



THE AMERICAN UNIVERSITY IN CAIRO

الجامعة الأمريكية بالقاهرة

Software Requirements Specification (SRS)

For “**Gam3ya**” application

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Revision History

| Name | Date | Reason For Changes | Version |
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1. Introduction

1.1 Purpose

Section ‘1’ focuses on displaying the overview of everything included in the Software Requirements Specification (SRS). The software product is called “*Gam3ya*”, it’s an app mimicking reality when it comes to actual lending associations but in a more efficient, fast and secure approach.

1.2 Document Conventions

The document is written in Arial, size 11, and the font used within the app is Calibri (the size varies within the application). All section titles are underlined and written in Arial, type Bold, size 23. Whereas all subsection titles are written in Arial, type Bold, size 17. In order to identify different subsections we used the “.” notation preceding the subsection number. **Bold** words are considered to have higher priority than normal words, to account for crucial key words.

1.3 Intended Audience and Reading Suggestions

This document is intended for different readers with varying professions such as software developers, marketing teams, project managers, testers and users. This SRS is divided into six sections, each section consists of multiple subsections that aid the reader's comprehension of this document and the project. The sections are: introduction, overall description, external interface requirements, system features, non-functional requirements and finally other requirements.

The 'introduction' section initiates the document and ensures all readers are fully aware of which sections they are to target in order to satisfy their current demands/questions. It clearly states the purpose, scope, conventions and suggestions of the product (application) and serves as a foundation for other sections to follow.

The 'overall description' section is concerned with answering the following questions: How does the system work? Who are the users? What are the main functions of the software? The section then explains the user's varying classes and characteristics, as well as the environment by which the developed software is going to be utilised most efficiently. Finally, this section shall explain both the design and implementation constraints, providing the user of an honest idea regarding areas where he may feel restricted.

The 'external interface requirements' section is concerned with the requirements and demands of our implemented interface in order to ensure thorough functionality is fixated in place between the user, software, hardware and communications. These four members denote all aspects of our application, and the interface we implement will surely require some hefty demands to guarantee proceedings between the aforementioned parties occur securely, quickly and efficiently.

The 'system features' section will enlist all application features and use cases that dictate the interaction between the actors and the application, carefully providing a name and description for each function utilised, what its pre and post conditions are, which actor is responsible for it and how it normally flows during its utility.

The 'non-functional requirements' section is concerned with detailing how non-functional requirements either better serve the basic system functions or detriment their performance. Any constraints on system performance, timing, privacy, authentication, implementation, shortcomings of scalability etc. are going to be carefully dissected.

The 'other requirements' section is concerned with any requirements that do not fit prior criteria but still play a role in the accessibility of the application such as: database requirements, legal requirements and the reuse objectives for the project.

Users will usually skim through the entirety of the document in search of what suits them at the moment of access, however they are encouraged to pay extra attention to section 2 as it will narrow their scope massively and pertain to all their major inquiries.

Testing teams (testers) are advised to only go through sections 2,4 and 5 given that they already possess an idea of what the main objectives of the software are.

Maintenance engineers are the ones who should be reading the whole document, as they should understand the objective behind that software and the major constraints and rules that they should abide by.

Project managers are to comprehend thoroughly sections 2, 4 and 5. It is of utmost importance for them to use these sections in overseeing the system development process and planning ahead.

1.4 Product Scope

“Gam3ya” application is intended to work world-wide. The main objective of the application is to raise large sums of money in a short time, easily and securely. Every individual has the ability to either create/join a Gam3ya if he’s eligible to do so. Our aim is to help each individual joining a “Gam3ya” accomplish his/her dream projects, which would’ve been harder to achieve funding for, depending on his/her steady income alone. Our scope encompasses establishing all the aforementioned targets via a safe, easy and efficient application.

1.5 References

For more information, please contact one of the managers via email or phone, muhamed_hatem1@aucegypt.edu, abdelbaki@aucegypt.edu, omarradwan@aucegypt.edu feel free to give us a visit at our location: AUC Avenue, Cairo Governorate, 11835.

2. Overall Description

2.1 Product Perspective

Gam3ya is a brand new, self-sufficient application that replicates the functionalities of real-life lending associations in a simplified manner. It is a stand-alone production that does not associate itself to any larger product families. It connects people to real life gam3yas online, where other members could be either known or anonymous. We are also introducing new features in the application like: chat system and points system.

2.2 Product Functions

Gam3ya user:

- Create gam3aya account
- Access gam3aya account
- Two types of chat rooms:
 - Private chat
 - Public forum
- Add friends
- Request a specific gam3aya
- Join gam3aya (needs admin approval)
- Pay money
- Receive money
- Contact gam3aya support team

Gam3ya administrator:

- Help gam3aya users with technical issues
- In charge of point system
- Remove non-compliant gam3aya users
- Generate random number for users in gam3aya
- Control maximum number of gam3aya's a user can join
- Notify gam3aya users with deadlines and other news

2.3 User Classes and Characteristics

There are 2 different types of user classes, first there are the Gam3ya users and then there are the respective administrators.

Gam3aya users have the option and the right to join gam3ayas and create them based on their self-will at any time they prefer to do so. Additionally, they are allowed to pay and receive money from other differing users, chat with them and others in the process and rank them on points-basis so that the application identifies with proper and improper users of its system.

Once a user initiates login, he is prompted to designate his/her preferences when joining a gam3ya. (Preferences such as locality, currency, language that the users speak, payout of the gam3ya, gam3ya duration (weekly,monthly), amount of users in the gam3ya, age group of users, users' professions). Once the preferences are checked, the automated notifier redirects the user to a "recommendations" page filled with optimal gam3yas based on what he/she likes. If dissatisfied, the user is redirected to the standard gam3ya search query page.

On the other hand, the admins have the right to control each and every gam3aya in the system in order to handle any problems. Moreover, they handle the point system, if any gam3aya user goes under a certain point they are disallowed from joining a certain group. Furthermore, they have the right to view chat history and transactions.

2.4 Operating Environment

As we will be trying to reach the maximum number of people, we are planning to support most of the operating systems that are currently being used worldwide. We will be using both web browsers and user-interaction applications. The application intends to support most of the web browsers (Google Chrome, Firefox, Safari, Opera, etc.). On the other hand, the application will support PC OS (Windows 8, Windows 10) and it will also support Macintosh (Version 10 and above) .We will also be supporting mobile phones (Android and iOS) this will help us reach as much of the targeted audience as possible.

2.5 Design and Implementation Constraints

Money:

Most of payment transactions will utilize various methods such as: Fawry, Bitcoin, Credit Cards. Most of these applications have a steady policy of deducting a fee from the user whenever a transaction takes place. These percentage-based deductions vary from one payment method to the other, so the user is completely responsible for allocating the most suitable and cheapest payment method to use. As a result of the aforementioned constraint already placed upon the user, we will only be taking a sign up fee from all new-coming Gam3ya users which will be 8 USD (equivalent in local currency) and it will be paid once upon initiating the account, in order to maintain our project and keep on developing Gam3aya. The user is to be informed of all liabilities associated with handling payments via third-party members such as Fawry and Orange Money, since the application will most certainly not be responsible in case an error stems from their side.

Security:

Security is a main constraint for the proceedings of the application. As a result, we have many precautions fixated in place in order for us to make sure our application is safe and reliable. While the Gam3ya user is signing up, he undergoes a validation process which is basically validating his National ID in collaboration with the Police department. This will help us try ensure the validation of each member joining and have his personal details which will be stored confidentially and other users don't have access to such data. We are obligated to inform the user that no information sharing will ever take place between us with third-party software or entities that ask for personal information.

Moreover, a point system will be introduced which will reward points to users who pay on time with the correct amount, and on the other hand deduct points for users who struggle to meet the deadlines or pay missing fees (deductions from payment methods are beyond our responsibility). If a user's points decline beneath a certain score, he won't be able to join high-payout gam3ya's on our behalf. In the case he doesn't redeem himself in the following time period, he will be banned from joining all gam3ya's with the national ID given.

Implementation :

The application will be supporting many operating systems, so we have to implement the application in a way to support all of these systems. Moreover, as we are planning to become a

worldwide used application, therefore we should support many languages and many currencies. This requires diligent work on behalf of our developers to ensure functionality occurs smoothly throughout all operating areas and localities.

2.6 User Documentation

Both the website and the application will incorporate a steadily-available Help button with a FAQ tab, video tutorials and email support as well.

Help buttons will ask the user to input his question or query, then he will be redirected to the most suitable answer on our database. In the case the answer is not readily available on our accumulative database, his question will be enlisted on our server and the respective administrator will be prompted to solve the query and post the answer up on the tab. Once the admin solves the inquiry, we will dispatch a notification in the form of a message to the user that his question has been answered.

Video tutorials will guide new users how to use the application, how to join or create gam3aya and explain every procedure in this application.

Email support will be used as well, in the case of any technical difficulties associated with launching the application or operating it. To reduce strain on our server, we will set an automatic reply to be sent directly back to the user immediately following his email, providing him with links to helpful resources mentioned above in order to ensure whatever he has to ask hasn't already been answered. The email will instruct him to resend his email in the unlikely case that his inquiry truly hasn't been resolved yet, and from our side we will only check inquiries that are sent twice.

2.7 Assumptions and Dependencies

We will assume that we will be backing up our servers a lot in order to keep the records of who paid and who didn't, so that in the case of external attacks/server mishaps we aren't

forced to restart from scratch. We will also assume that our database will contain most of the answers to the customers' questions, since adding new answers increases overhead.

3. External Interface Requirements

3.1 User Interfaces

After the user is done downloading the application from the app store, the first thing that appears is the **log in/sign up** page presented in the following image:

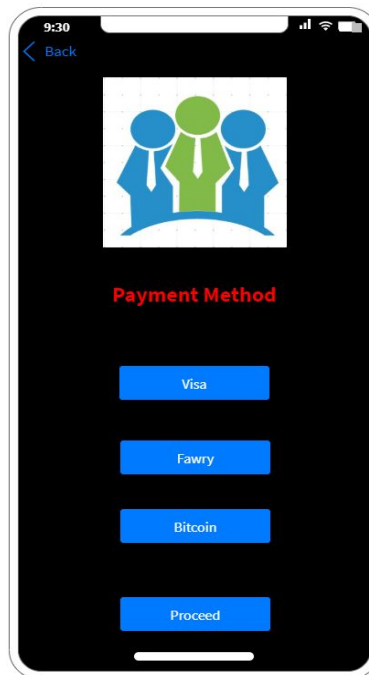


Sign up page: The user is asked to enter his Username, Password (+confirm), Email and Phone Number, then he's prompted to enter a Payment Method.

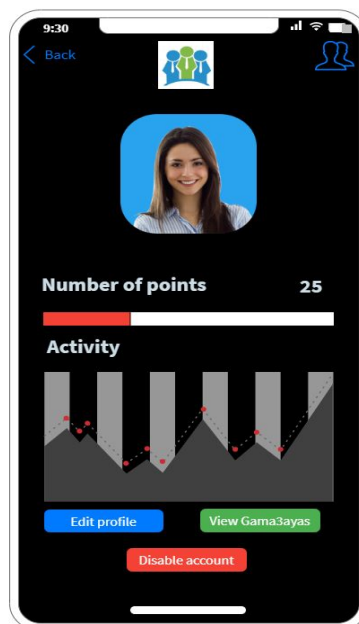
The image displays two mobile application screens for a sign-up process. Both screens feature a dark blue background with a white icon at the top center depicting three stylized human figures in blue and green. The status bar at the top of each screen shows the time as 9:30, along with signal and battery icons. A blue '< Back' link is positioned in the top left corner of each screen.

Screen 1 (Left): This screen contains five input fields stacked vertically, each with a label in red text above it: 'Username', 'Password', 'Confirm Password', 'Email', and 'Phone Number'. A blue 'Proceed' button is located at the bottom center.

Screen 2 (Right): This screen contains three input fields stacked vertically, each with a label in red text above it: 'National ID', 'Passport Number', and 'Country'. A blue 'Proceed' button is located at the bottom center.

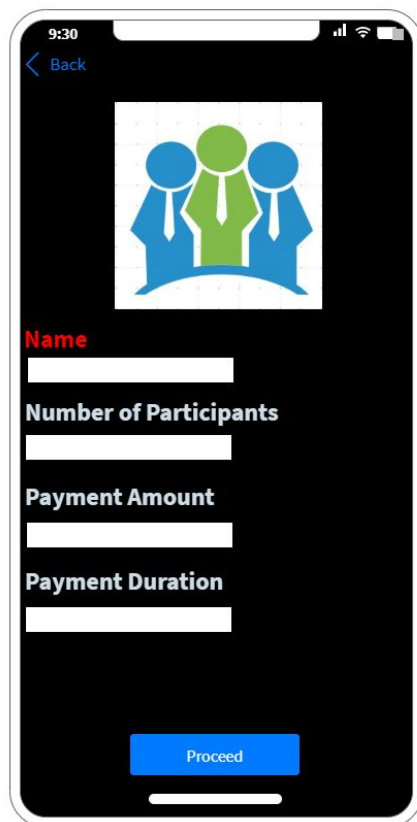


The user's option to choose a payment method, which can be (Visa, Fawry or Bitcoin)




When a user decides to check his own profile, he can choose whether to Edit his profile, View the gam3aya that he participated in or to Disable his account.

When the user decides to join/create a Gam3aya:



9:30

< Back



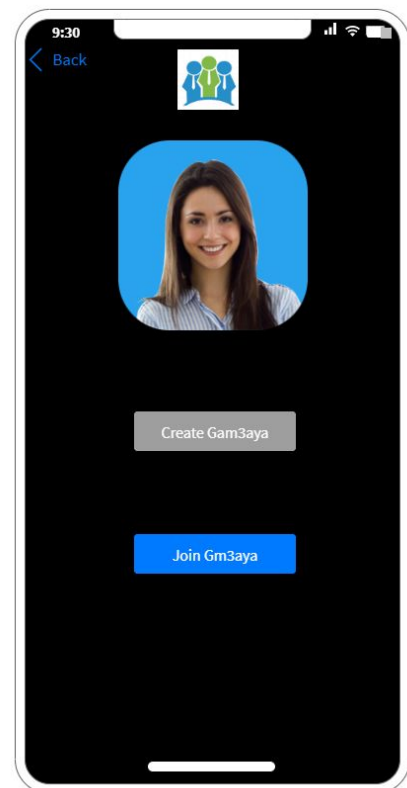
Name

Number of Participants

Payment Amount



Payment Duration

Proceed



9:30

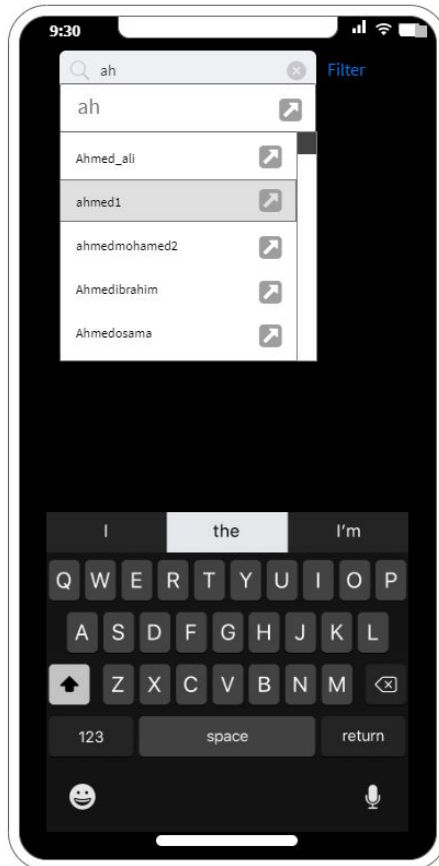
< Back



Create Gam3aya

Join Gm3aya

Searching for a user interface:



3.2 Hardware Interfaces

Gam3ya is designed to operate on web browsers and mobile phones. For the former, any personal computer or laptop can easily access the browser and launch Gam3ya. For the latter, Gam3ya will have both popular operating systems iOS and Android distributions supported, so any smartphone will be capable of accessing our application and initiating Gam3ya. We are reliant on our database to securely contain all participants' IDs, amounts of money available, credit card details, mobile phone numbers...etc. We might also become reliant with dedicated web servers if Gam3ya expands massively, these are crucial in times of excessive uptime and overloaded interactions on the application.

3.3 Software Interfaces

Our application's website version should be developed by utilising HTML, Cascading Style Sheets and Javascript. Gam3ya is intended to operate on every single browser in circulation today by adhering to the three aforementioned mediums during development. As for our application's mobile version, it is aforementioned that it will operate freely on both major operating system mediums for smartphones (Android and iOS). The former operating system's version of the application should make use of Java to execute, whereas the latter will be reliant on Swift. As for our solid database, we shall ensure it to be neatly structured with the aid of a relational open-source service such as MySQL. We are aware of our database containing personal images of our participants along with their passwords and therefore privacy is one of our utmost concerns. To take care of this attribute, we will employ a public key-encryption scheme that is easily accessible such as PGP. Our automated notifier is under the management's team's command at any time to address the entirety of Gam3ya users whenever needed. An Application Programming Interface comes in handy when handling payment transaction exchanges between the application (server) and our valuable users (client).

3.4 Communications Interfaces

It is of high importance for us to guarantee our clients' trust and commitment to our application's objectives and methodologies. To aid in 'breaking the ice' and ensuring all participants can confide in another, Gam3ya possesses a unique feature labelled the 'chat lounge'. Users within

the same Gam3ya can socialise with one another at anytime, thanks to our utility of Websocket, which requires specific Android libraries to operate (AsyncClient, Jetty etc.) but is widely available for iOS. HTTPS will handle all information exchanges for increased security whereas E2E Encryption will guarantee that not even the admin possesses the ability to view the messages within the Gam3ya. In the case of desiring to contact/message the Admin, there will be a dedicated portal to do so for every individual user.

4. System Features

4.1 Gam3aya Basics

- GB-1: Registration
- GB-2: Login
- GB-3: Disable Account
- GB-4: Search for Gam3aya
- GB-5: Request to join
- GB-6: Create Gam3aya
- GB-7: Leave Gam3aya
- GB-8: Chat
- GB-9: View other users
- GB-10: Edit Gam3aya settings

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| Use Case ID | GB-1 |
| Name | Registration |
| Actor | Gam3aya User |
| Description | This process includes creating an account on the gam3aya platform in order to be able to join gam3aya's or create them. |
| Priority | High |
| Pre-Condition | <ol style="list-style-type: none"> 1) Legal age 2) Has a valid National ID or Passport number. |
| Process | <ol style="list-style-type: none"> 1) The user has a valid email address. 2) The user has to enter some personal information, for example: Username, Password and national id number. 3) Verify national ID with police department. 4) Verify email. 5) Pay registration fee. 6) The user can now join the Gam3aya platform. |

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| Use Case ID | GB-2 |
| Name | Login |
| Actor | Gam3aya User & Gam3aya Admins |
| Description | The user has to be already registered and has made Case 1 , then he |

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| | should be able to login and use the application. |
| Priority | High |
| Pre-Condition | <ol style="list-style-type: none"> 1) To already have a registered account. 2) Enter correct username and password made during the registration process. |
| Process | <ol style="list-style-type: none"> 1) Username verification 2) Password verification 3) The user can now enter the application. |

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| Use Case ID | GB-3 |
| Name | Disable Account |
| Actor | Gam3aya User |
| Description | This process includes either temporarily disable your account or forever. |
| Priority | Low |
| Pre-Condition | <ol style="list-style-type: none"> 1) The user should already have a valid account. 2) The user should also be logged in the account already. 3) The users should clear his account from any due payments |
| Process | <ol style="list-style-type: none"> 1) Login into account 2) Goto delete page 3) Agree to delete |

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| Use Case ID | GB-4 |
| Name | Search for Gam3aya |
| Actor | Gam3aya User & Gam3aya Admins |
| Description | This involves the user searching for a certain gam3aya to join with specific conditions or to join with a certain user. |
| Priority | Medium |
| Pre-condition | 1) User should be logged in |
| Process | <ol style="list-style-type: none"> 1) The user goes to the search bar to find specific user. 2) Use the filter button (advanced search bar). 3) Then the user can request to join the gam3aya. |

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| Use Case ID | GB-5 |
| Name | Request to join Gam3aya |
| Actor | Gam3aya User |
| Description | The user requests to join a certain gam3aya after search or any random one. |
| Priority | Medium |
| Pre-condition | <ol style="list-style-type: none"> 1) The user should be logged in 2) Match the requirements of the |

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| | gam3aya in terms of points. 3) Be willing to pay that amount of money. |
| Process | 1) Log in to application 2) After their search, they request to join the gam3aya they like. |

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| Use Case ID | GB-6 |
| Name | Create Gam3aya |
| Actor | Gam3aya User |
| Description | This involves the user starting his own gam3aya with his own requirements. However, the user won't have any power over the other users. |
| Priority | Medium |
| Pre-condition | 1) Have an account 2) Has a certain requirement for a Gam3aya. 3) Has a good point standing. |
| Process | 1) Goes to the creating page 2) The user decided to create a gam3aya |

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| Use Case ID | GB-7 |
| Name | Leave Gam3aya |
| Actor | Gam3aya User |
| Description | This involves the user quitting the gam3aya they are in. |
| Priority | Low |

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| Pre-condition | <ol style="list-style-type: none"> 1) Have an account 2) Be in the gam3aya 3) Have already paid full sum. |
| Process | <ol style="list-style-type: none"> 1) After the user joins a gam3aya 2) If they face any problems, they could request to leave the gam3aya in the middle. |

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| Use Case ID | GB-8 |
| Name | Chat |
| Actor | User |
| Description | This involves the user chatting with his friends or people in the same gam3aya and public chatting. |
| Priority | Medium |
| Pre-condition | <ol style="list-style-type: none"> 1) Have an account 2) Have friends on gam3aya 3) Participating in a gam3aya |
| Process | <ol style="list-style-type: none"> 1) The user is already in a group, has the option to start chatting. 2) Send message to friends. |

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| Use Case ID | GB-9 |
| Name | View other Users |
| Actor | Gam3aya User |
| Description | This involves the user searching for other users, to see their point ranking and gam3aya history. |

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| Priority | Low |
| Pre-condition | 1) The user must be logged in |
| Process | 1) The user performs a search 2) The user can see their points and gam3aya history. |

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| Use Case ID | GB-10 |
| Name | Edit gam3aya settings |
| Actor | Gam3aya User & Gam3aya admins |
| Description | They have the option to modify gam3aya settings. |
| Priority | High |
| Pre-condition | 1) The user is logged in. 2) Already participating in a gam3aya. |
| Process | 1) Ask other group members about modifications. 2) If accepted, the user can change the settings. |

4.2 Payment

P-1 Transfer Money

P-2 Insert money into the wallet

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| Use Case ID | P-1 |
| Name | Transfer Money |

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| Actor | Automated administrator |
| Description | This is concerned with receiving money from different users then transferring it to one of the members |
| Priority | High |
| Pre-condition | <ol style="list-style-type: none"> 1) The user's rating is eligible to receive/pay money 2) Money in the sender's wallet are enough to cover the payment 3) Voting on whose turn it is to receive the money |
| Process | <ol style="list-style-type: none"> 1) Update the turns of who's going to receive the money next 2) Deduct the amount of money from each user 3) Notify users that the payment has been completed and it's time for the next person to receive the cash. |

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| Use Case ID | P-2 |
| Name | Insert money into the wallet |
| Actor | User |
| Description | This is concerned with the user adding funds to his wallet for future payments |
| Priority | Medium |
| Pre-condition | <ol style="list-style-type: none"> 1) The user is logged in |

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| | <ul style="list-style-type: none"> 2) The user's rating is eligible to use different functionalities of the application 3) Has sufficient funds in his Fawry/ Visa accounts |
| Process | <ul style="list-style-type: none"> 1) The app automated administrator checks the user's bank account balance and verify that he has sufficient balance to transfer to his own account 2) Notification to the user's email that he has added balance to his account |

4.3 System conventions

SC-1 Handle reports by users

SC-2 Notification source

SC-3 Solve non-FAQ problems

SC-4 Delete inactive Gam3yas/Create new

SC-5 Swap users in/out of Gam3yas based on their request

SC-6 Accept/reject users application to join a Gam3aya

SC-7 Ask the current receiver to switch payment dates with a user in need

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| Use Case ID | SC-1 |
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| Name | Handle reports by users |
| Actor | Admin |
| Description | System reports are created by user, which needs to be handled by admins in order to take actions. |
| Priority | Medium |
| Pre-condition | 1) A user is reported by another |
| Process | 1) User submits a report with a valid reason stating all details. 2) Admin receive notification, and decides to take actions or not. |

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| Use Case ID | SC-2 |
| Name | Notification source |
| Actor | Automated Notifier |
| Description | An automatic message is generated for different cases (For example, when the user has to pay before the due date, when someone accepts the user's friend/Gam3ya request..etc) |
| Priority | High |
| Pre-condition | An important action that occurred that other members of the Gam3aya have to be notified with. |
| Process | 1) When a user applies to join a specific gam3aya, the automated administrator sends a message to all members in that gam3aya(to accept or decline) 2) A user sends a friend request |

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| | <p>to another user. The other user will receive a notification whether to accept or refuse to add the sender's request.</p> <p>3) After the request to join a Gam3aya the user receives a notification on his device as well as an email regarding whether he was accepted or rejected.</p> |
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| Use Case ID | SC-3 |
| Name | Solve non-FAQ problems |
| Actor | Administrator |
| Description | When a question is asked outside the FAQ tab, the admin is prompted to solve it and notify the inquiring user of its solution, prior to adding it to the FAQ tab. |
| Priority | Medium |
| Pre-condition | A user inquires about a question that is not explicitly stated within the FAQ tab. |
| Process | <p>1) A user searches for a repeated question's answer in the FAQ tab, if it's unsolved then the user will be notified that the solution will be shortly available.</p> <p>2) The automated notifier</p> |

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| | <p>receives an update that a frequently asked question requires solving, prompting an admin to do so.</p> <p>3) The answer is dispatched to all users that asked the same question.</p> |
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| Use Case ID | SC-4 |
| Name | Delete inactive Gam3yas |
| Actor | Admin |
| Description | Gam3yas with subscribed participants that are all passive, with no transactions taking place and no activities going on, are considered inactive and require removal to empty up resources for another to take its place. |
| Priority | Low |
| Pre-condition | A certain Gam3ya stops witnessing activity by all members. |
| Process | <ol style="list-style-type: none"> 1) Admin realizes the Gam3ya he is in charge of is no longer producing any meaningful transactions. 2) Admin takes action and deletes the Gam3ya, notifying all members that they must join a new one if they wish to continue with the application. 3) Admin may reroute certain members to a new Gam3ya under his supervision again based on their requests. |

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| Use Case ID | SC-5 |
| Name | Swap users in/out of Gam3yas based on their request |
| Actor | Admin |
| Description | Two members of different Gam3yas might feel as though they would prefer switching places with one another based on both of their current needs and demands. This is most likely to occur between two friends or accomplices. |
| Priority | Medium |
| Pre-condition | Two members submit a request to switch positions. |
| Process | <ol style="list-style-type: none"> 1) Two members decide they're better off with their places in queue changed with one another, across two different Gam3yas. 2) Admin receives request, and switches the members around. 3) If any discrepancy stems from the newcomer, the old member is to be held accountable as well. |

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| Use Case ID | SC-6 |
| Name | Accept/reject users application to join a Gam3aya |
| Actor | Admin |

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| Description | A new user requests joining a Gam3ya, prompting the responsible administrator to view the request, view the applicant's portfolio and details, then decide if he would be a good fit in the Gam3ya. |
| Priority | Medium |
| Pre-condition | A user submits an application to a Gam3ya. |
| Process | <ol style="list-style-type: none"> 1) An admin receives an application request handed in by a certain user. 2) The admin then reviews the details, portfolio and preferences of the joining member to see if it's a good fit. 3) The admin accepts/rejects the applicant. |

| | |
|---------------|---|
| Use Case ID | SC-7 |
| Name | Ask the current receiver to switch payment dates with a user in need |
| Actor | Admin |
| Description | If a user is to be paid later on as per the Gam3ya's schedule but requires the amount as soon as possible due to personal emergencies, he can ask the current receiver to switch places with him. |
| Priority | High |
| Pre-condition | A user in need requests to receive the payout in place of the current recipient. |

| | |
|---------|--|
| Process | <ol style="list-style-type: none"> 1) A needy user sends an urgent request to the admin, asking to be replaced with the current receiver. 2) The user is prompted to send in official documentation/proof of his emergency to the admin, which is to be redirected to current recipient for reviewal. 3) The current recipient is then asked to either accept/refuse the switcharound. The user is then informed of the decision. |
|---------|--|

5. Other Nonfunctional Requirements

5.1 Performance Requirements

In order to ensure smooth operation of our application, our aforementioned dedicated database should be capable of accepting a huge amount of users along with their interactions without crashing. The application is initiated with a relatively low number of users, but as our impact and reach grows, we expect an influx of new-coming users that are interested in Gam3ya's services. Verification of user's credentials must be a rapid process to ensure the user is not left hanging for a large amount of time. The same must be applicable to waiting times associated with transaction additions and exchanges.

Gam3ya's application must be strictly operated by either iOS or Android for its smartphone version, whereas the website version requires any form of a web browser to launch. It is absolutely crucial to ensure users are not prone to any system-related setbacks such as lag or potential crash when the resources are overused/overwhelmed for any reason (multiple gam3yas created concurrently, multiple transactions taking place simultaneously..etc.)

As a countermeasure taken against the aforementioned possible scenario of resource overuse, users will be prevented from opening multiple tabs at the same time. This inevitably restricts

their ability to perform concurrent Gam3ya operations, but it is necessary for us to provide a consistently responsive service to the valued user.

5.2 Security & Safety Requirements

- The application developers must consider controls to protect users' data, private picture and payment details. Methods such as encryption and masking can be utilised to establish secure controls.
- All applicants' data must be protected securely at all times, whether the user's data is at rest, stand-by or when it's being processed.
- Availability requirements are the requirements that ensure protection against the disturbance of service.
- Measurements of Maximum Tolerable Downtime [MTD] and Recovery Time Objective [RTO] should be recorded as part of service level agreement, these measures will help in figuring out the cost to fix and restore the application.
- Whenever the user decides to log in to his account from a remote area or a device dissimilar to his own, an email should be sent automatically to inform him that a new device has been detected. This 'new' device is momentarily barred from accessing the server until the user confirms via e-mail that it is indeed himself and not any unwanted personnel.
- When the user decides to sign up to create an account, his National ID/Passport number will be stored in the user's unique table created within our database, along with his/her payment information to avoid the hassle of creating more than one account.
- The system privacy policy shall be accepted by the user when he/she creates a new account, if not checked, creating an account shall not proceed.
- The software shall be used by users who are 18 years old or above, but should be easy to use by different age groups above that figure. Providing access to Gam3ya for minors is problematic for a multitude of reasons, failure to submit national ID, irresponsibility,

high risk of fraud..etc.

- Help pages should be included in most of the app's interface to offer ease and comfort for the user attempting to find what he's searching for, in the unlikely case the help page offers no help, the user is prompted to search within the regularly updated FAQ tab.

5.3 Software Quality Attributes

- Launching the Gam3ya application shall not be a problem if the user decides to log in from either his laptop, PC or mobile phone.
- Using different devices shall not differ in services' response time to the user, however GUI and general smoothness of the application is accentuated when accessed through a laptop/PC in comparison to portable smartphones.
- There's a modest range of video tutorials to aid newly registered users' comprehension of how to make the most use of our application, in addition to listing the rules/conventions that every user should acknowledge.
- The software's various functions will be divided into many sectors, each group should be easily diagnosed by the programmers in the misfortunate case of a bug or discrepancy of any sort.
- The app should maintain an uptime around the clock (24/7) as well as the continual provision of an active support team, ultimately allowing users to take decisions easily at any timing they prefer.

5.4 Business Rules

- A user of Gam3aya's application will only be permitted to edit his own profile, update his payment information and create a chat-room for a Gam3ya that he's in at anytime without seeking the administrator's permission.
- If a user would like to change any backbone identifiers (Passport No., Mobile Phone, personal picture..etc.), he must submit a formal request with official documentation to the

admin which is to be redirected to the management for correct action to ensue.

- All participants of a Gam3ya group must receive equal rights and privileges, with everyone capable of accepting external users' application to join their Gam3ya based on a vote, which is supervised by the administrator.
- Users can rate or report each other.
- Users can add friends to their private friend-list and get key updates on what their friends are doing in their respective Gam3yas as a method of interaction and support.

6. Other Requirements

Appendix A: Glossary

This Software Requirements Specifications Document's part 5.1 could be summarized into the following well-known key terms concerning the software engineering field and its followers.

Authentication:

This key-word concerns the process of showcasing valid and legitimate aspects of the product. This SRS maintained, to the best of its ability, the need to explicitly state and portray the various authentication methods that are set to take place in every single service along with its proceedings such as the payment methods, End-to-End feature in the ChatLounge, how the users' sensitive and private information will be encrypted prior to its preservation within our database and so on.

Authorization:

This key-word concerns all allowances that are dictated to our product's different actors. The administrators has a wider range of authorizations in comparison to the user since he has a higher role of participation and responsibility towards our application, whereas the management and development must agree hand-in-hand to any desirable modifications to the security checklist in the future.

Availability:

This key-word concerns the eternal establishment of a potent, stable connection between Gam3ya and its valuable customers. We have already discussed how certain indicators such as RTO and MTD can prove very valuable to this vow of minimal interruptions. Expansions made to our product in addition to increased traffic and the never-ending risk of an external threat should be tackled accordingly to ensure downtime never occurs.

Accountability:

This key-word concerns guaranteeing every single actor, in particular users, are held accountable to an extensively accurate track record that they must adhere to. Any users lacking authorization attempting to perform higher-authority actions and vice-versa must be penalized for their attempts. This SRS is responsible for clearly outlining which entities possess which authorizations as well as how these entities will be held accountable in case they breach protocol.

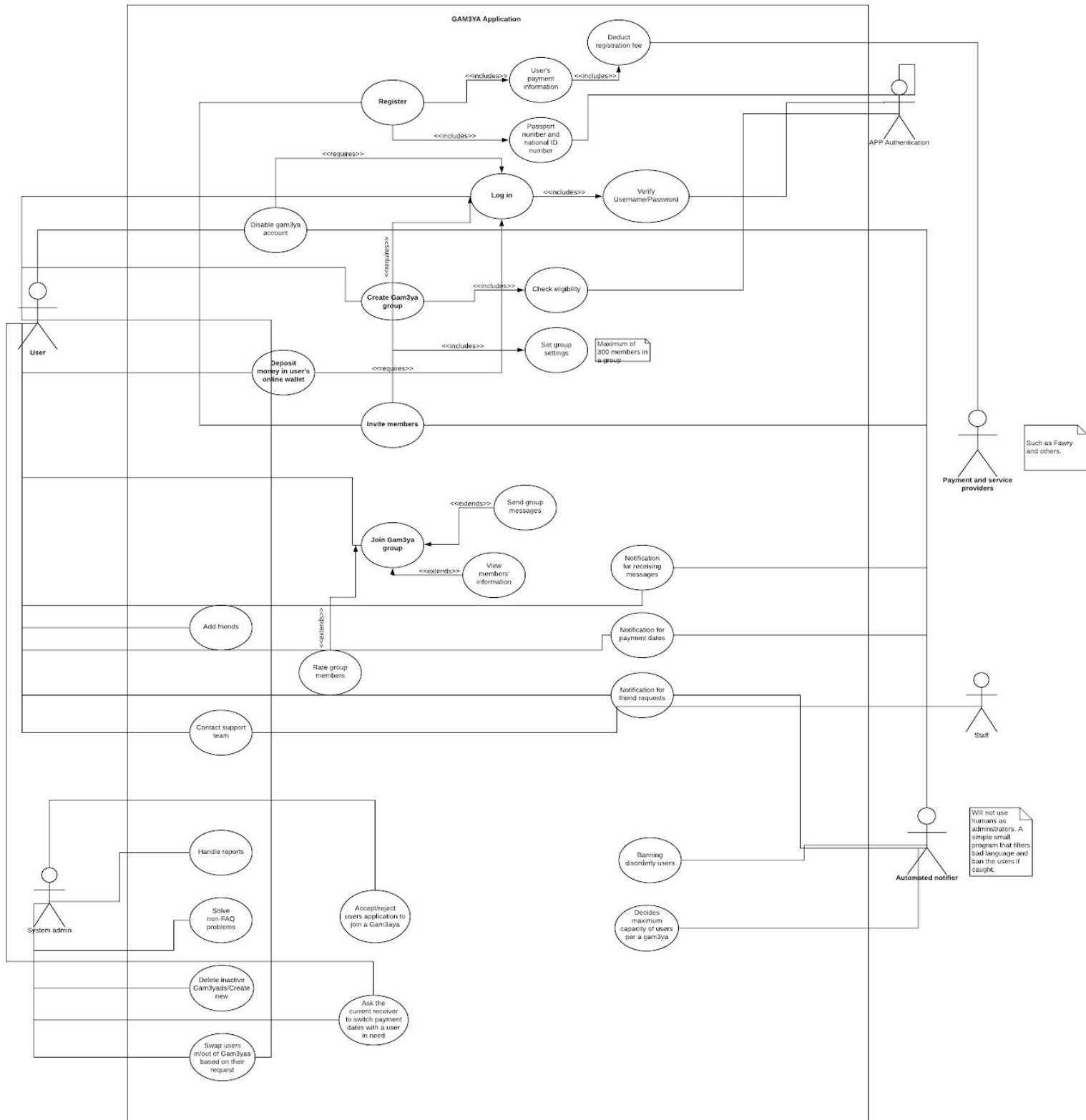
Confidentiality:

This key-word concerns our promise not to disclose any information pertaining to our users such as their home address, national ID, Passport No., payment details, banking details etc. to any third-party entities without their signed permission to do so. We have thoroughly discussed how we will be utilising a specific encryption method that involves a public key prior to storing anything within our versatile databases.

Integrity:

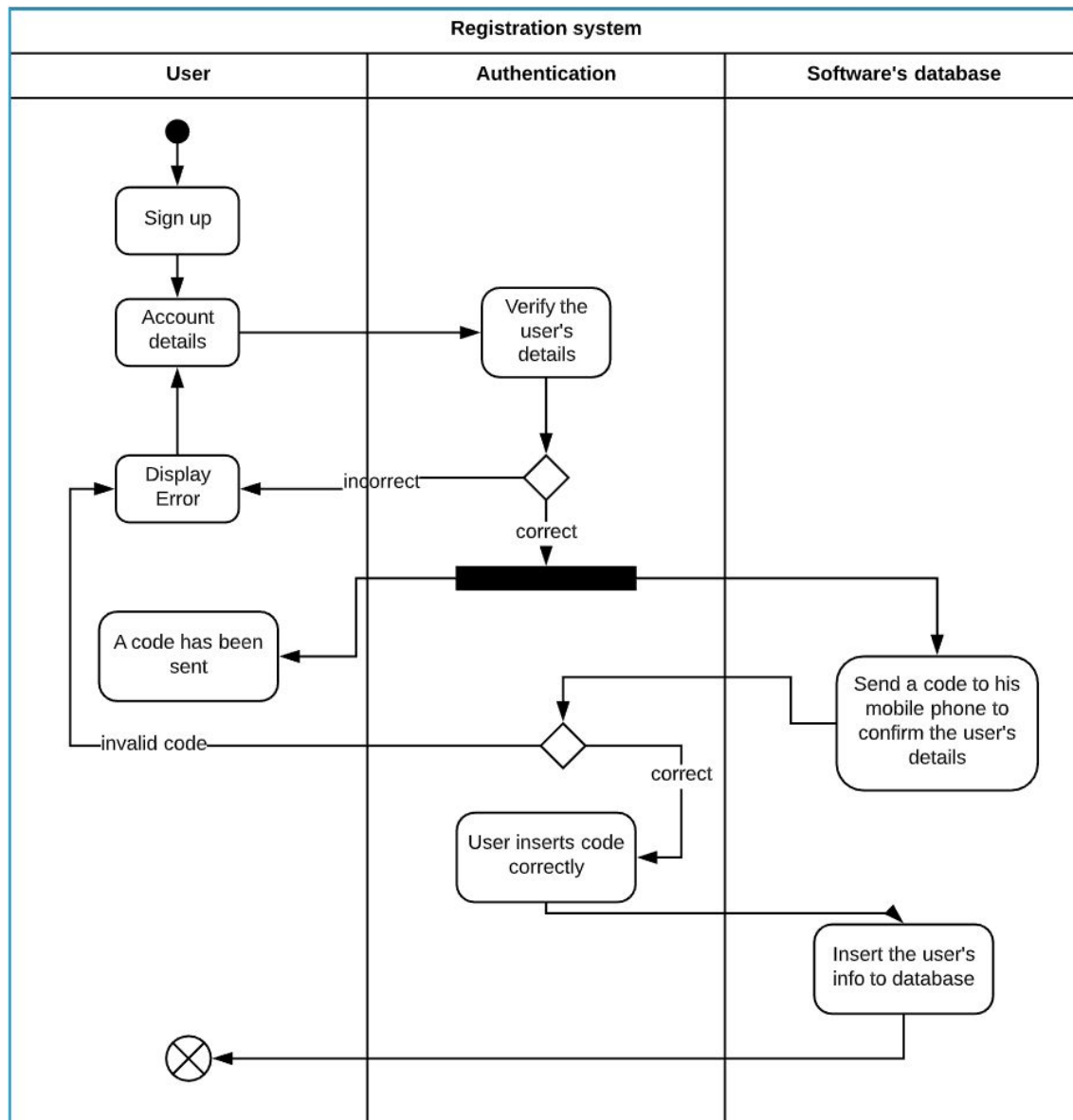
This key-word concerns the extent to which our provided service to customers is genuinely reliable and accurate to the best of our abilities. It goes without saying that we place checkpoints in place to verify the entity that desires to perform a certain action, with a background check revealing its possessed authorizations that enable it to do so. Additionally, our search queries are encrypted and protected via proper utility of mySQL.

Appendix B: Analysis Models

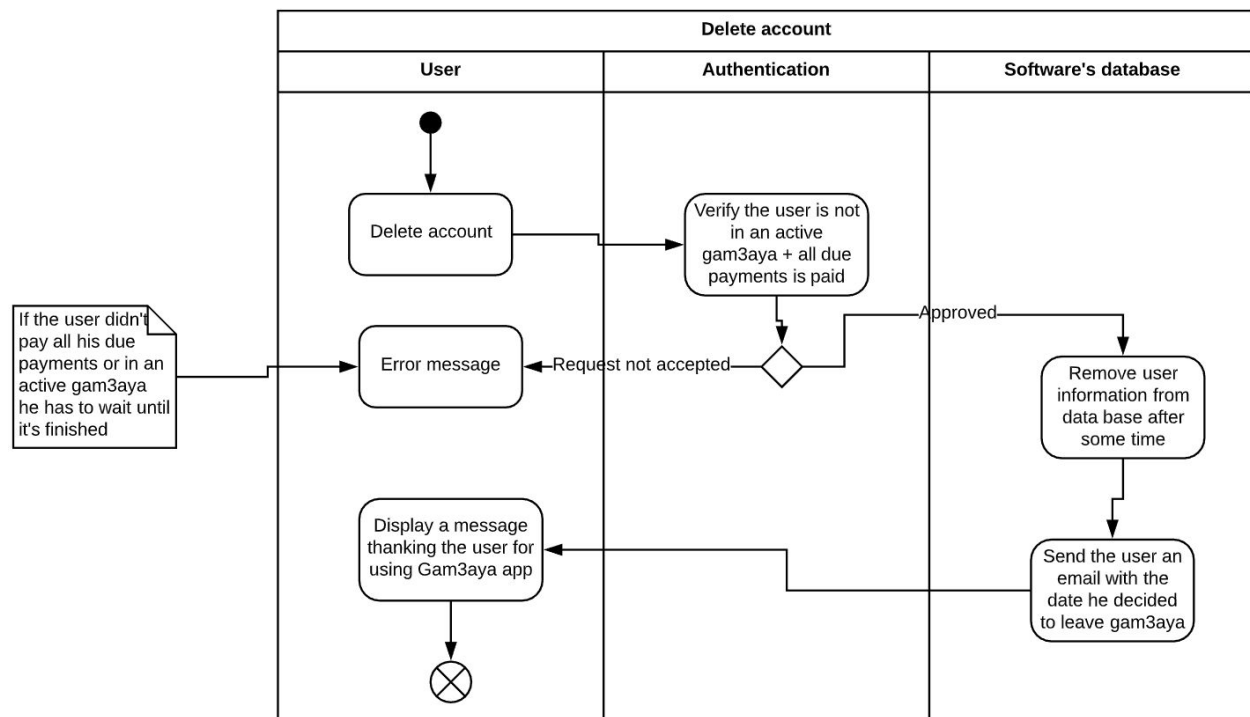


For simplicity of the use-case diagram, there are some feature that requires logging in that's not indicated here in the diagram in order not to complicate it for the reader. (It's all mentioned in the SRS)

Activity Diagram I: Registration



Activity Diagram II: Delete Account



Appendix C: To Be Determined List

- 1) Is it feasible and practical to allow for a timeframe in which the sender is to submit his payment longer than a single day, given his payment will be incremented due to a 'late payment penalty fee'?
- 2) Are there detrimental actions such as misdemeanor and general misconduct that could warrant an immediate permaban? (A ban that applies on the national ID of the user and stays for a lifetime)
- 3) Is it a proper measure to take money in advance, ensuring that the users who receive their money first pay their next due payments for other users to receive their money fairly?
- 4) Can a user who requests a certain Gam3ya specify the duration of the gam3ya to last more than (# of participants) months?