This feature includes inviting friends for the more use of this software. Ratings, based on benefit, penalty, cost, and risk: - ***7/9***

4.1.2 Stimulus/Response Sequences

The sequences of user actions is to open the software and to right swipe the screen and to click on ***Invite Friends*** *and to click on any of the options to start inviting them on the popped up window, so that the system responses to that feature.*

4.1.3 Functional Requirements

The detailed functional requirements associated with this feature are:-

Under normal version	***Under Premium version***
This feature is available and the user can send invitations through SMS, WhatsApp, Gmail, Facebook, Instagram, etc.	*This feature is also available under the premium version so as to invite more of such users.*

These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. The product will respond to anticipated error conditions or invalid inputs. Requirements are concise, complete, unambiguous, verifiable, and necessary.

REQ-1: We must have a registered account in the software.

OTHER NONFUNCTIONAL REQUIREMENTS

PERFORMANCE REQUIREMENTS

There are performance requirements for the product (that are in-built inside it) such as

- ***Flash Messaging: -*** *The ability for you to transmit quick bits of messages such as emojis to your friends.*
- ***Last Seen: -*** *Shows you whether the other person is, at any particular moment, available or on a call or has put the ringer on silent mode.*
- ***After call Details: -*** *A caller details is shown every time as a pop-up during the call and after the call from an unknown person. In most*

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cases, this floating alert is both redundant and a serious memory hogger.

- ***Remind me of missed calls: - E**ssentially sends you notifications every hour nudging you to call the person back. It probably won't have any significant impact on the app's performance but hey, who doesn't like lesser notifications?*
- ***Auto Search: -** Searches for unfamiliar numbers whenever you copy them or receive a message from someone who's not on in your contact list on apps like WhatsApp and Telegram. While it is one of the niftiest features the app offers, you're better off without them if your phone is struggling to keep up as it adds two extra background True-caller activities.*

Thus, one should be aware of these functions and must handle them carefully in order to not have any performance issues. Other than this, this software is a good to go software, so it does not lack in any other performance.

SAFETY REQUIREMENTS

The requirements that are concerned with possible loss, damage, or harm could result from the use of the product. These may include disclosing of the data, i.e., data leak, or such kind of thing, which will result in huge loss to the end-user. The safeguards or actions that must be taken are proper use of database so as to maintain the data as well as actions that must be done in order to prevent data leak. Referring to any external policies or regulations that state safety issues that affect the product's design or use, one can visit the site "https://www.truecaller.com/privacy-policy" to get quick tips to ensure the safety certifications that must be satisfied.

SECURITY REQUIREMENTS

The requirements regarding security, such as data leak or privacy issues, such as disclosing the details of a person to some other person. Identity authentication requirements such as while creating an account, a verification code will appear which will ensure the presence of the user as the only user of that account. Referring to any external policies or regulations that state

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safety issues that affect the product's design or use, one can visit the site "https://www.truecaller.com/privacy-policy" to get quick tips to ensure the safety certifications that must be satisfied.

SOFTWARE QUALITY ATTRIBUTES

*Additional quality characteristics for the product that will be available under the **Premium Version** and the **Gold Version**, which are important to either the customers. Some to consider are:*

Type of version	*Correctness*	*Flexibility*	*Interoperability*	*Maintainability*	*Portability*	*Reliability*
Premium Version	*Quantitative, and verifiable*	*Verifiable*	*Specific, Quantitative, and Verifiable*	*Verifiable*	*Quantitative*	*Quantitative and Verifiable*
Gold Version	*Specific, Quantitative, and Verifiable*	*Specific and Verifiable*	*Specific, Quantitative, and Verifiable*	*Specific and Verifiable*	*Specific and Quantitative*	*Specific, Quantitative, and Verifiable*
Type of version	*Robustness*	*Usability*	*Adaptability*	*Availability*	*Testability*	*Reusability*
Premium Version	*--*	*Specific, Quantitative and Verifiable*	*Quantitative, and Verifiable*	*Quantitative, and Verifiable*	*Quantitative and Verifiable*	*Specific, Quantitative, and Verifiable*
Gold Version	*--*	*Specific, Quantitative and Verifiable*	*Quantitative, and Verifiable*	*Quantitative, and Verifiable*	*Specific, Quantitative, and Verifiable*	*Specific, Quantitative, and Verifiable*

BUSINESS RULES

No operating principles about the product, such as which individuals or roles can perform which functions under specific circumstances. There are no functional requirements in themselves, and they do not imply any functional requirements to enforce the rules. This is a general purpose software, no there is no commercial purpose of that, so apart from the privacy policies, no other restrictions are imposed on it.

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OTHER REQUIREMENTS

There are requirements not covered elsewhere in the SRS. This might include database requirements, a huge database to store the amount of data they collect; internationalization requirements such as using various kind of languages. One such feature is available inside the software which lets the user to operate it as per the language requirement. Reuse objectives for the project, such as data backup for more storage for further use.

Appendix A: Glossary

Internationalization localization *(means of adapting computer software to different languages, regional peculiarities and technical requirements of a target locale)*

Appendix B: Analysis Models

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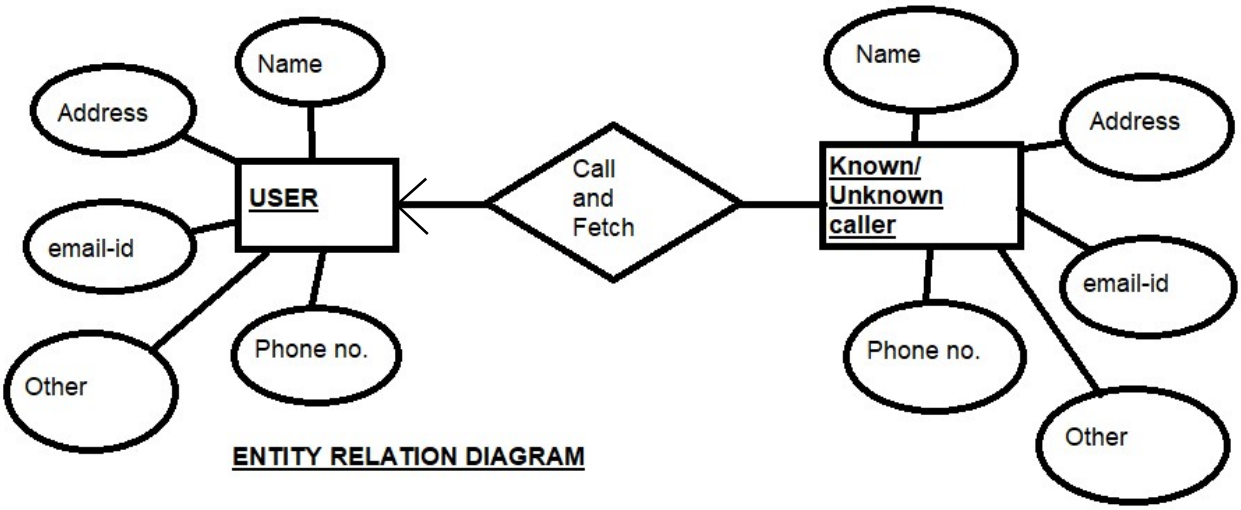
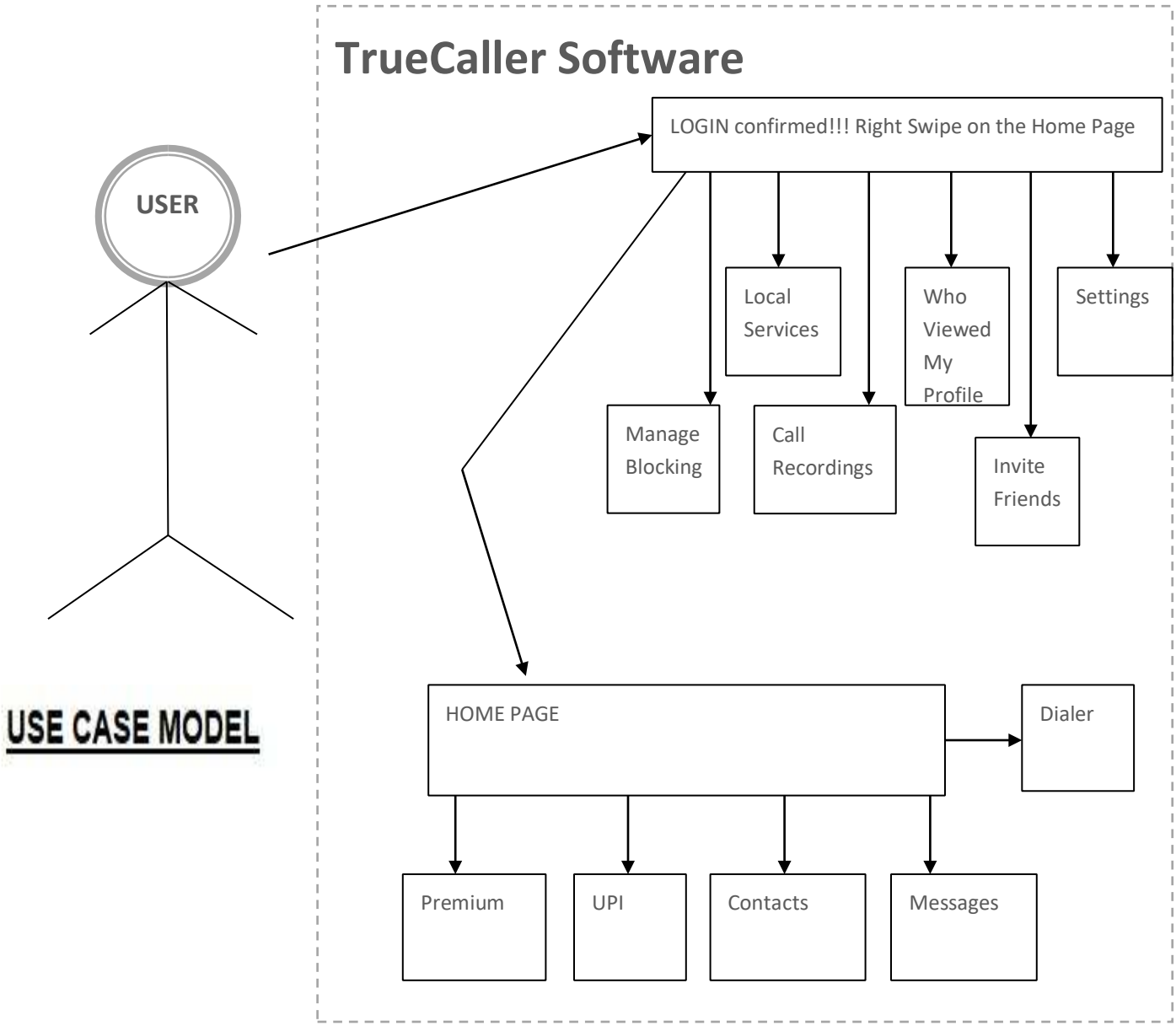


ENTITY RELATION DIAGRAM



USE CASE MODEL

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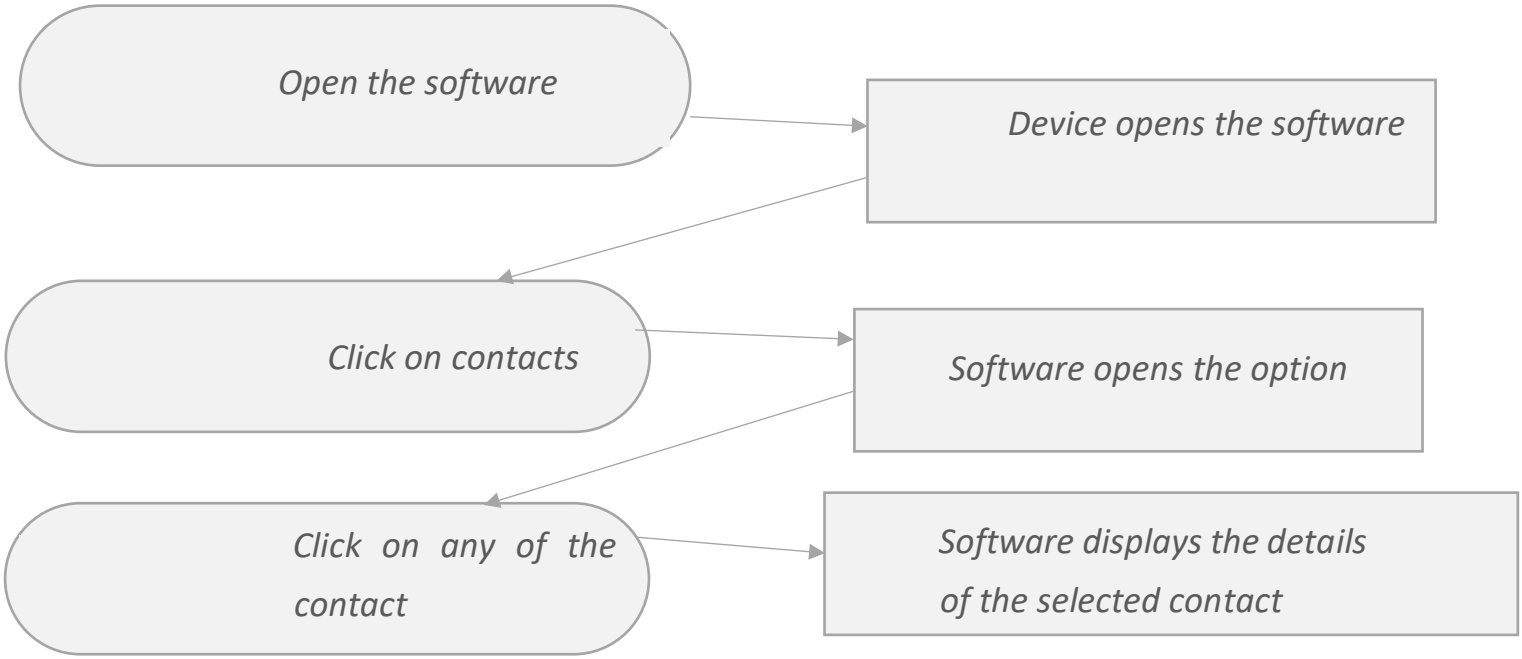
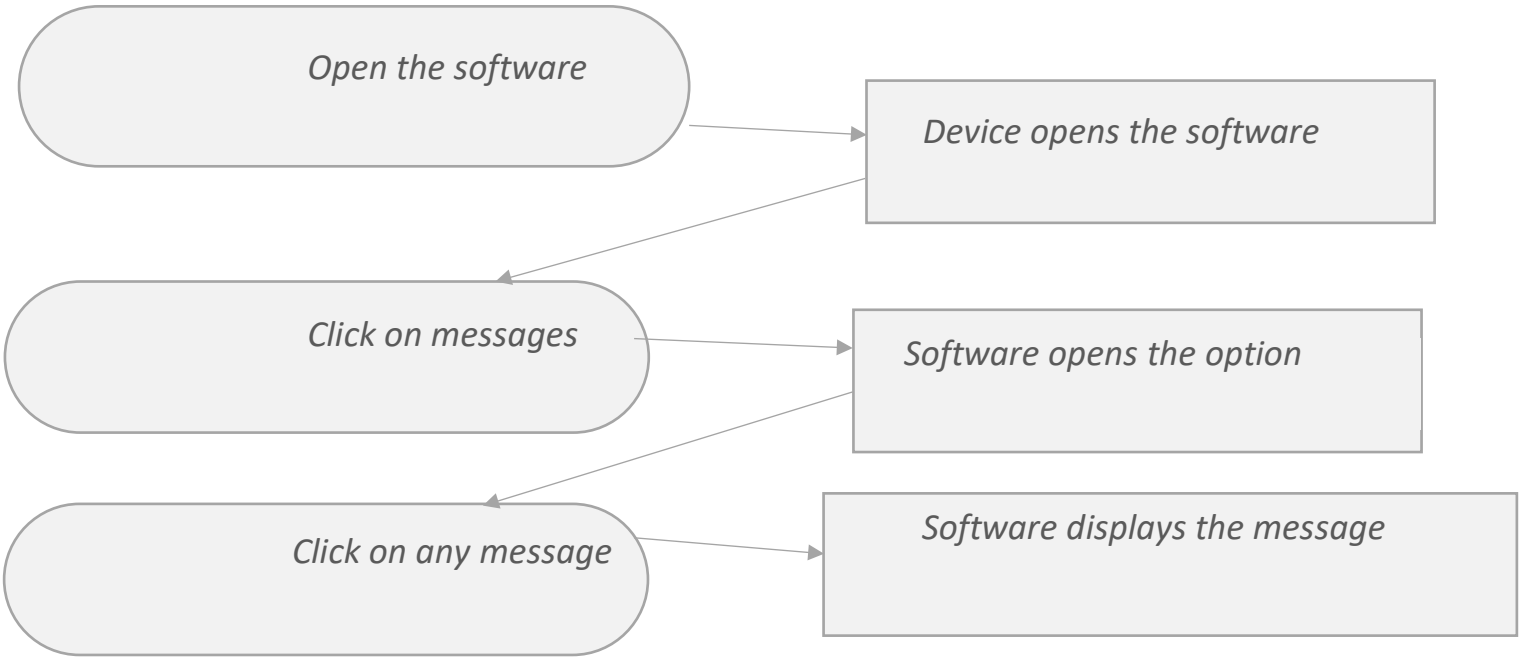


Contact display test



Message display test

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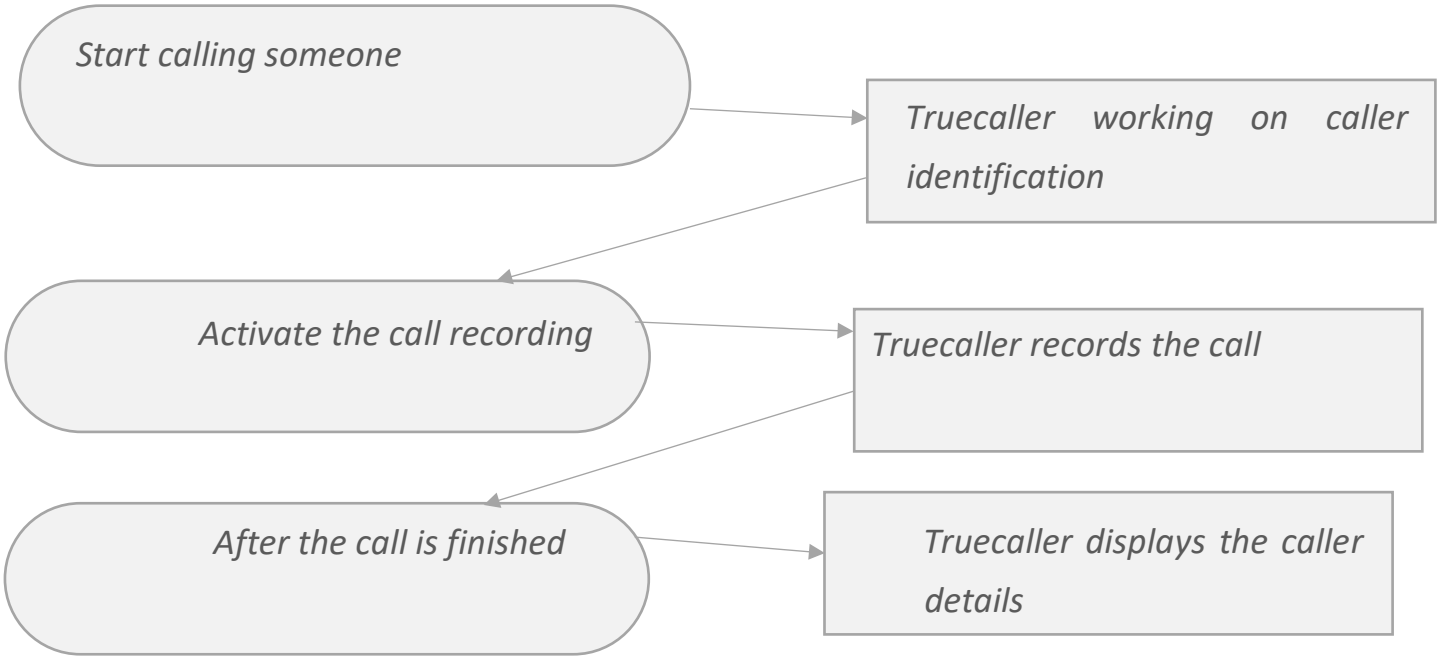
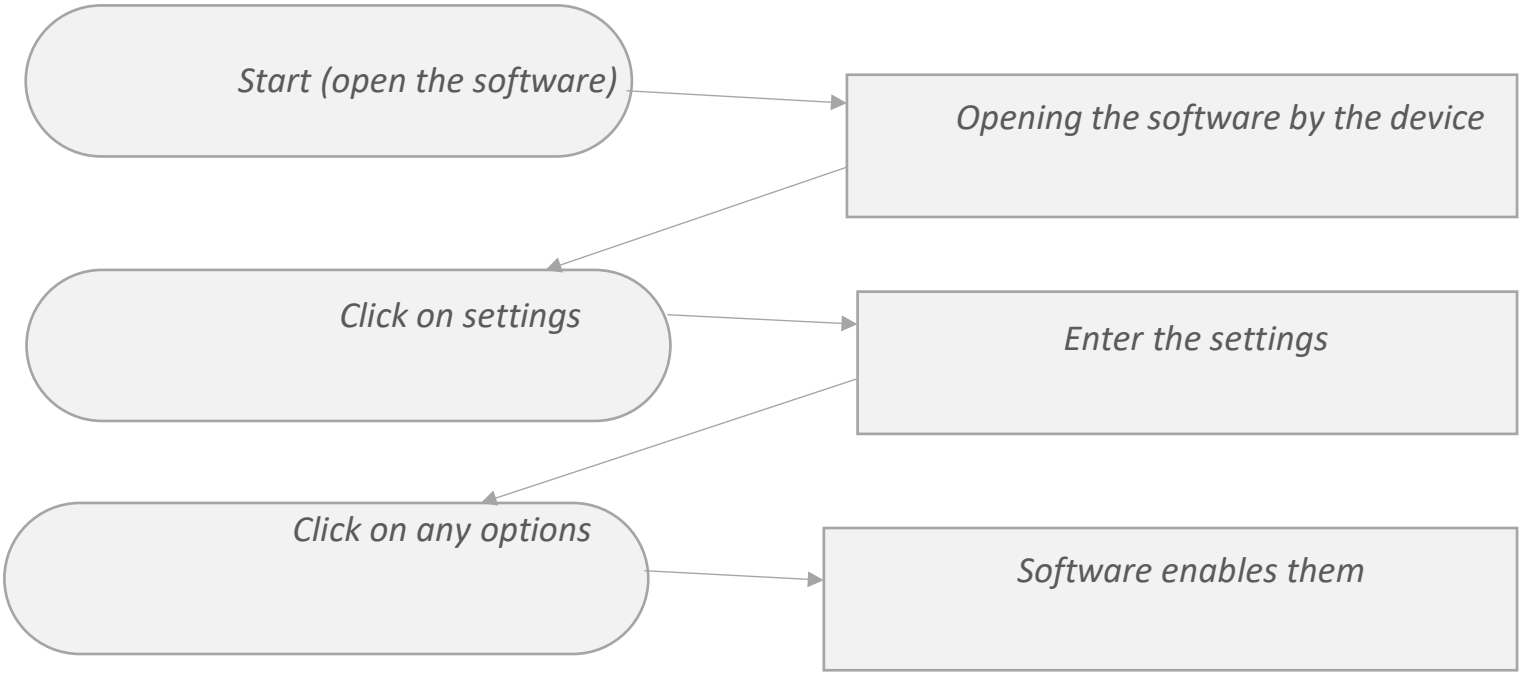


Call test



Settings test

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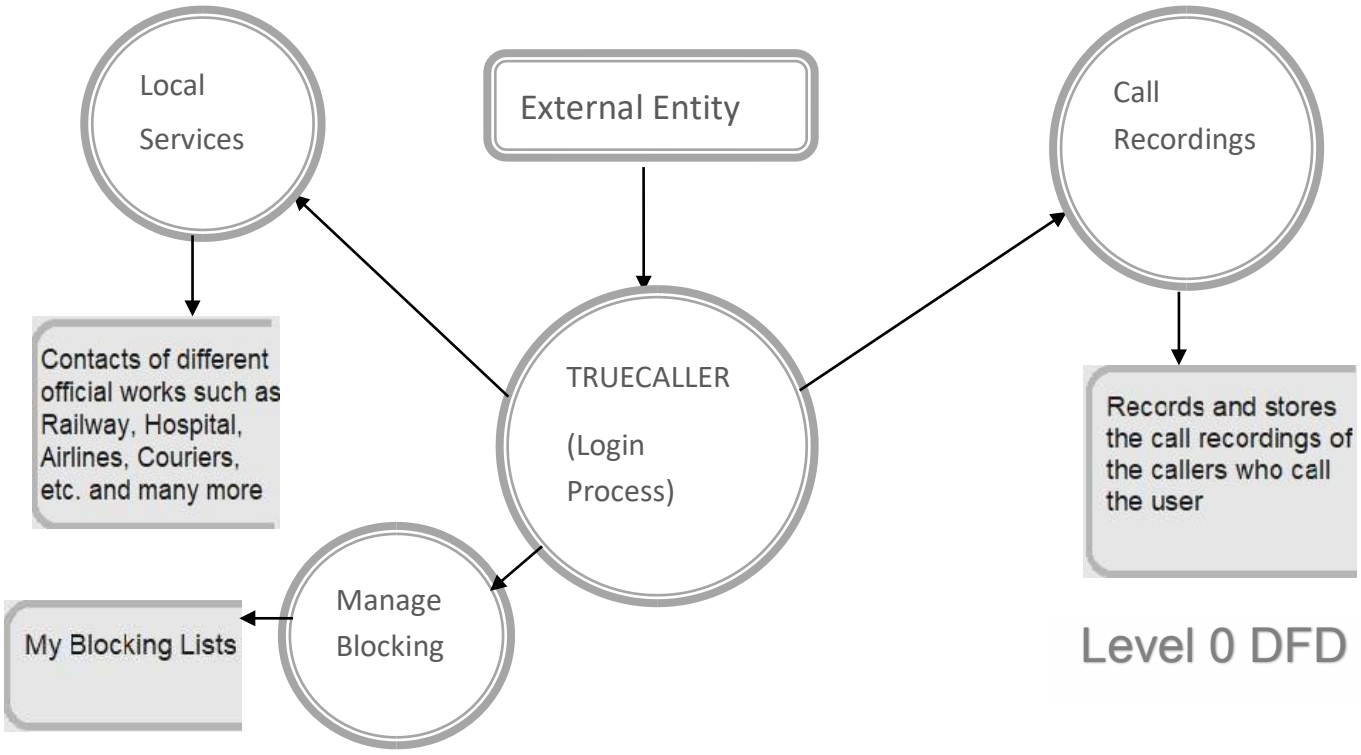
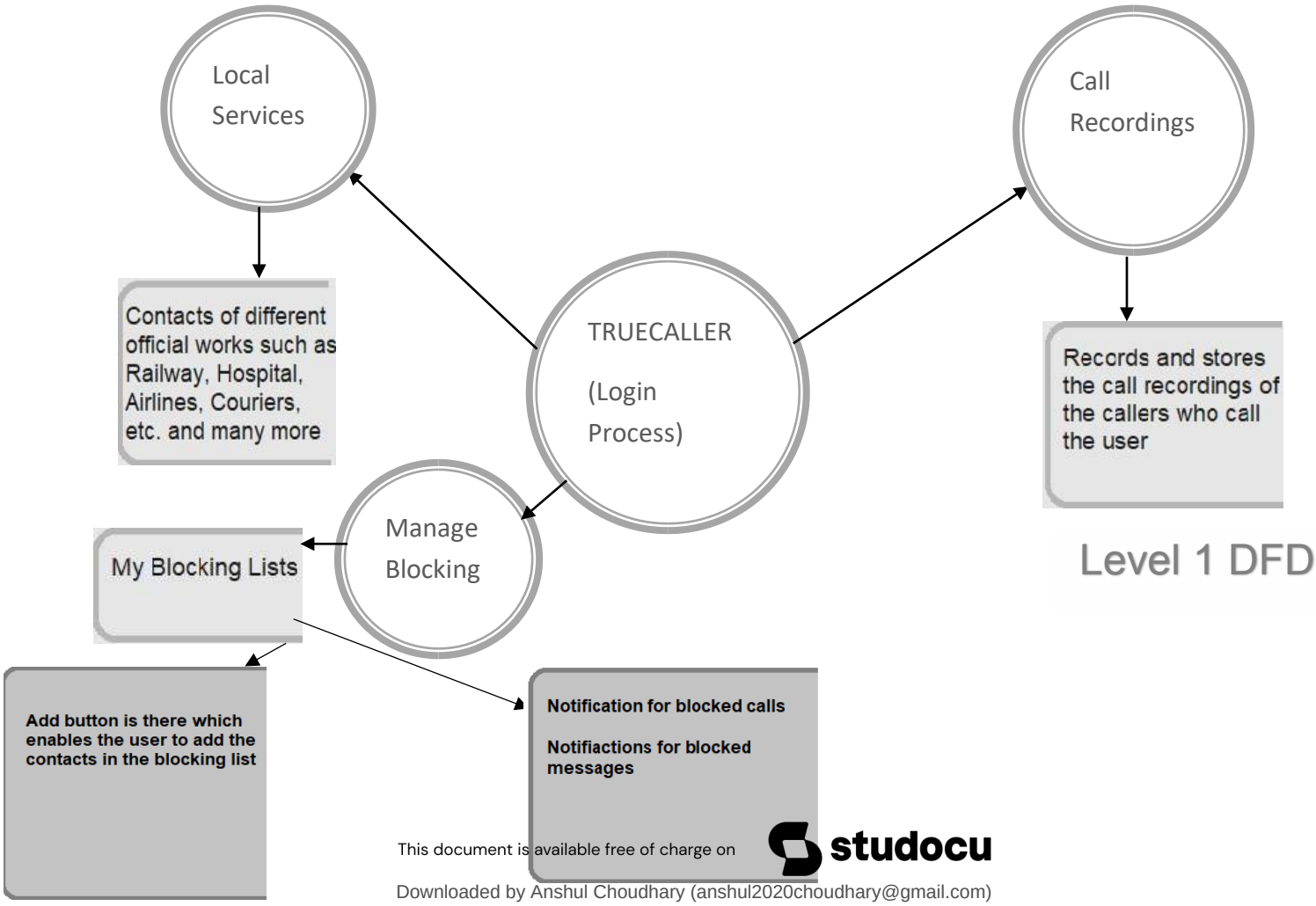


Level 0 DFD



Level 1 DFD

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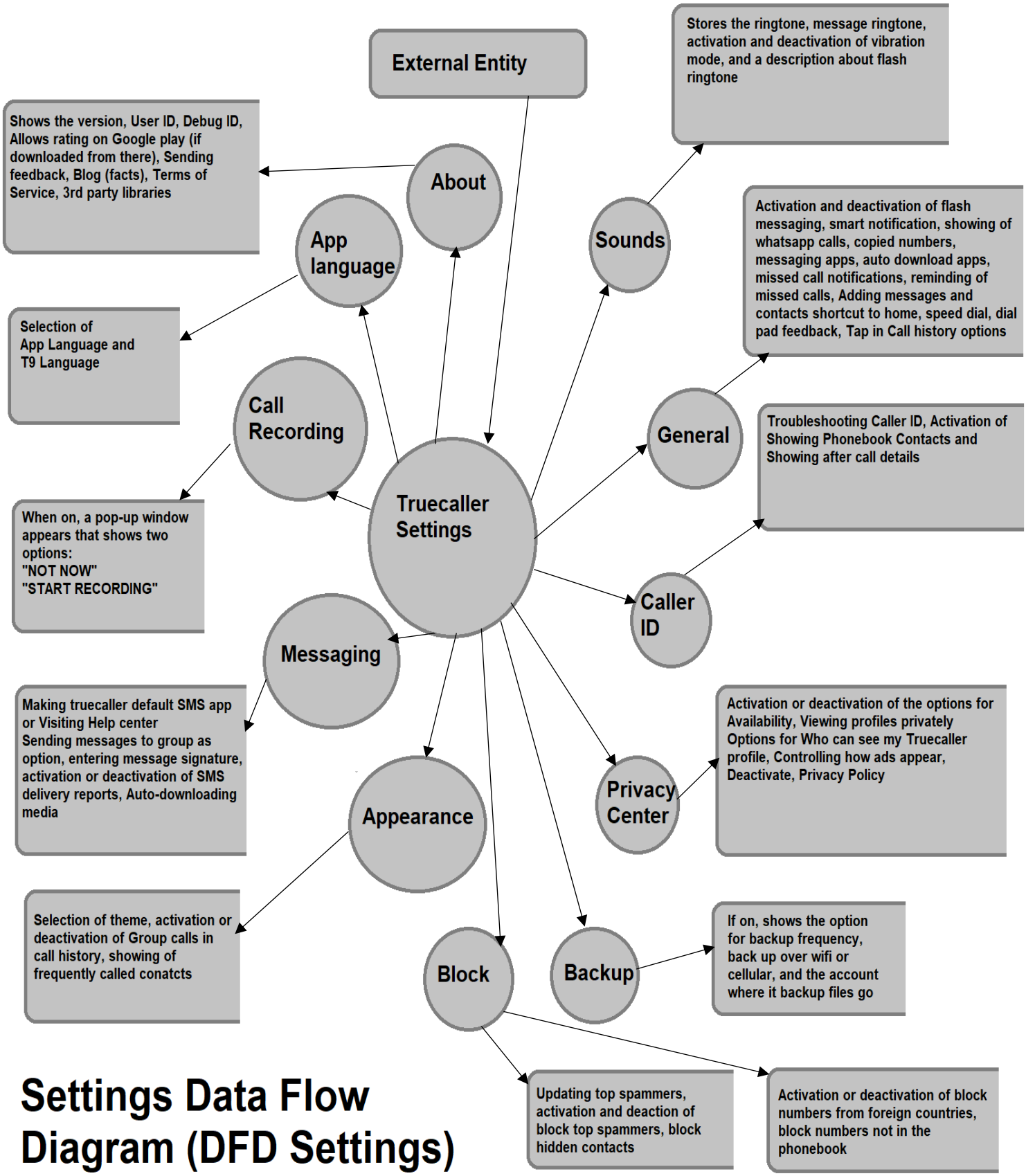

Settings Data Flow Diagram (DFD Settings)

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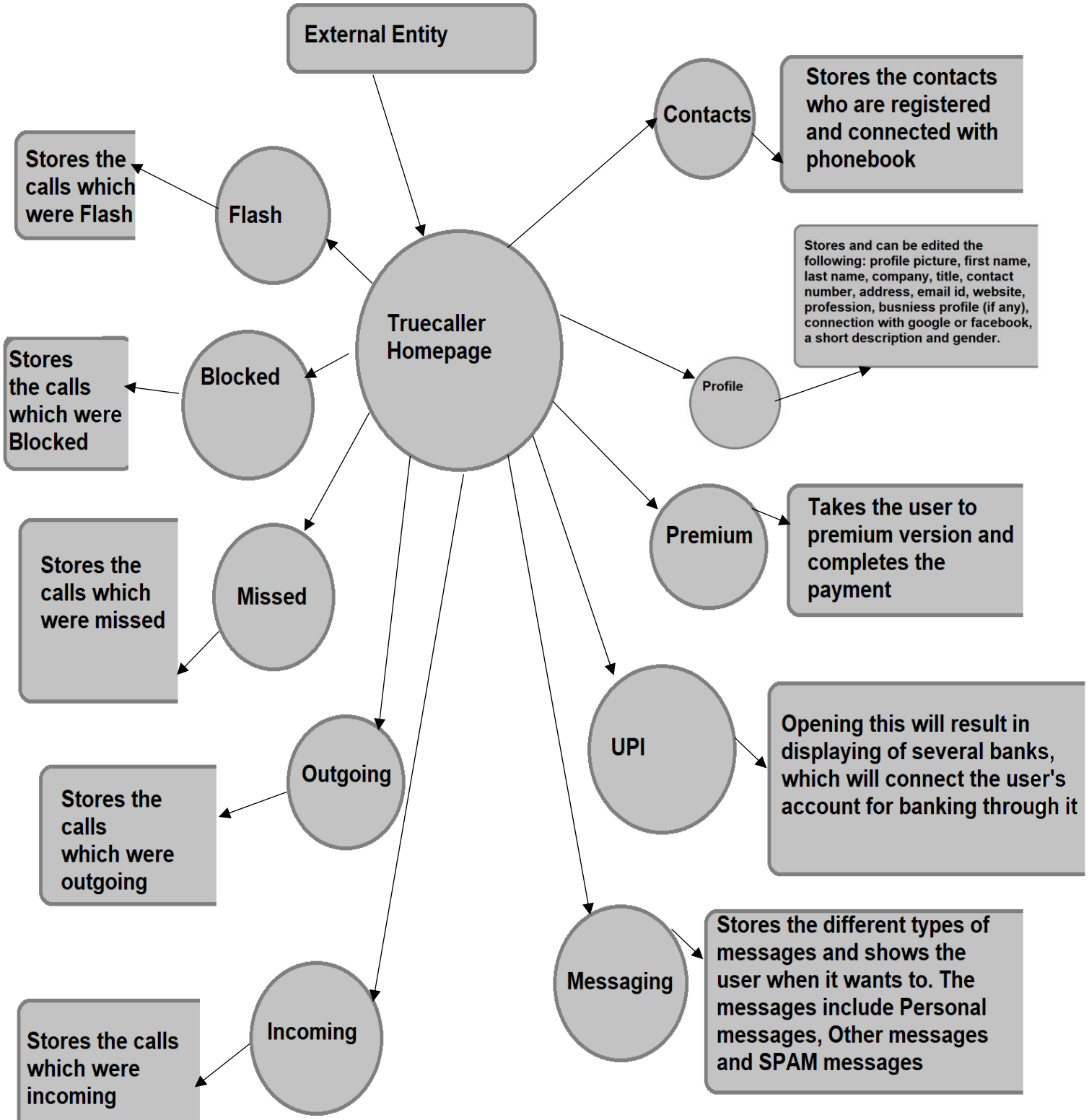

Home page DFD (Data Flow Diagram)

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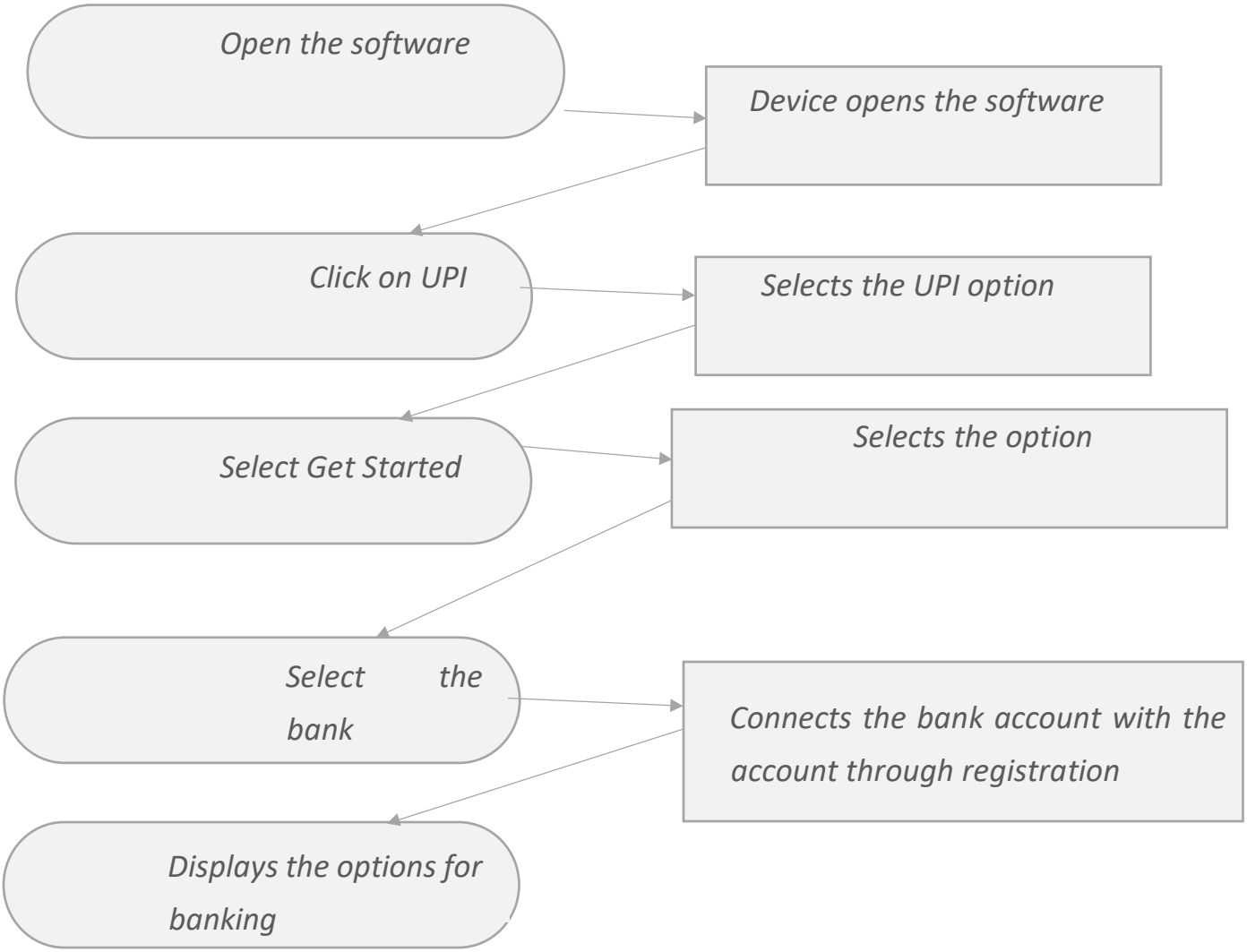
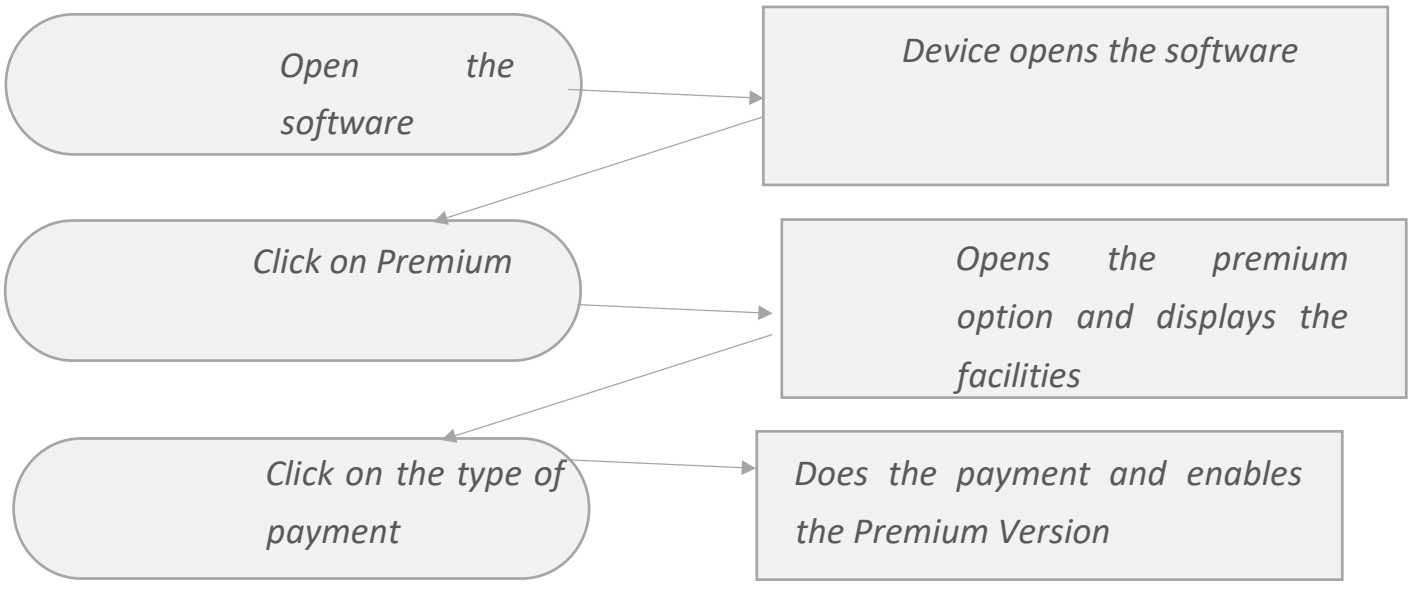
UPI/ Bank connetion test



Version upgrade test



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