



The Eleventh “Citicup” Financial Innovation Competition

Software Requirements Specification

Name: YiBangRen ——A Transparent P2P Platform for Charitable Donations

Leader: 汤杰强 (Software Faculty)

Participants: 刘畅 (Business Faculty)

李冬 (Software Faculty)

齐盼攀 (Software Faculty)

王博 (Art Faculty)

Instructor: 王鹏

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Software Requirements Specification

1. Introduction

1.1 Purpose

This SRS describes the requirements and specifications of P2P Internet Platform for Charitable Donations. It explains the functional features of the platform, along with interface details, design constraints and related considerations such as performance characteristics. The SRS is intended for users, project managers, system analysts, programmers, and system testers to read and reference.

1.2 Scope

As a spontaneous charitable donations platform, P2P Internet Platform for Charitable Donations is intended to provide a secure and reliable platform for spontaneous charitable network.

Through the platform, philanthropic individuals can take the advantage of the radiation and influence of the network and the integration of network resources to encourage the web users to make donations. It is based on spontaneous contributions of the network users. When a call for assistance occurs, the help sponsors will abandon the traditional distress channel, instead, select P2P Internet Platform for Charitable Donations to complete the aid process.

1.3 Definitions, Acronyms and Abbreviations

1.3.1 P2P

Peer-to-peer, a computing or networking distributed application architecture that partitions tasks or workloads among peers

1.3.2 GPS

The Global Positioning System (GPS) is a space-based navigation system that provides location and time information in all weather conditions, anywhere on or near the earth where there is an unobstructed line of sight to four or more GPS satellites.

1.3.3 Communications Interfaces

Communications interfaces, which can also be called communication protocol, is a system of rules that allow two or more entities of a communication system to communicate between them to transmit information between via any kind of variation of a physical quantity. These are the rules or standard that defines the syntax, semantics and synchronization of communication and possible error recovery methods.

1.4 References

[1] Roger S. Pressman. *Software Engineering —A Practitioner's Approach*[M].2008.

1.5 Overview

The rest of the SRS examines the specifications of the P2P Internet Platform for Charitable Donations in detail. Section 2 of the SRS presents the general factors that affect the P2P Internet Platform and its requirements, such as user characteristics and project constraints. Section 3 outlines the detailed, specific functional, performance, system and other related requirements of the P2P Internet Platform. Supporting information about appendices is provided in Section 3.

2. Overall Description

2.1 Product Perspective

As mentioned earlier, P2P Internet Platform for Charitable Donations is intended to provide a secure and reliable platform for spontaneous charitable network. The product is responsible for receiving the requests submitted by the users and delegating them on the platform to be displayed so that the philanthropic individual can be encouraged to make some donations.

The help sponsor can not only be the caller himself, but also can be some enthusiastic netizens. Due to the limitation of practical conditions, many people have no access to the Internet, let alone understand the process of network charity. Therefore, some netizens will enthusiastically step forward to make a request for help via the Internet and expect to get some sincere feedback. In short, such a philanthropy which is promoted by the caller himself or some enthusiastic netizens through the Internet is Spontaneous Network Charity.

A very lesser-known reason or theme can be able to connect directly the donors and recipients through the strong organizational capability and matching capability of the Internet. The charity lovers no longer donate the money to the large but abstract charity and receive no response. Instead, this disintermediation of online charities provides donors with a sense of control and participation.

This software product is an independent software, and all contents are self-contained. The details of various interfaces have been provided in Section 3.7.

2.2 Product Functions

The main purpose of the P2P Internet Platform for Charitable Donations is to provide a secure and reliable platform for spontaneous charitable network.

For the **ordinary users**, the necessary functions of the platform includes:

- Browse the project on the platform
- Search the project in a fuzzy way or by GPS
- Share the project on the social networking platforms

- Register as a registered user

For the **registered users**, the necessary functions of the platform includes:

- Make a donation
- Comment on the project
- Support the project in some way such as pressing “like”
- Be a authenticated user through real-name authentication
- Personal information management
- Share his/her philanthropy on the social networking platforms
- Report suspected fraud project
- Subscribe to the projects to receive project updates

For the **authenticated users**, the necessary functions of the platform includes:

- Make a request for help
- Make a apply for withdrawal
- View the progress of his/her projects

For the **administrators**, the necessary functions of the platform includes:

- Process the applications of reporting and complaint
- Process the applications of requesting for help
- Examine and verify the applications for withdrawal
- Examine and verify the authentication

2.3 User Characteristics

There are essentially two classes of users for the P2P Internet Platform for Charitable Donations : the user who wishes to make donations or launch donations and the administrator who manage and process the various kinds of requests.

Operators: volunteer charity enthusiast, such as the individuals, businesses or other organizations.

Administrators: be equipped with keen insight and high efficiency to identity the project or the authentication and be familiar with the operation of the charity platform process and the operation of the computer.

2.4 Constraints

Funding limits: RMB20000

Deadlines: 2015.9.15

2.5 Apportionment of requirements

Detailed requirements with respect to the economic front-end, that is, the exact costing and pricing policy that will be used to charge users for using the platform will be specified in a later version. The pricing mechanism will not affect the scheduling policies, as they assume a given cost and budget, and schedule resources accordingly.

3. Specific Requirements

3.1 Functionality

This section is organized by the processes and features encapsulated in the P2P Internet Platform for Charitable Donations. The following is an IPO table.

No	Name	Brief description	Inputs	Processing (Algorithms)	Outputs	PRI
SRS-001	Browse the list of all projects	Ordinary users browse all items of projects	no	no	List all items, including title of each project, name of the sponsor, amount of the money requested, contribution deadline, etc.	5
SRS-002	Browse the detail of a specific project	Ordinary users browse the detail of a specific project	selected project id	no	Details of individual projects, including project type, amount of the money requested, requesting reason, project title, the recipient's name, recipient's phone numbers, the recipient's address, name of the emergency contact person, phone number of the emergency contact person, contribution deadlines, etc.	5

No	Name	Brief description	Inputs	Processing (Algorithms)	Outputs	PRI
SRS-003	Search the project	Ordinary users search the project in a fuzzy way or by GPS	Fuzzy Search: Project's name or recipient's name or project's type Place search: GPS location data	Fuzzy Matching Algorithm	List all items that meet the requirements, including title of each project, name of the sponsor, amount of the money requested, contribution deadline, etc.	5
SRS-004	Share the project	Ordinary users Share the project on the social networking platforms such as WeChat, Microblog and so on	selected project id, name of the selected social networking platform	no	jump to the social platform's interface and show the shared content	4
SRS-005	user registration	Register as a registered user	the user name, password, nickname, real name, phone number,	Submit the information to the database	Show message whether the user is registered successfully or not	5
SRS-006	Make a donation	Registered users can contribute to projects through Alipay, China UnionPay and other payment platform	The selected project id, amount of money to be donated, name of the selected payment platform	no	Show message whether the user has donated successfully or not	5

No	Name	Brief description	Inputs	Processing (Algorithms)	Outputs	PRI
SRS-007	Comment on projects	Registered users can comment on projects	Selected project id, user id, comment content, time	Access the project information in the database by the project id, write the comment to the specific record	Show message whether the user has commented successfully or not	4
SRS-008	Support the projects	Registered users can support the project in some way such as pressing "like"	Selected project id	Add one to the supporting times of the selected project	Show the supporting times of the selected project has been increased by 1	1
SRS-009	Real-name authentication	Registered users become a authenticated user through real-name authentication	Submitted ID information	Administrator manually reviews the submitted information	Show message whether the authentication is successful or not	5
SRS-010	Personal information management	Registered users can view his/her personal information, donating records, supported projects, badges	User id and donating records of the user	Specific data algorithms to analyze the data to determine how large the scope the user can influence is	Show the personal information, donating records, supported projects and badges and other user related information users	5
SRS-011	Share the philanthropy	Registered users share his/her philanthropy on the social networking platforms	User id, donating records of the user, name of the selected social networking platform	no	Jump to the social platform's interface and show the shared content	3
SRS-012	Report Projects	Registered users report suspected fraud projects	Selected project id, reporter id, report reason	Administrator manually reviews the submitted information	Show message whether the report is successful or not. If successful, stop the process of the project, the money not transferred will be send back	4

No	Name	Brief description	Inputs	Processing (Algorithms)	Outputs	PRI
SRS-013	Subscribe to the projects	Registered users subscribe to the projects to receive project updates	User id, and subscribe d project id	Access the project information by the project id and return the project information to the user	Show the updates of the projects	2
SRS-014	Make a request for help	Authenticated user make a request for help	Project type, project name, project deadlines, preset amount, donation information, documents and the details of the request	Administrator manually exams and verifies the submitted information	The status of the project turned to "verified"	5
SRS-015	Make a apply for withdrawal	Authenticated user make a apply for withdrawal	The amount of withdrawal money, usage and material (such as pay slips), platform applications	Administrator manually exams and verifies the submitted information	Show message whether the withdrawal is successful or not. System records the details of capital expenditures and generate donation reports and expenditure reports on time	4
SRS-016	View the progress of the projects	Authenticated users view the progress of his/her projects	Project id	Access the project information in the database by the project id	The comment of the project, the data statistic of donations and supports	3
SRS-017	process the applications of reporting and complaint	Administrators process the applications of reporting and complaint	Project id, the materials submitted	manual check	Administrators respond to the reporter whether the report is successful. If successful, stop the project.	4

No	Name	Brief description	Inputs	Processing (Algorithms)	Outputs	PRI
SRS-018	Process the applications of requesting for help	Administrators process the applications of requesting for help	Help sponsor id, the materials submitted	manual check	If successful, a new project will be released.	5
SRS-019	Examine and verify the applications for withdrawal	Administrators examine and verify the applications for withdrawal	Applicant's id, the materials submitted	manual check	If successful, send the money to the recipients	4
SRS-020	Examine and verify the authentication	Administrators examine and verify the authentication	Help Sponsor id, the materials submitted	manual check	If successful, the user types turns to authenticate user.	5

3.2 Reliability

3.2.1 Maintenance

The maintainer will update and back up the database on time, and help the users to solve some abrupt problem constantly.

3.2.2 Maximum bug rate

There will be a maximum of 1 bug/KLOC.

3.2.3 Maximum Time To Repair

This will take less than five minutes.

3.2.4 Security Considerations

The platform will ensure the privacy of users and projects.

3.3 Performance Requirements

3.3.1 Response time

The maximum response time for the submission of a job will be 1 second.

3.3.2 Data sensitivity

Assuming submitted statistics for information of the projects are accurate, the platform will ensure that all data in the database are completed with a 10% error allowance.

3.3.3 Cost sensitivity

Under all circumstances, the maximum cost payable as submitted by the user will be the maximum cost charged to the user.

3.4 Supportability

3.4.1 Naming Convention

All code will be written as specified by the English Naming Convention.

3.4.2 Coding Standards

All code will be written as required by the GNU General Purpose License.

3.5 Design Constraints

3.5.1 Software Language

All coding will be done in Java.

3.6 Online User Documentation and Help System Requirements

All documentation will be made in accordance with requirements pertaining to open source software under the GNU General Purpose License.

3.7 Interfaces

3.7.1 User Interfaces

There will be two user types – the cluster user and the cluster administrator – each of which will have its own corresponding interface. The user interface should follow the following rules:

- The interface should be friendly to the users, and support mouse and keyboard.
- The interfaces should be consistent;
- The interface should provide simple process to the errors;
- The interface should provide feedback to the users and show the current running condition to the users by providing various information;
- A good online user documentation and help system should be designed

3.7.2 Software Interfaces

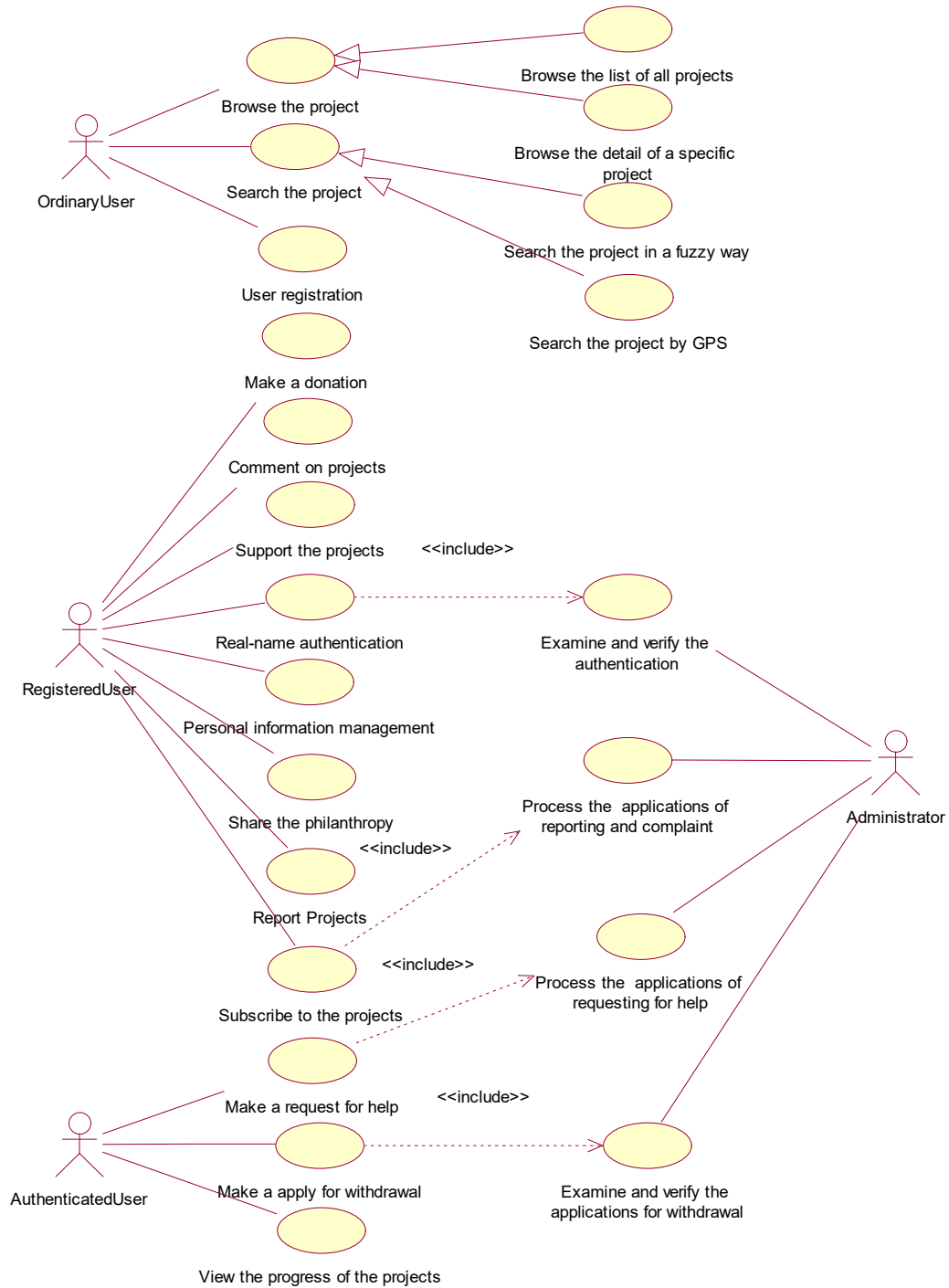
The platform will directly interface with the alipay, China UnionPay and other payment platform

3.8 Licensing Requirements

Libra will be released under a GPL license and will be open-source.

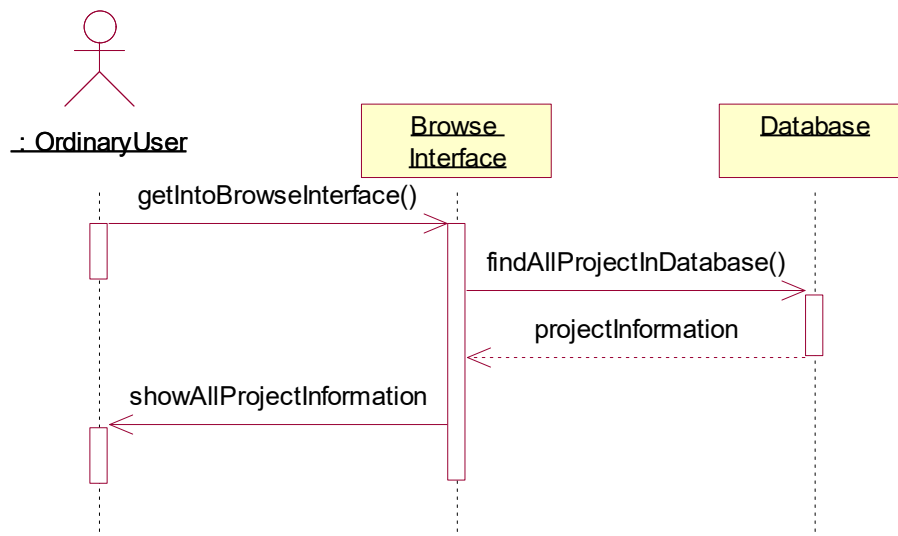
4. Appendix: Analysis Models

4.1 Use Case Diagram

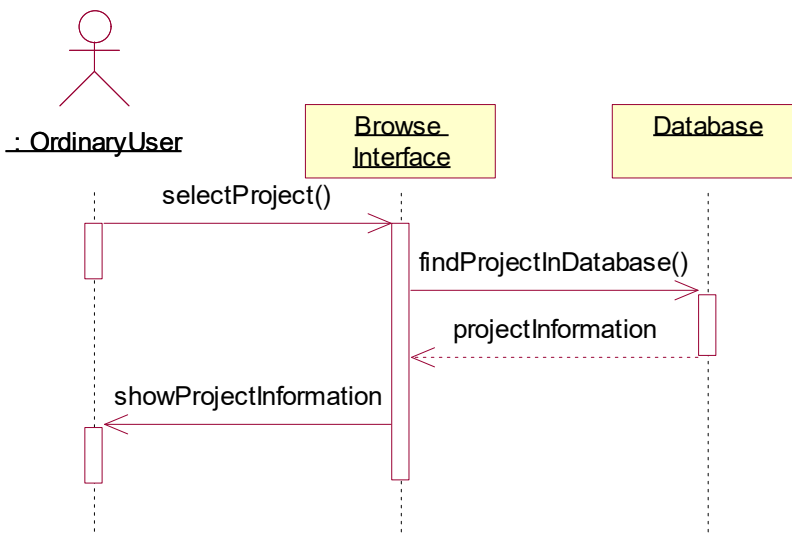


4.2 Sequence Diagram

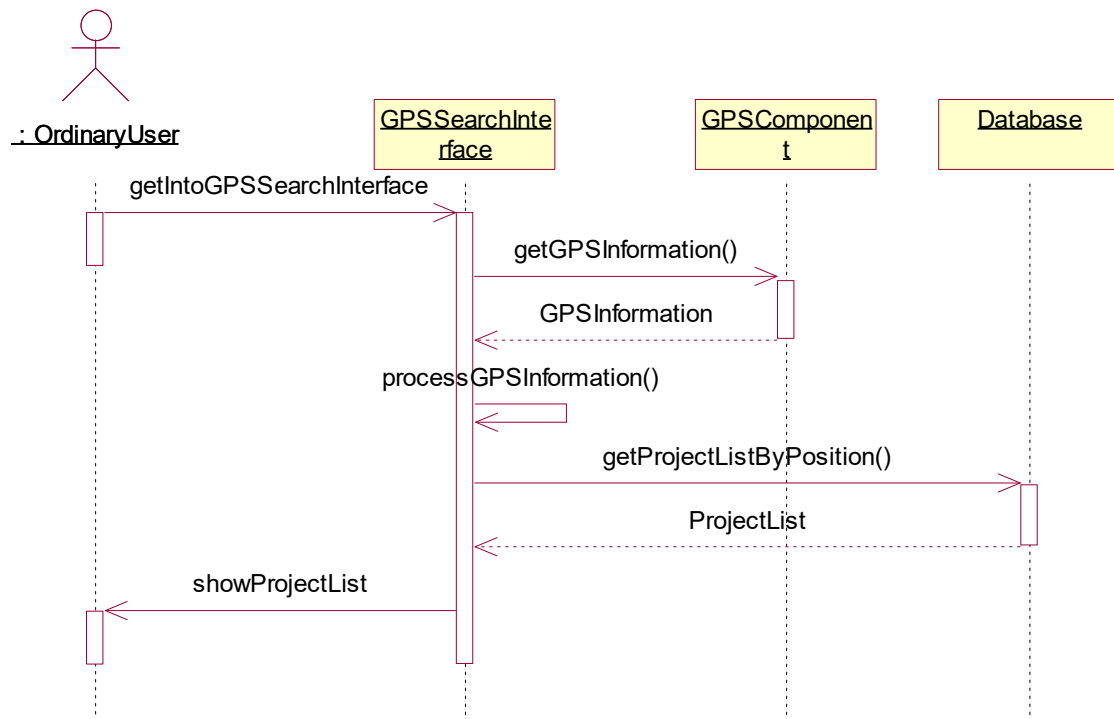
4.2.1 Browse the list of all projects



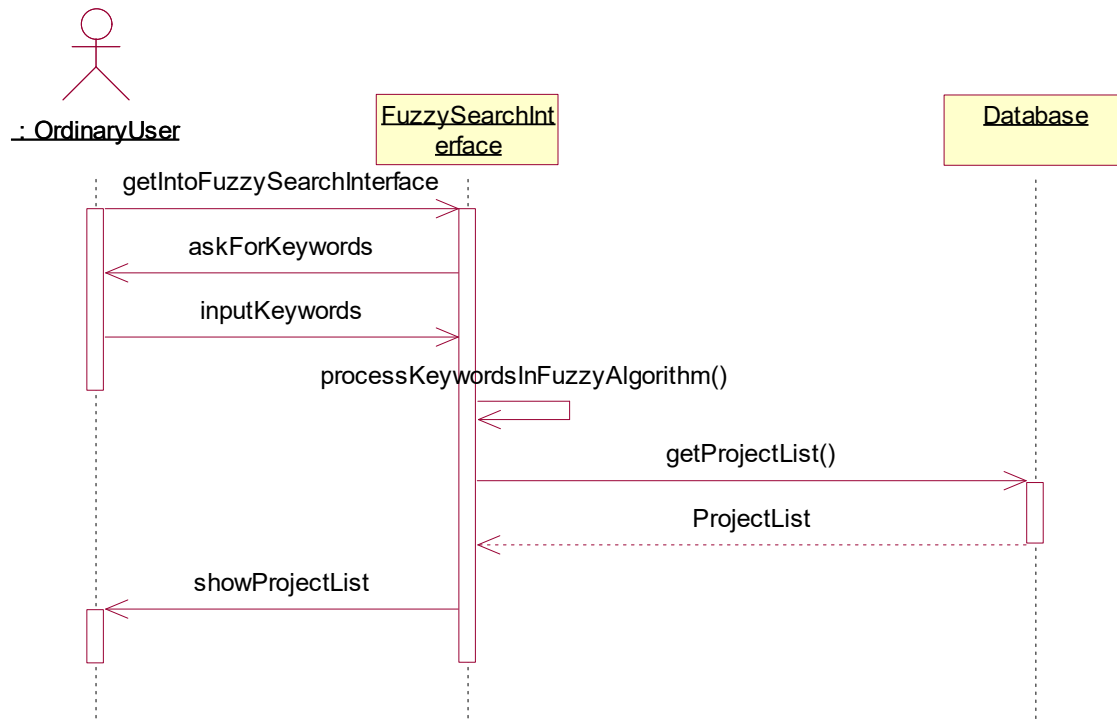
4.2.2 Browse the detail of a specific project



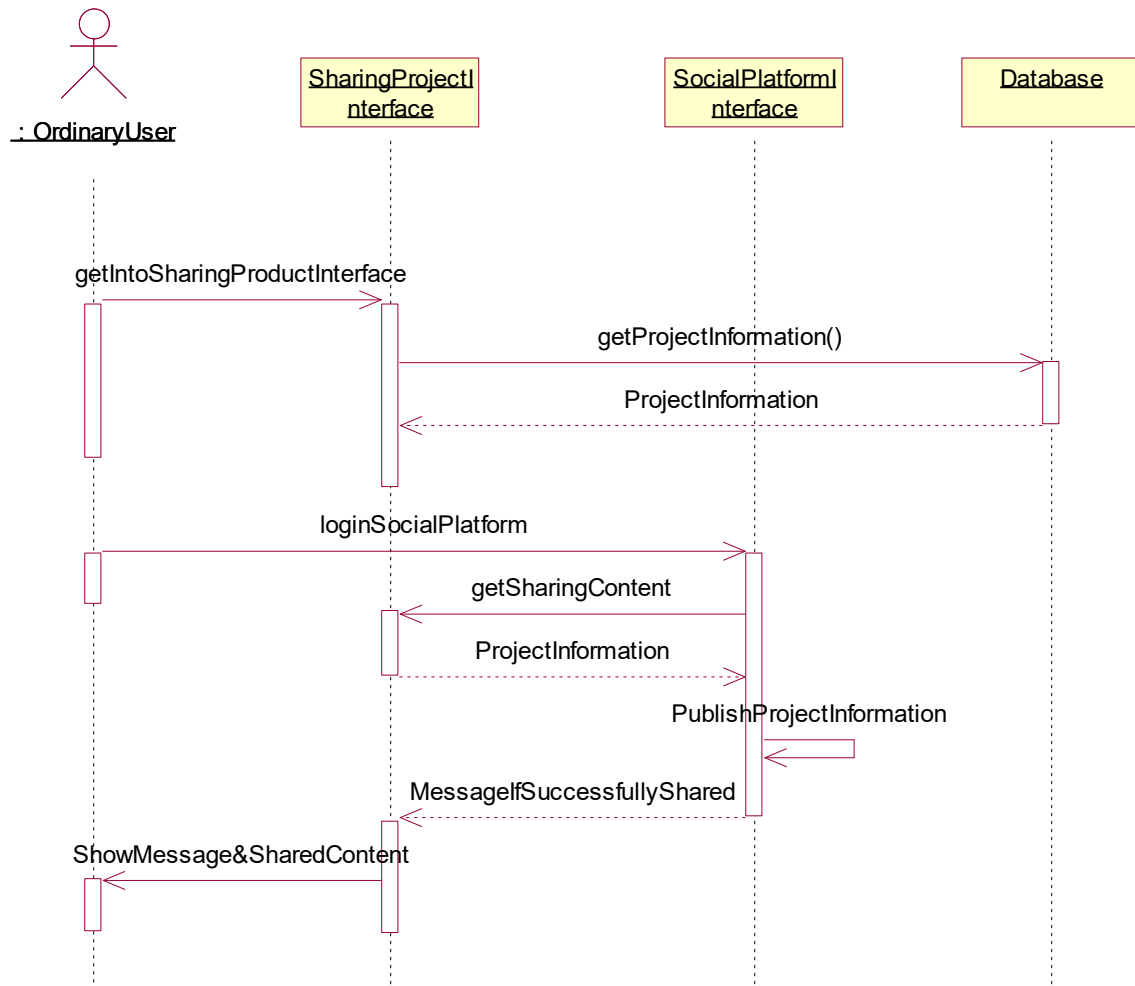
4.2.3 Search the project by GPS



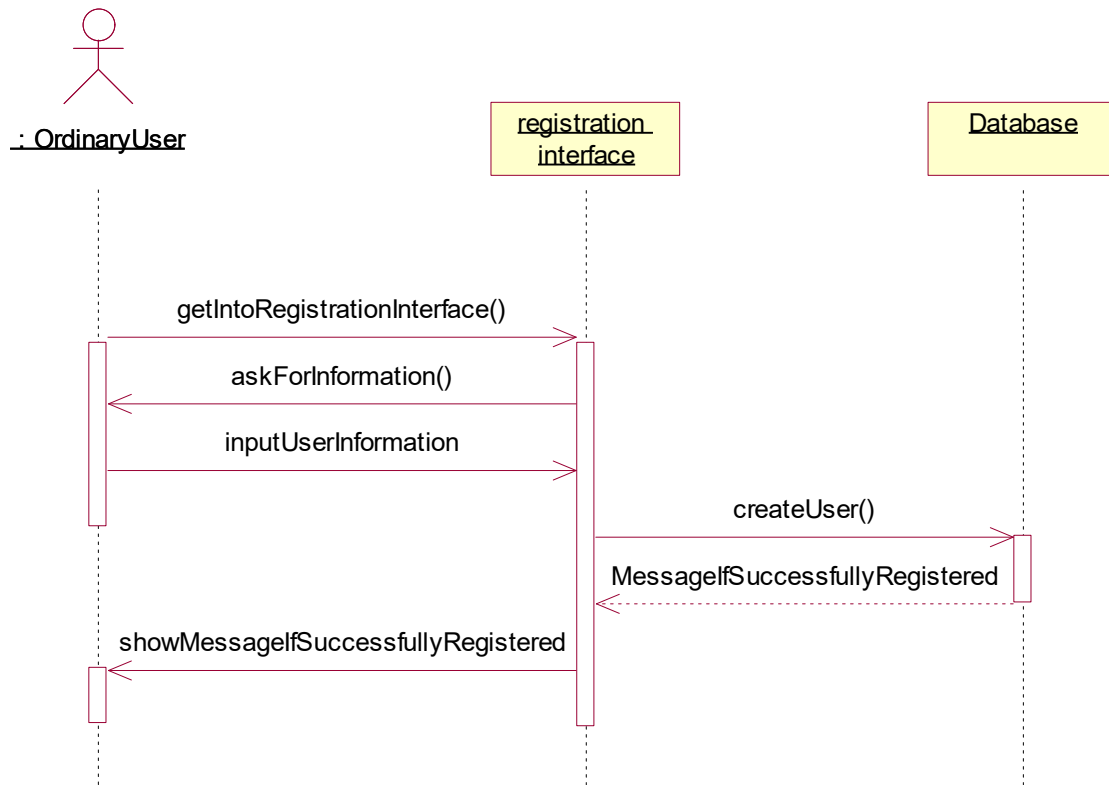
4.2.4 Search the project in a fuzzy way



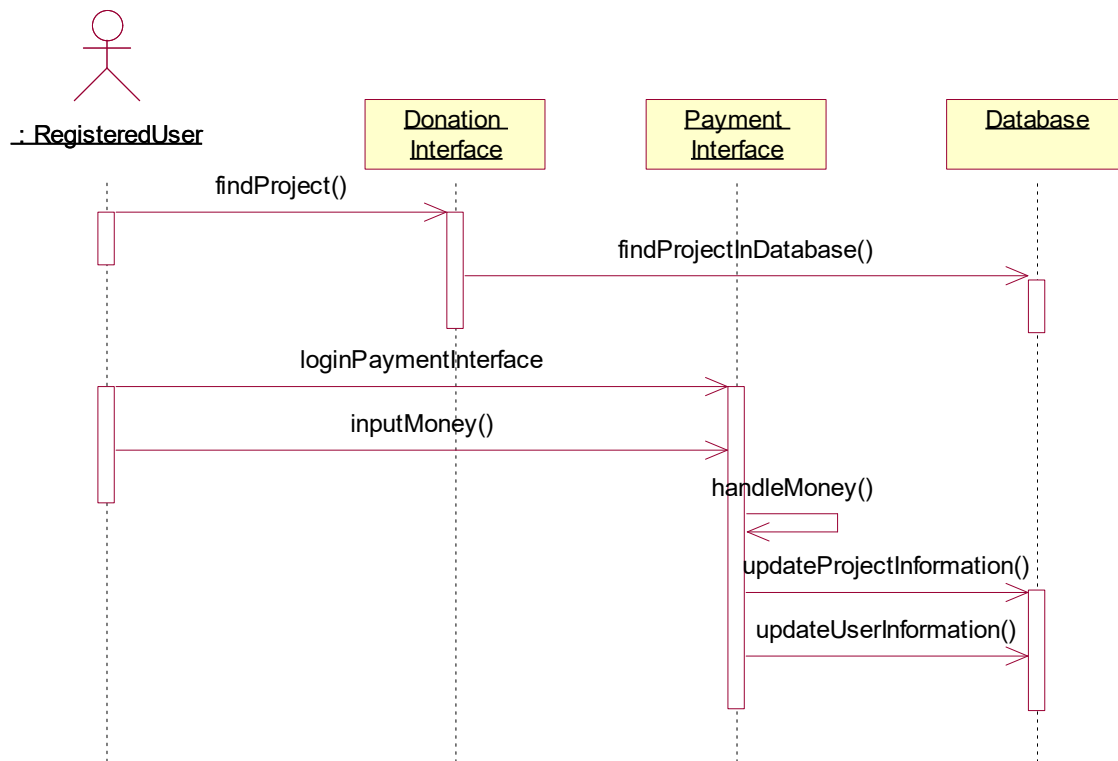
4.2.5 Share the project



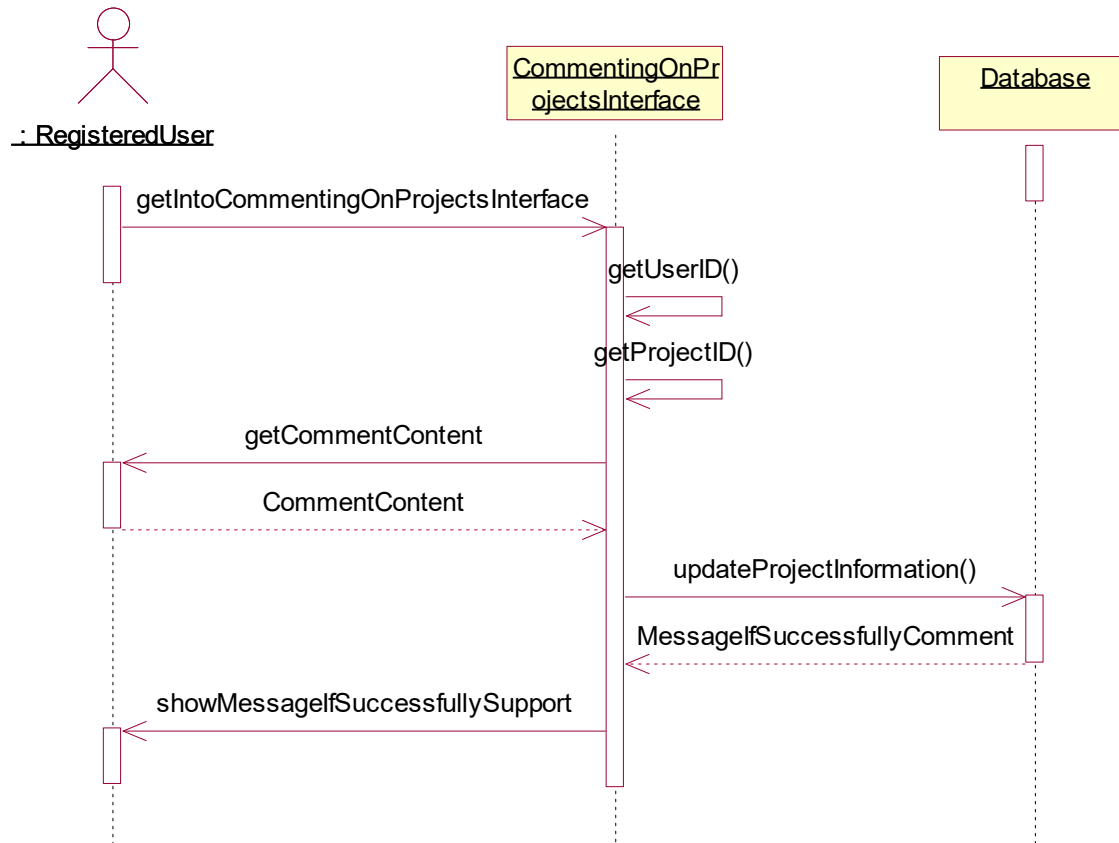
4.2.6 User registration



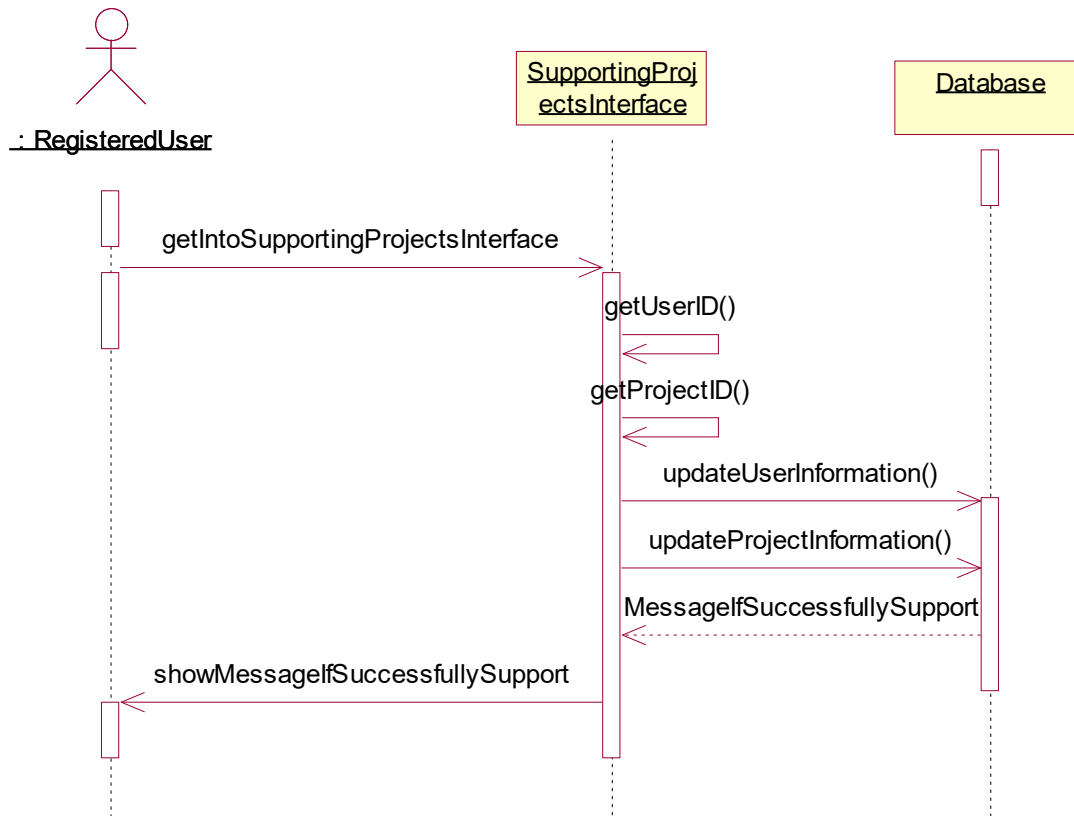
4.2.7 Make a donation



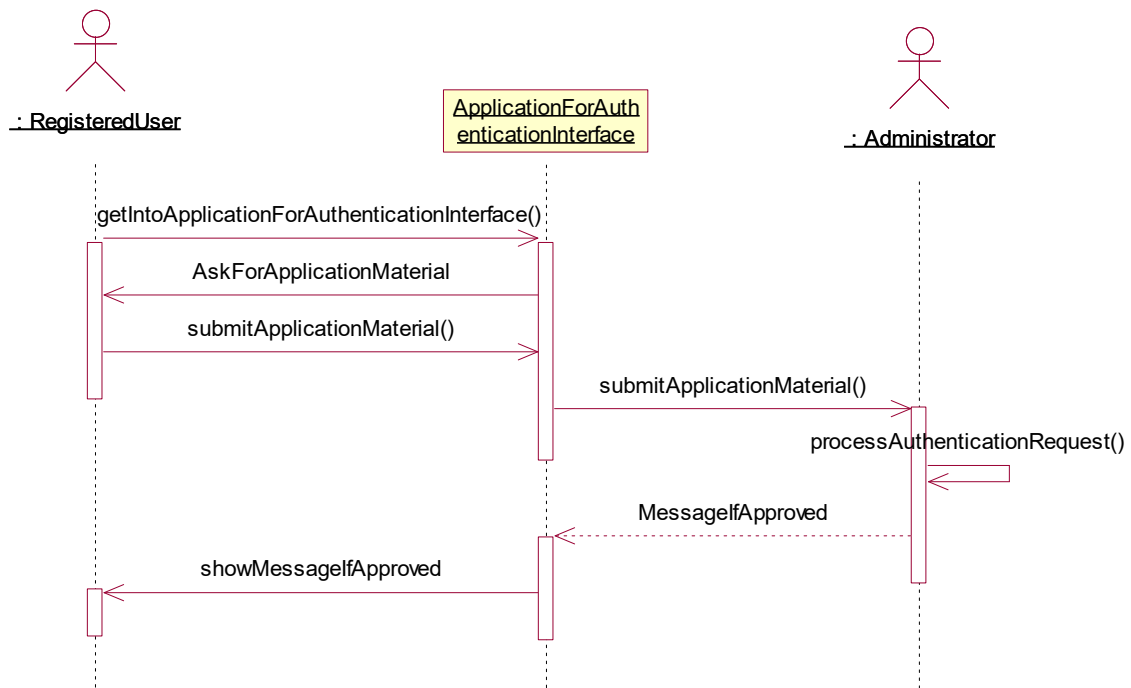
4.2.8 Comment on projects



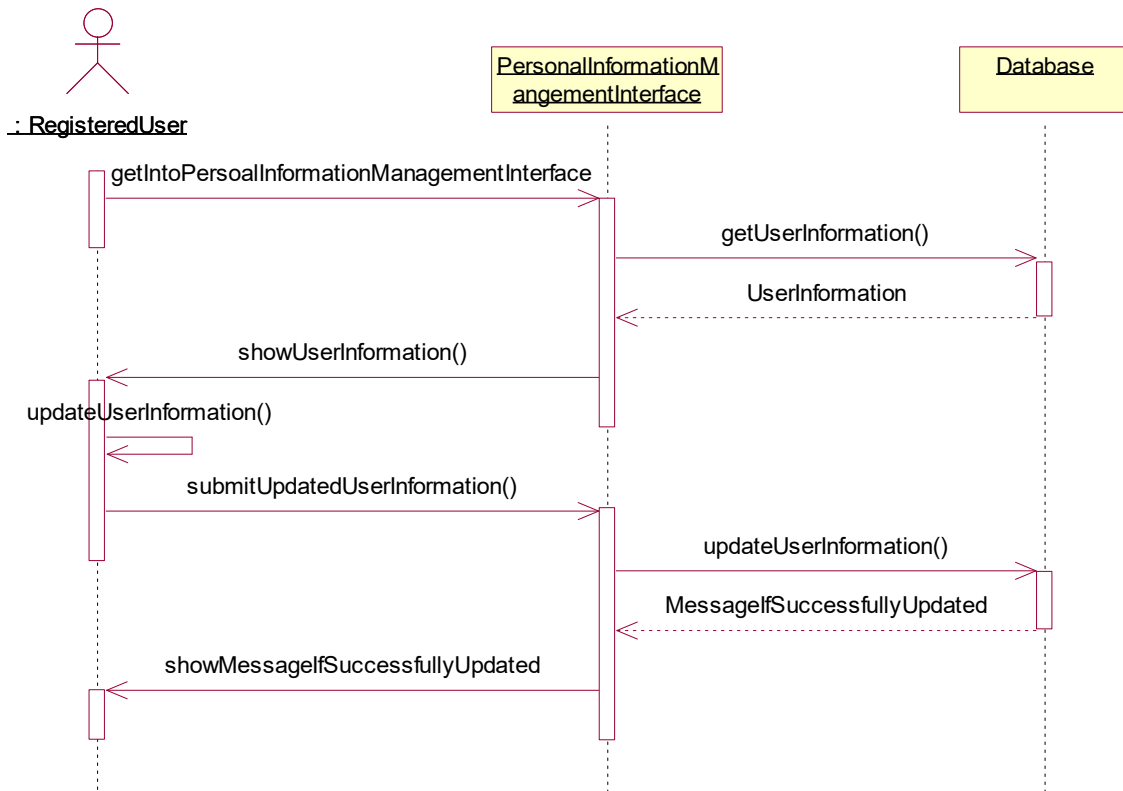
4.2.9 Support projects



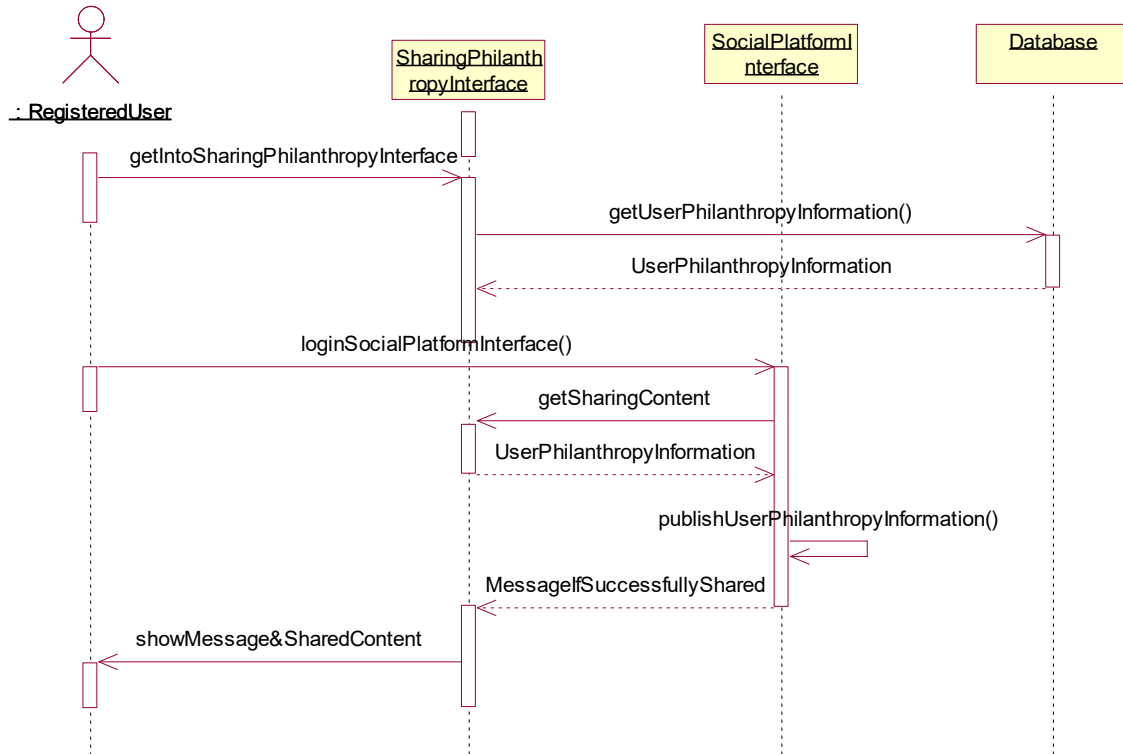
4.2.10 Real-name authentication



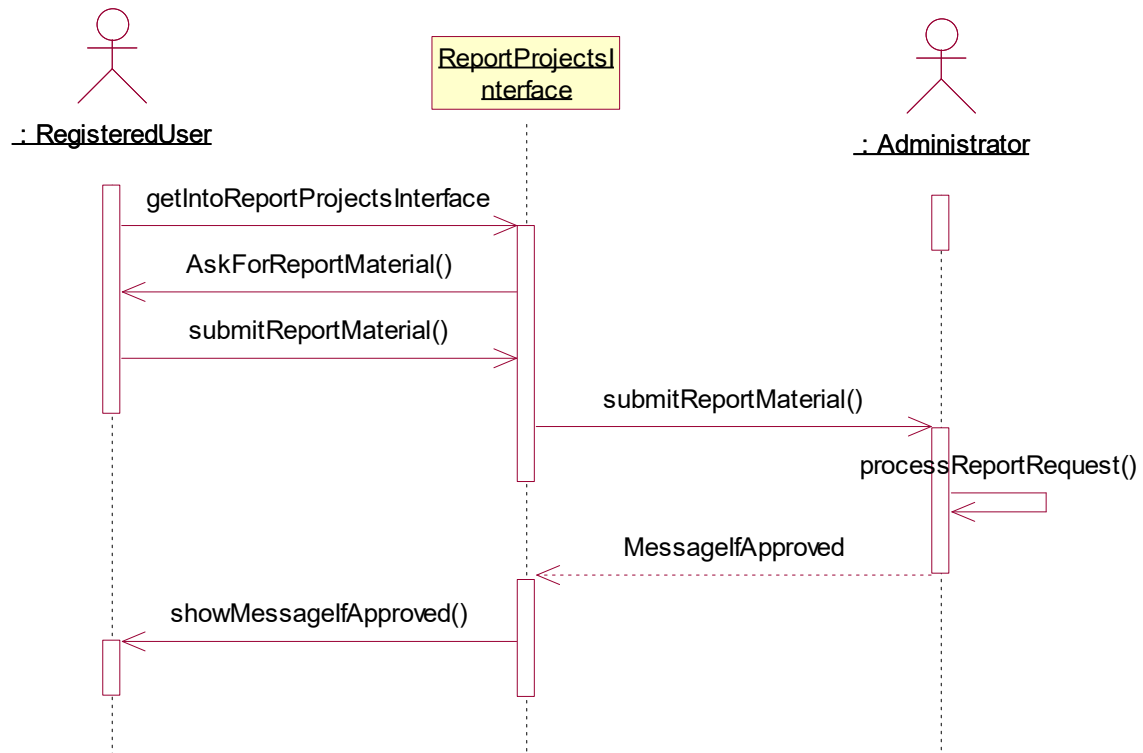
4.2.11 Personal information management



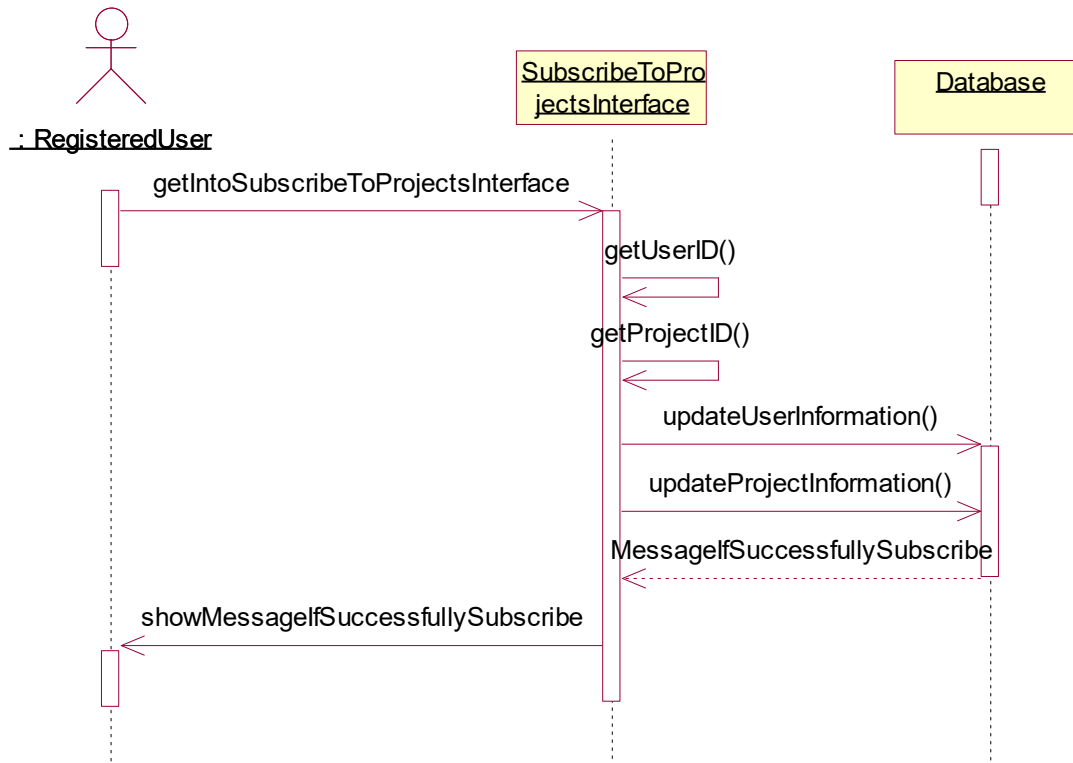
4.2.12 Share the philanthropy



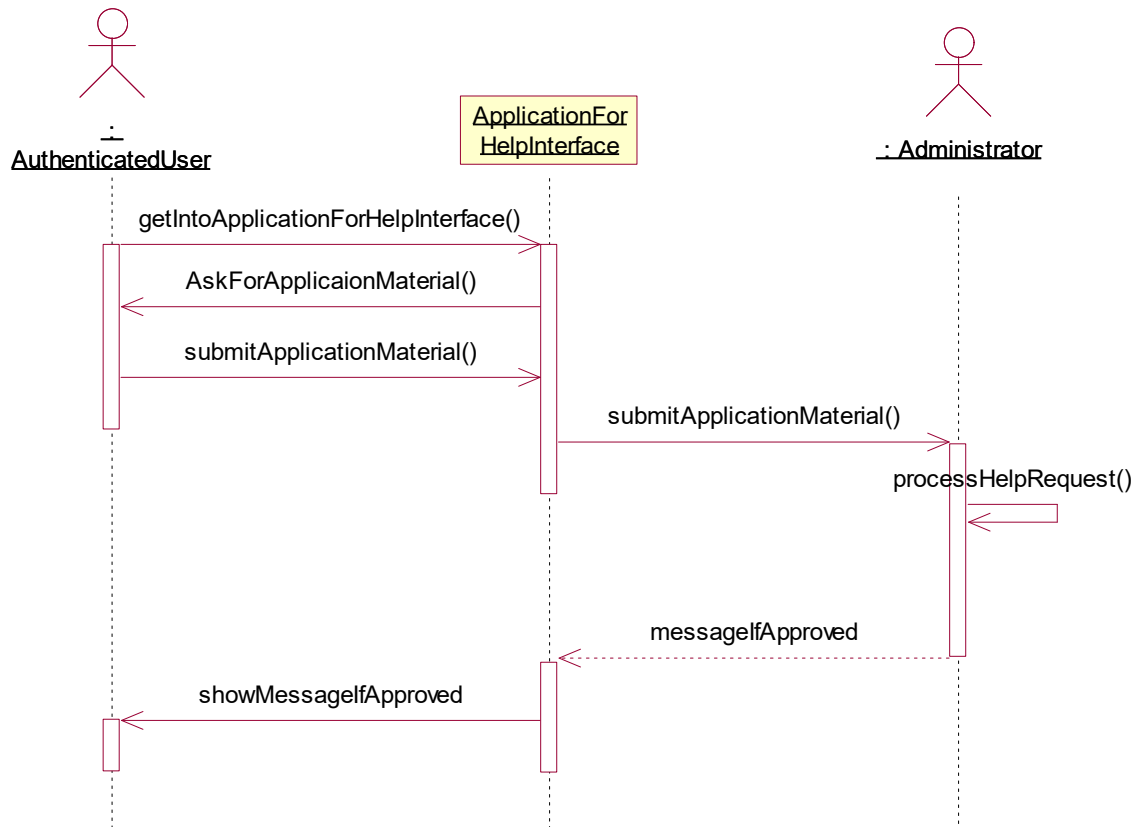
4.2.13 Report Projects



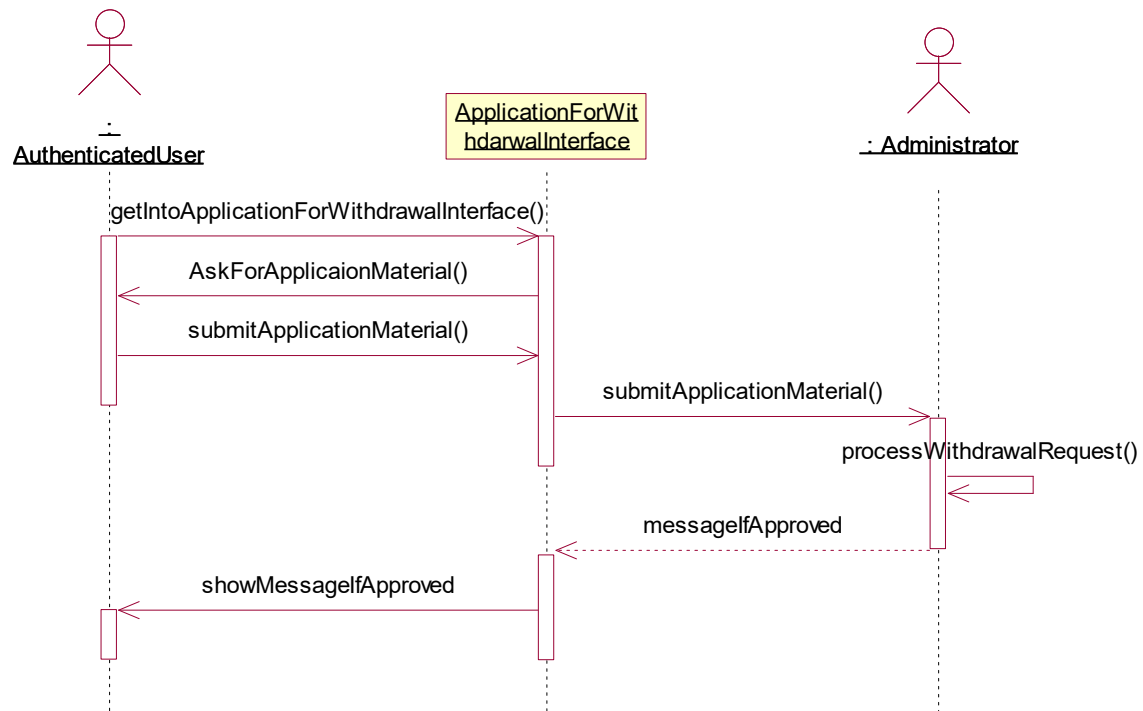
4.2.14 Subscribe to the projects



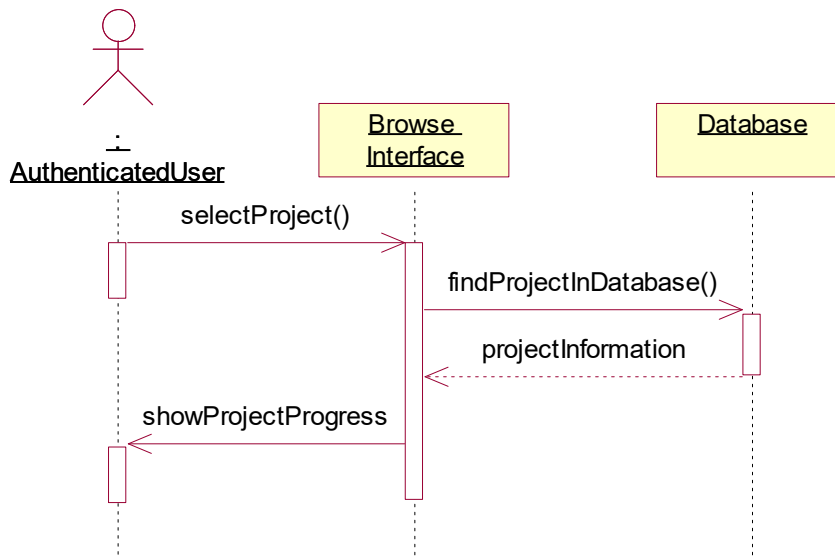
4.2.15 Make a request for help



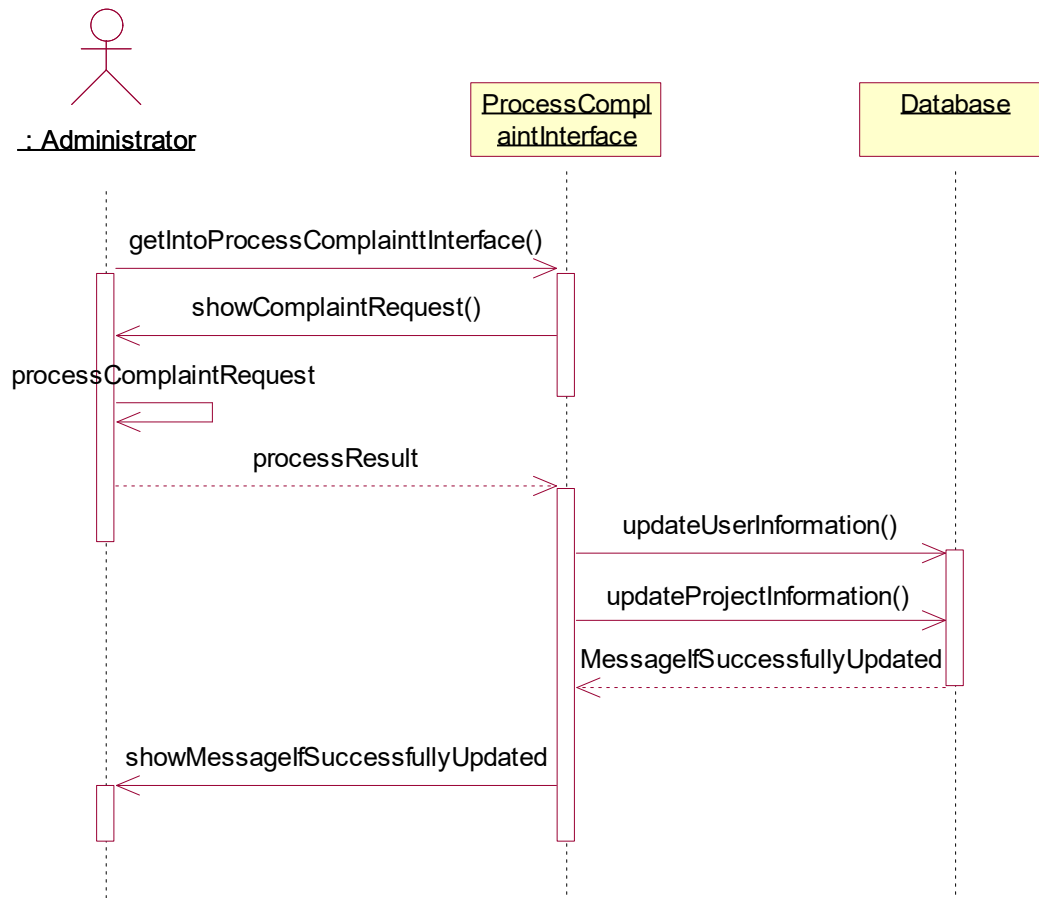
4.2.16 Make a apply for withdrawal



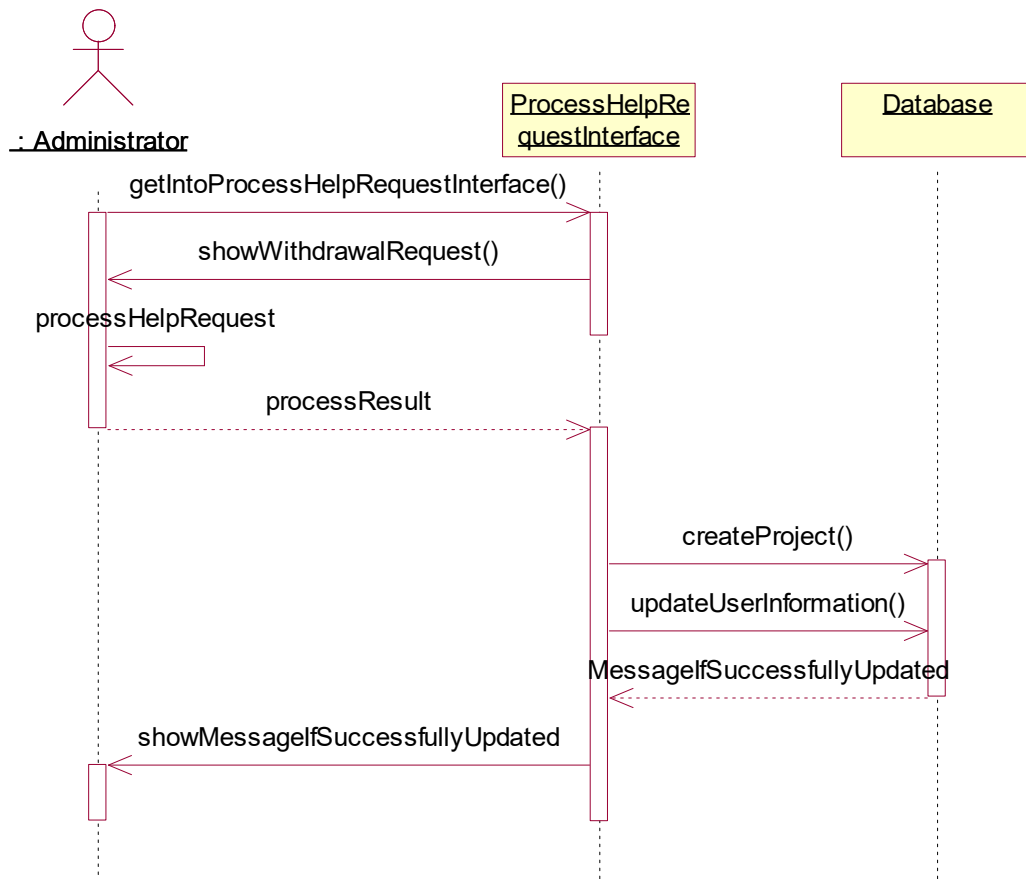
4.2.17 View the progress of the projects



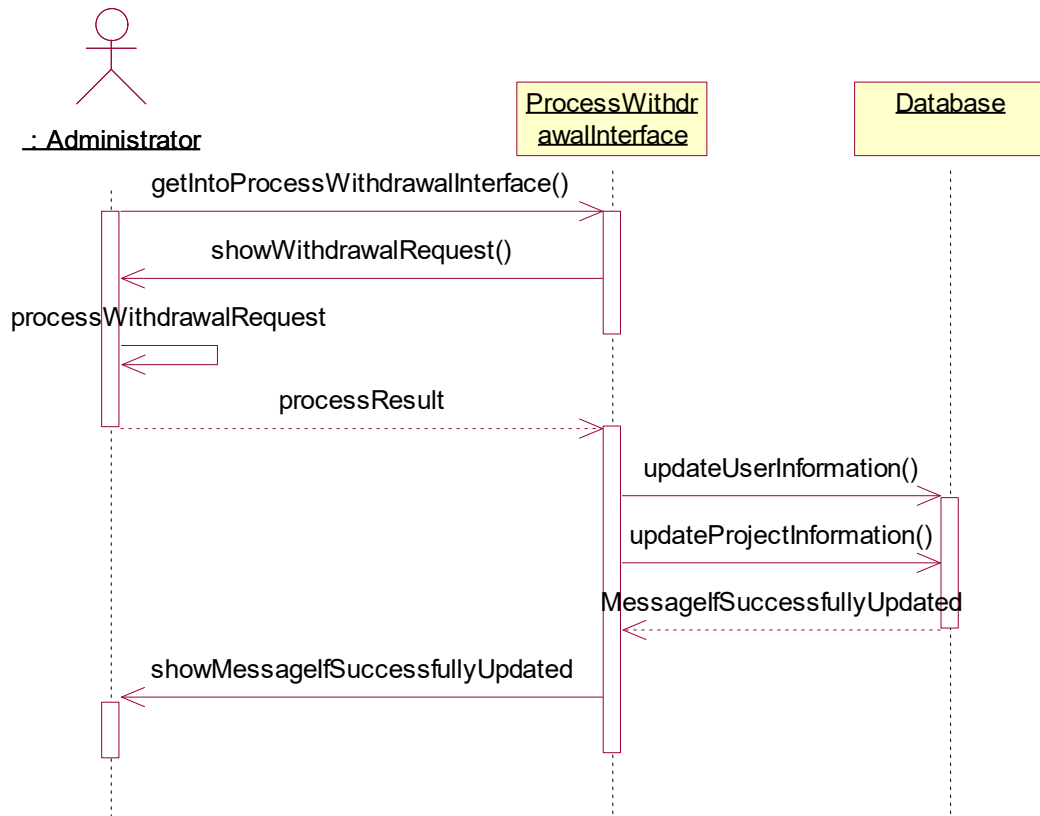
4.2.18 Process the applications of reporting and complaint



4.2.19 Process the applications of requesting for help



4.2.20 Examine and verify the applications for withdrawal



4.2.21 Examine and verify the authentication

