



The Good Samaritan App

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Project Presentation YouTube Link

<https://www.youtube.com/watch?v=wZl0rzgZMp0&t=15s>

Executive Summary

Context

Currently the only way to address the grievance of day to day problem is by visiting the city administration website and posting an issue. Or posting it on twitter or Facebook and various other social media websites.

It turns out that posting it on various social media is a good way to draw attention to the problem, but it really doesn't help in keeping track of the Issue itself. With the availability of mobile computing devices with ability to take pictures or videos and presence of GPS on these devices gives a very good opportunity to get information about the issue

There are number of NGO and NGO who want to contribute to building the city and town. The proposed application would give them a chance to shine apart from social media.

Content

The following proposal is for a system that accept issue pertaining to city infrastructure/a public system issue from registered users. Officials (NGO/NPO/government organisations) can accept and acknowledge the issue in real time, timely updates will be provided on the issues through rich media content like videos and photos

A user will be able to post an issue, keep track of progress and leave feedback on the results.

System Proposal

Business Need (Symptoms):

With the advent of social media and the need for speedy issue redressal has led to need for an app can help users to become a responsible citizen

1. When user sees a Prevailing issue, which has been a cause of concern for many around, instead of doing nothing and complaining about it, one can take the responsibility of it and post it on the app for the authority to take appropriate action.
2. Civil member of the society will stand up and take notice of the problem. This will create awareness about the problem among large members of the society
3. Sometimes there is a delay between the occurrence of a problem and the time when the authority acts. This application can prove to be a handy tool for getting the first information report of the problem.
4. General members cannot track a problem in real time this application can combat this by providing an interactive approach to problem solving
5. Several NGO/NPO wants to contribute in transforming the society but they don't have the appropriate tool to get information from every part of the city they want on concentrate
6. Currently the only way to put an issue in public domain is through social media or through news media. As we know that both have their own shortcomings
 - Few people watch news as It is considered very insipid and routine. Therefore, it has very limited reach. Also, there is no interaction and no tracking

- Social media is on the other end of the spectrum, it has a very wide use cases and it cannot cater specifically to our use case.

Objectives

Our proposed system would have the Functionality of being a social problem and issue tracker. A user would be able to perform the following tasks:

1. Post a problem by taking an image or video of the problem. Post the problem/Issue on the application. The application will directly record the time stamp and Geolocation
2. The authorities will be able to view the problem based on their location/tags (problem in which they specialize) and other filtering ways
3. The Issue can be endorsed if many people view the same problem and they want to report the same
4. Any Issue can be reported if there if a user finds any discrepancy or post is seen to be misleading or if the post is trivial
5. A system that will let the authority to post the updates regularly on an issue and take feedback form the public
6. An issue can be tracked right from the time it has been posted to the point when it has been resolved

Expected Value

Value to User

Become a responsible citizen by reporting a problem or issue which become a cause of ailment among the citizen.

Track a problem from the time it has been posted till its resolution

Option to endorse or report a problem to voice any concern

Value to the NGO/NPO/Officials

Get information in Realtime from real people. No need to wait for news agency to report a problem or an Issue becoming viral on social media to get attention.

A sort of record keeper to see the performance of various NGO/NPO/officials which can openly be audited by the public. A fair way to measure the performance.

Scope

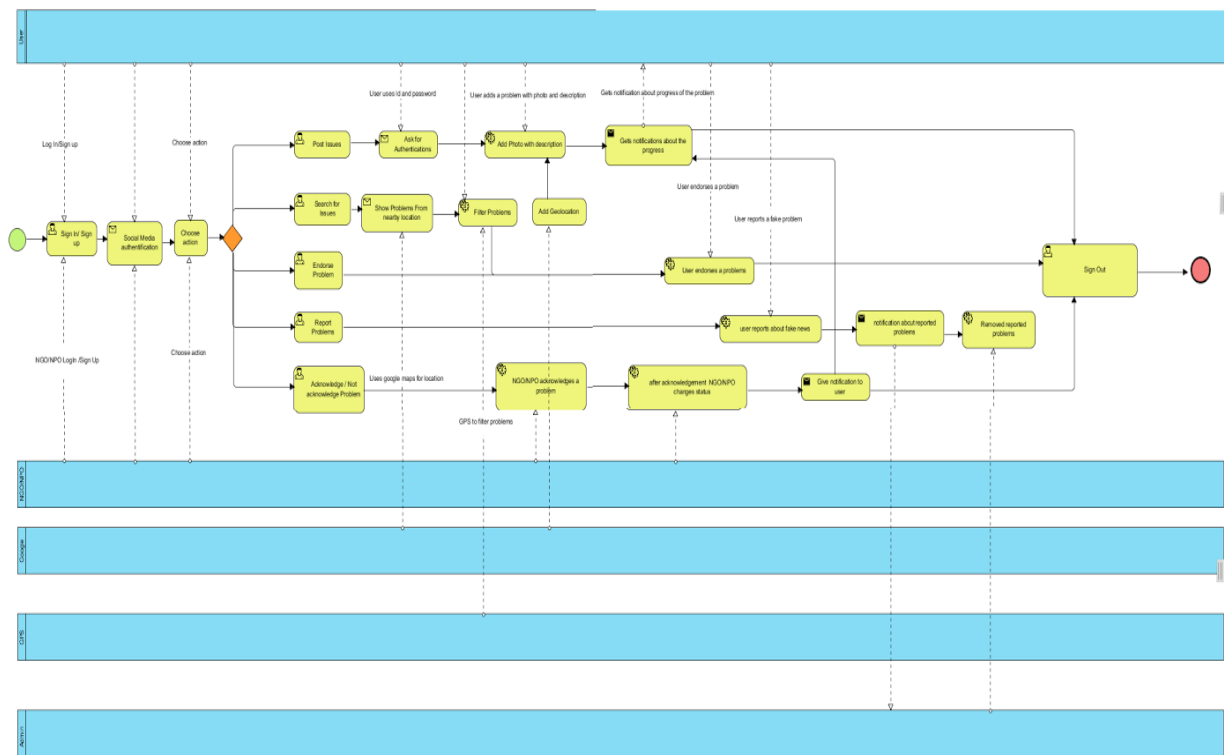
The scope of this application is to post a problem and issue and view its progress till it is resolved. For now, the customized issue tracker which reports in real time the progress of a task is out of scope. Also, the ability to have a detailed tracking of each issue is out of scope.

Functional Specification

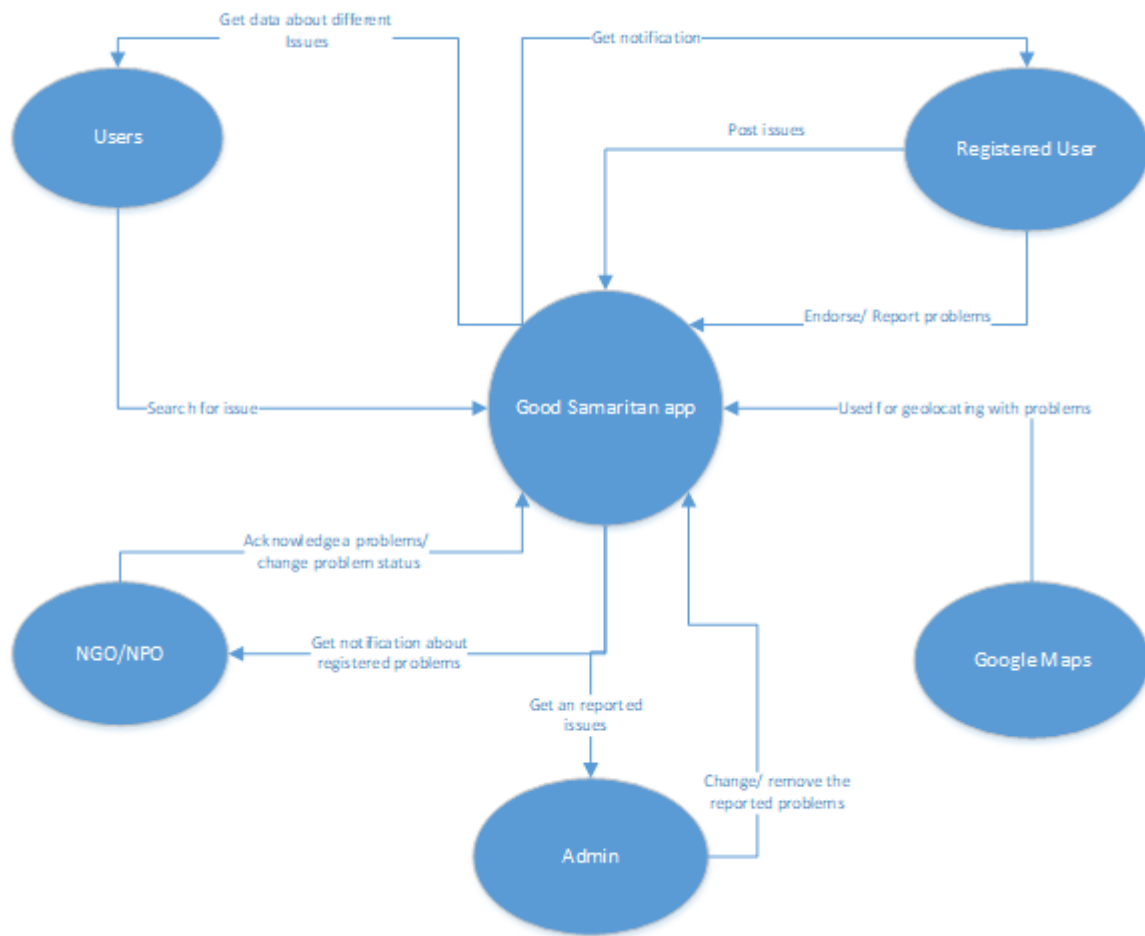
1. The proposed system will help user to find issue inside the app based on the location of the person or based on the location entered by the user. The user will be able to filter the results based on the type of Issue it is concerned with

- The registered user will be able to post an Issue by taking an Image or video from its cell phone. Each issue will have a geolocation and time stamp.
- The officials (NGO/NPO/government officials) will be able to get notification based on their location preferences and type of problem that they specialise in.
- Each issue can be dealt in the following ways by any registered user
 - It can be endorsed by the user if they have witnessed or experienced a similar problem
 - It can be reported by the user if they find anything wrong with the post
 - It can provide feedback to a resolved issue
- Any issue can be tracked right from it has been posted on the application till when it has been resolved by the official

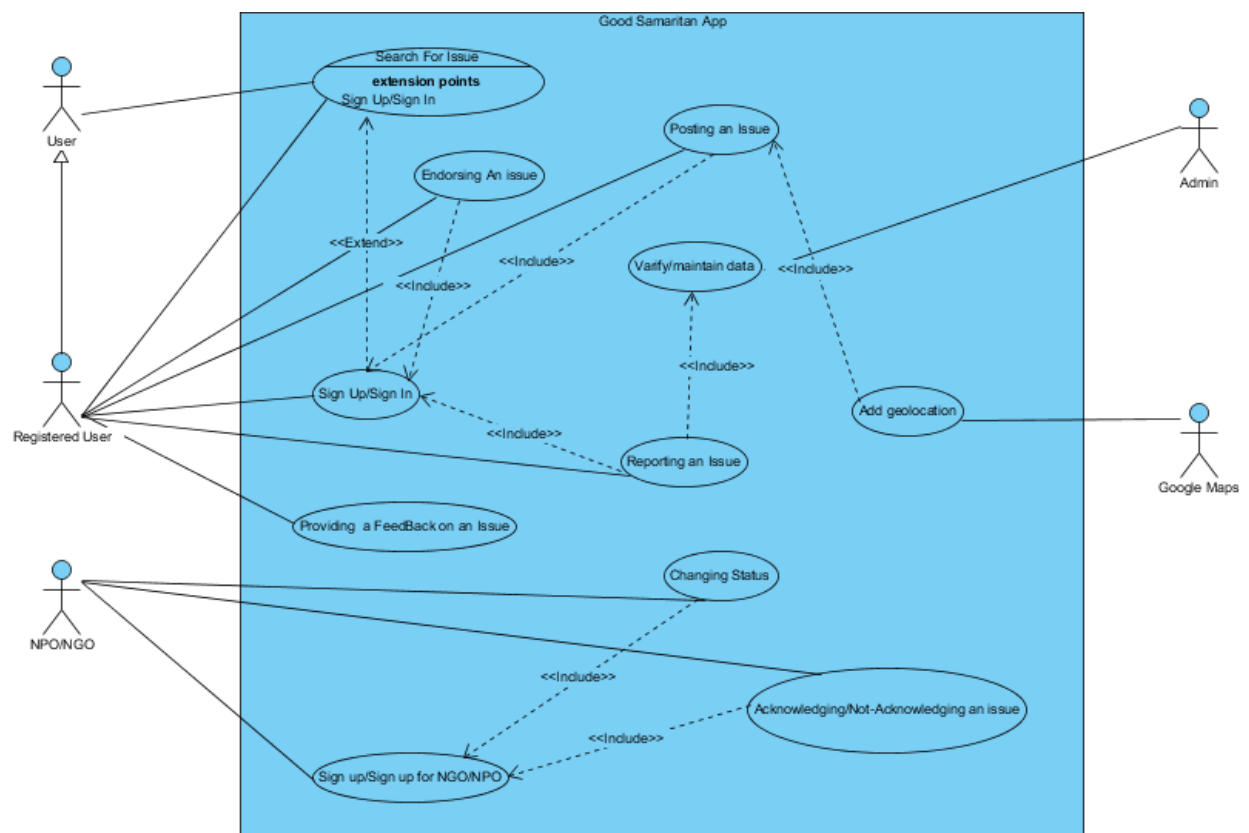
Business Process Model



Context Diagram



Use Case Diagram



Use Case Descriptions

Use Case Description 1:

Use Case Name: Sign Up / Sign In

Primary Actor: User

Stakeholders: User

Brief Description: This use case describes how the user will sign into the system.

Trigger: when User interacts with the application

Normal Flow of Events:

1. The User enters the application
2. The User logs into the system

If the User is trying to interact with the application for the first time, the S-1: Create Account subflow is performed

If the User already has an user account, the S-2: Repeat User login subflow is performed

3. The User is logged into the home screen for their user account

Sub-Flows:

S-1: Create Account

1. The User enters their full name, user email address, social media application log-ins that they would like connected to their user account, and

S-2: Repeat User Verification

1. The User enters their Username and Password
2. The system checks against the database of Current Users to validate the Username and Password Combination

Exception Flow:

S-1. 1a2; The User selects to log in with existing Facebook/Twitter/LinkedIn credentials, the system validates against the Facebook application

S-2, 2a2; The User Name password combination is invalid, the system displays a "User Not found, please check Username or Password"

Use Case Description 2:

Use Case Name: Sign Up / Sign In for NGO/NPO/Government Organizations

Primary Actor: NGO/NPO/Government Organizations

Stakeholders: NGO/NPO/Government Organizations

Brief Description: This use case describes how the NGO/NPO/Government Organizations will sign into the system.

Trigger: when NGO/NPO/Government Organizations interacts with the application

Normal Flow of Events:

1. The NGO/NPO/Government Organizations enters the application
2. NGO/NPO/Government Organizations logs into the system

If the NGO/NPO/Government Organizations is trying to interact with the application for the first time, the S-1: Create Account subflow is performed

If the NGO/NPO already has an account, the S-2: Repeat User login subflow is performed

3. The NGO/NPO is logged into the home screen for their user account

Sub-Flows:

S-1: Create Account

1. The NGO/NPO enters their full name, registered email address, Registration proof, type of NGO/NPO, Head of the NGO/NPO details, Contact info, Registered address, Service Areas (Zip codes)

S-2: Repeat NGO/NPO Verification

1. The NGO/NPO enters their Username and Password
2. The system checks against the database of Current NGO/NPO to validate the Username and

Password Combination

Exception Flow:

S-1. 1a2; If it is a NGO then verification details are validated

S-2, 2a2; The User Name password combination is invalid, the system displays a "User Not found, please check Username or Password"

Use Case Description 3:

Use Case Name: Search for Issues

Primary Actor: User

Stakeholders: User

Trigger: When User clicks on the VIEW button

Normal flow:

1. Accept location (through GPS or manually entered)
2. (optional) specify the tags (road issues, traffic issues, water problem, security issues) related to the problems

3. Get the issues posted within the 5-mile radius of that location based on the location and tags specified
4. Filter the issues based on location/status (Issue posted/Acknowledged/In progress/completed)

Use Case Description 4:

Use Case Name: Posting an Issue

Primary Actor: Registered User

Stakeholders: All users

Trigger: when a user clicks on the POST button

Normal flow:

1. If the user is not already signed in, then prompt the user to sign in and execute the user sign in use case
2. Accept the GPS location from the user's phone using google map.
3. Specify the tags (road issues, traffic issues, water problem, security issues) related to the problems
4. Open camera to capture the image/Video of the issue
5. Publish the issue with the status as "Posted" with the time stamp and the Geolocation.

Exception flow:

5a1. If a similar issue has been posted within the 100ft of the location and the tags are matching, then group the post together and highlight it

Use Case Description 5:

Use Case Name: Endorsing an Issue

Primary Actor: Registered User

Stakeholders: All users

Trigger: when a user clicks on the ENDORSE button

Normal flow:

1. If the user is not already signed in, then prompt the user to sign in and execute the user sign in use case.
2. On clicking the Endorse button, the Endorse indicator will increment by +1
3. The endorsed post will be added to personalised "ENDORSED" tab of the user

Exception flow:

2a1. If the user double clicks the Endorse button on a post then perform (+1,-1) simultaneously on the endorse count

Use Case Description 6:

Use Case Name: Reporting an Issue

Primary Actor: Registered User

Stakeholders: All users

Trigger: when a user clicks on the REPORT button

Normal flow:

1. If the user is not already signed in, then prompt the user to sign in and execute the user sign in use case.
2. On clicking the REPORT button, a popup will appear with radio buttons to be selected with the following option like (Misleading/incorrect tagging/trivial issue/others).
If user picks "others", execute sub flow S-1
3. After picking one of the options the user will have to click on the CONFIRM button to send the report
4. On receiving more than 2 reports on the same issue the post will be send for consideration to the administrator who will investigate the issue, the status of the post will be change to "Pending approval"

Sub-Flows:

- S-1. If the user selects "others" option in the report description popup then a comment section will appear where the user can explain the problem being faced in detail

Use Case Description 7:

Use Case Name: Providing a Feedback on an Issue

Primary Actor: Registered User

Stakeholders: All users

Trigger: when a user clicks on YES or NO button

Normal flow:

1. If the user is not already signed in, then prompt the user to sign in and execute the user sign in use case.
2. On clicking the YES button, the positive indicator will increase +1
If user picks NO, execute sub flow S-1
3. A message with "Thank you for providing your feedback" will appear

Exception flow:

- S-1 A popup will be displayed with options like unsatisfactory work, delayed etc, the user will have to provide additional comments with reasoning as to why they are picking that option. User can also attach photographs here to describe the situation

Use Case Description 8:

Use Case Name: Acknowledging/Not-Acknowledging an Issue

Primary Actor: Officials (Sign Up / Sign In for NGO/NPO/Government Organizations)

Stakeholders: the one who has posted the issue

Trigger: Officials gets a notification

Normal flow:

1. If the official is not already signed in, then prompt the user to sign in and execute the Sign Up / Sign In for NGO/NPO/Government Organizations use case.
2. If an official acknowledges the problem the status of the post changes to "Acknowledged" and post will show details of the organization which has acknowledged along with the time stamp.
3. A new item will be added to the profile of the official with all the details of the issue and the control of the post will be given to the official for further updating it to "In-Progress"

Use Case Description 9:

Use Case Name: Changing status

Primary Actor: Officials (Sign Up / Sign In for NGO/NPO/Government Organizations)

Stakeholders: the official who Acknowledges the post

Trigger: On Acknowledging the post

Normal flow:

1. If the official is not already signed in, then prompt the user to sign in and execute the Sign Up / Sign In for NGO/NPO/Government Organizations use case.
2. After providing the Acknowledgement the official will have 2 business days to update the timeline for the activity and then another 2 business days to bring it to "In-progress" status failure to do the post will be brought back to "POSTED" status and an notification will be sent to rest of the officials who work on the same subject
3. All the progress will be recorded through the images which will be updated by the official at equal duration of the timeline. Any delay in activities will be updated through the app
4. Providing comments which will be visible to all the users on the front end general user interface

Use Case Description 10:

Use Case name: Verify / Maintain data

Primary Actor: Admin

Stakeholders: Good Samaritan App

Trigger: When any issue is reported / Application needs maintenance

Normal Flow:

- 1.Admin opens the via his credentials
2. Checks the reported posts
3. If the reported issues does not match with the issue tags as described or issue is misleading, then remove the post from the app.
4. Send the notification/warning to the user who posted that issue.
- 5.Exit the app.

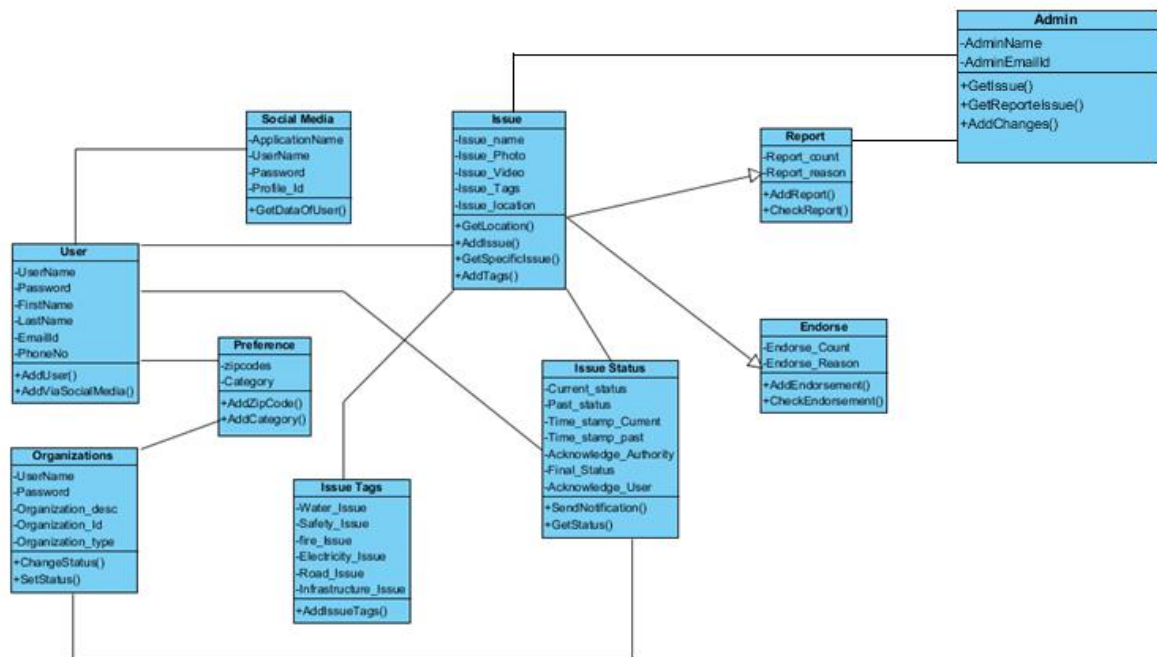
Exception Flow:

Sub Flow:

S-1. Maintenance

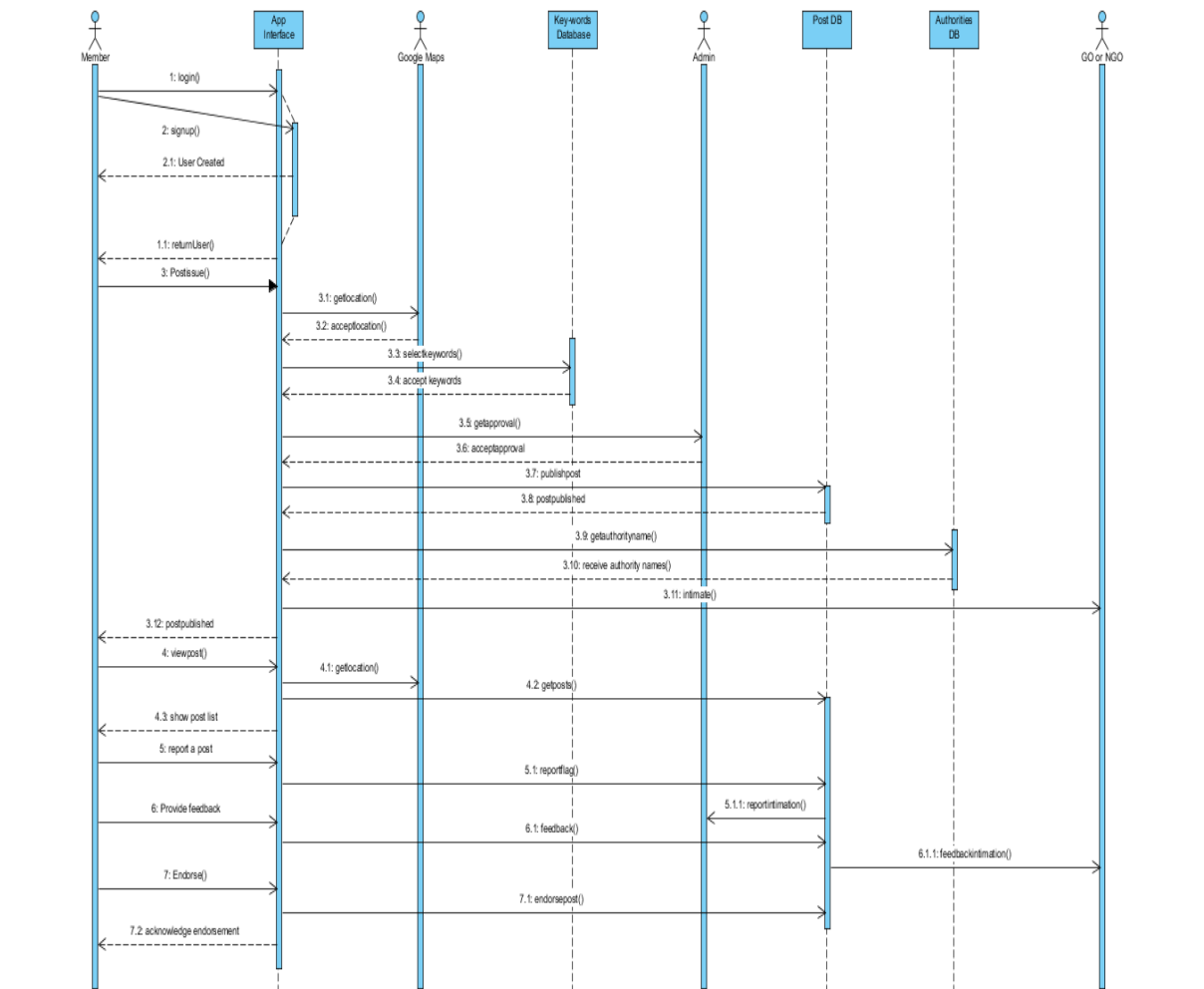
- 1.Admin Checks if the old issue is resolved or not.
2. If the issue is resolved then archive the issue or else go to step 3.
3. Check for unwanted data and delete the unwanted data.
4. Exit the application.

Class Diagram

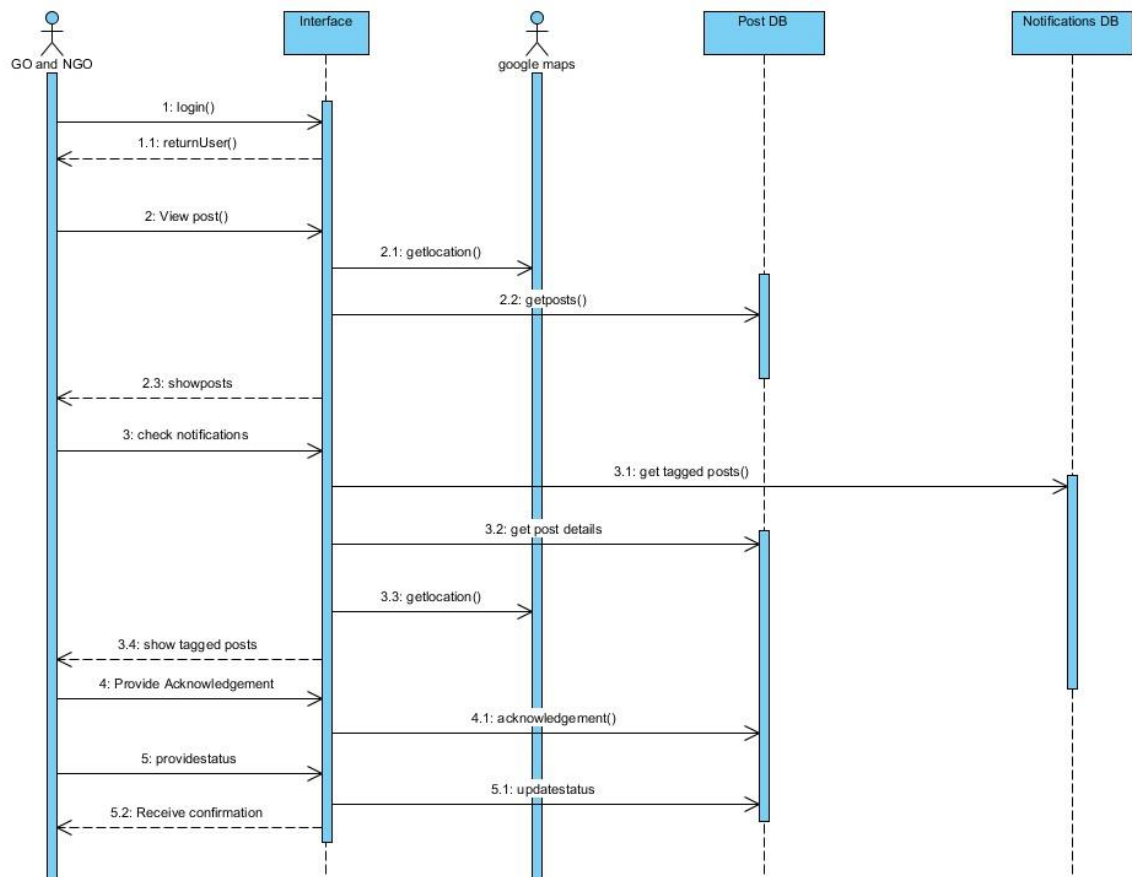


Sequence Diagrams

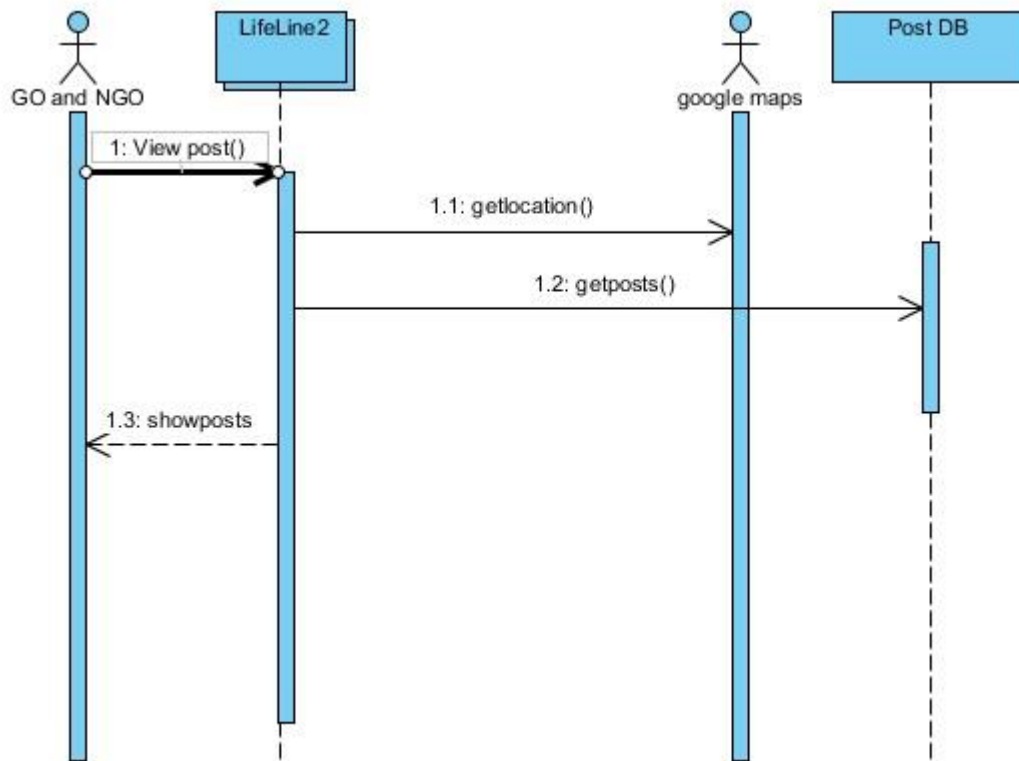
Registered User Use Case Sequence Diagram:



Unregistered User Use Case Sequence Diagram:



Unregistered User Use Case Sequence Diagram:



Data Dictionary

1. Use Case Name: Sign Up / Sign In

User= User email + First Name + Last Name

User email: Data Element

First Name: Data Element

Last Name: Data Element

User Account= Username + Password + 0{Social Media}

User Password: Data Element

Social Media= Application Name + Application Username + Application Password

Application Name: Data Element

Application Username: Data Element

Application Password: Data Element

2. Use Case Name: Sign Up / Sign In for NGO/NPO/Government Organizations

Organization= Organization Name + Contact Name + email + Phone number + Address + 1{Service Zipcodes}

Organization Name: Data Element

Contact Name: Data Element

email: Data Element

Phone number: Data Element

Address: Data Element

Service Zipcodes: Data Element

Organization Account= Username + Password

Username: Data Element

Password: Data Element

3. Use Case Name: Search for Issues

Location: [Zipcode | GPS location]

Zipcode: Data Element

Tag: [Road| Traffic| Water| Safety| Other]

Issue= [Image|Video|Text] + Location + Tag

Status: [Issue Posted|Acknowledged|In progress|Completed]

4. Use Case Name: Posting an Issue

Location: GPS Location

Tag: [Road | Traffic | Water | Safety | Other]

Issue= [Image | Video | Text] + Location + Tag

Post= Timestamp + Issue

5. Use Case Name: Endorsing an Issue

Endorse: Data Element

6. Use Case Name: Reporting an Issue

Report Issue= Report + (Comment)

Report: Data Element

7. Use Case Name: Providing a Feedback on an Issue

Feedback=[Yes | No]+(Negative Feedback)

Negative Feedback= [Unsatisfactory | Delayed | Other] + (Comment) + (Image)+(Video)

8. Use Case Name: Acknowledging/Not-Acknowledging an Issue

Acknowledgement = Organization Details + Timestamp

Timestamp: Data Element

Organization Details= Organization Name + Contact Name + email + Phone number + Address + 1{Service Zipcodes}

9. Use Case Name: Changing status

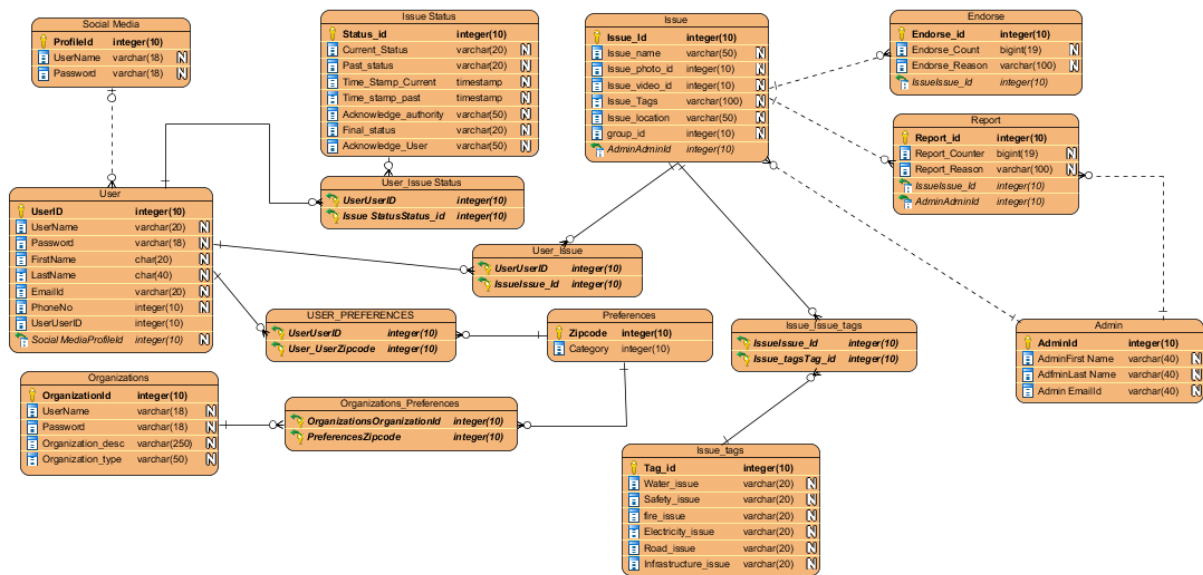
Notify= Timeline+(Message)+(Image)

Timeline: Data Element

Message: Data Element

Image: Data Element

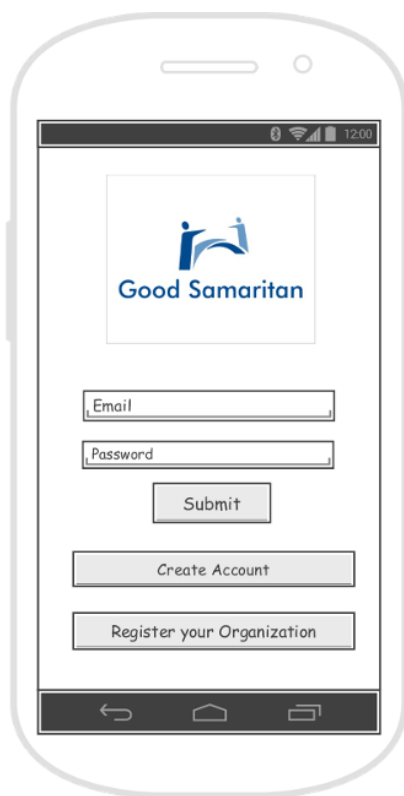
Database



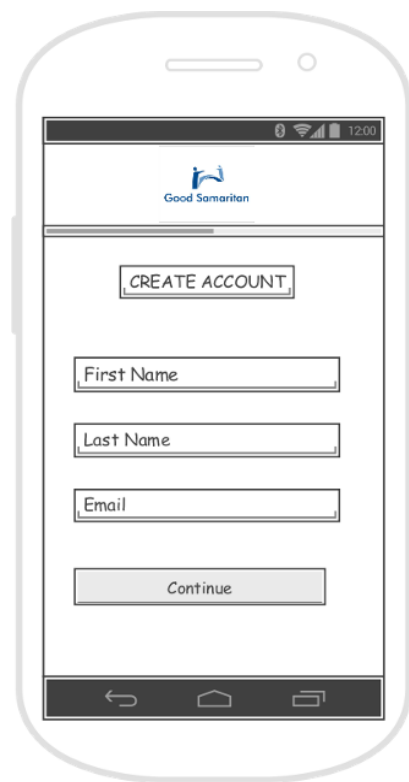
Design

Interface Design

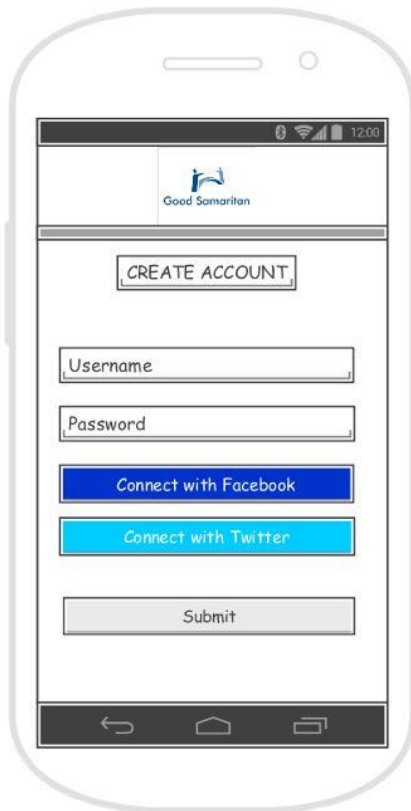
Sign in



User Sign up Step 1



User Sign up Step 2



Good Samaritan

CREATE ACCOUNT

Username

Password

Connect with Facebook

Connect with Twitter

Submit

Registering an Organization



Good Samaritan

Register your Organization

Organization Name

Contact Name

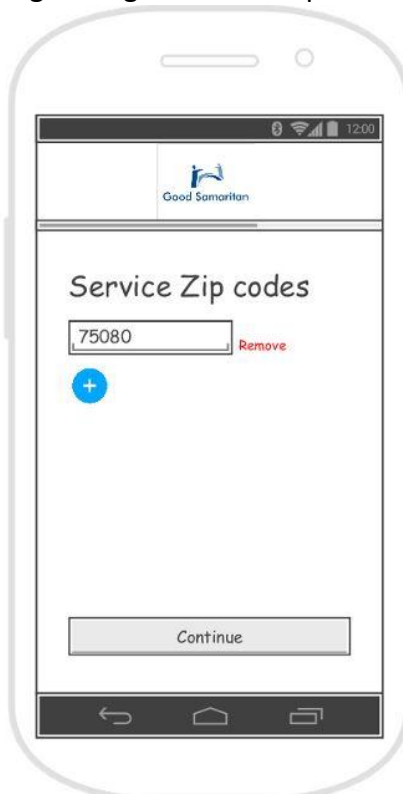
Contact Number

Email

Address

Continue

Registering an Organization Step 2



Good Samaritan


Service Zip codes

75080 Remove

+

Continue

Register an Organization Step 3



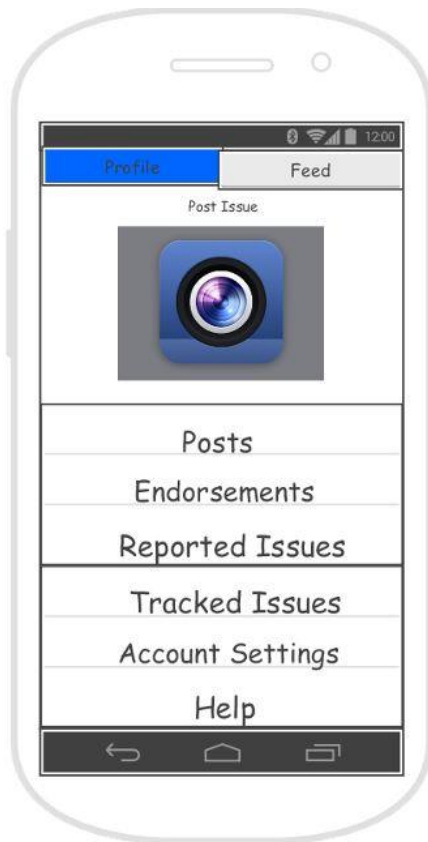
Good Samaritan

Username

Password

Submit

User Homepage



Issues Feed



Software Design

Method Name: AddIssue()	Class name: Issue	ID: IssueID()
Clients(Consumers): Registered user, Authority		
Associated use case: GetLocation(), AddTags(), SignIn(), ApprovePost(), RejectPost()		
Description of responsibilities: Add issue to the interface		
Arguments Received: Location, Images, Tags		
Type of value returned: NIL		
Pre-condition: When a user finds an issue.		
Post-condition: A new issue posted on the app		

Logic:

If SIGN IN is successful

DO

FETCH Images from Mobile

FETCH tags from IssueTags

FETCH Co-ordinates from GPS

FETCH timestamp from device

SET Location=Co-ordinates using GOOGLE MAPS

Check admin approval if the admin approval = "yes"

{

SET status = posted

IF all Issue tags match with another post & location is within 20feet radius

THEN

Group post together and provide a new GROUP ID.

ELSE IF

all Issue tags match with another post & location is within 20feet radius &
STATUS=Resolved


```

THEN
  ALERT user "A similar post has been found and it is resolved"
ELSE
  DISPLAY the Issue with Image, Tags, Location, timestamp
}
Else Reject post

```

Method Name: SetStatus()	Class name: Organizations	ID: StatusID()
Clients(Consumers): The person posting the issue, Authority		
Associated use case: ChangeStatus(), GetStatus(),		
Description of responsibilities: will take care of all the changes in the status of an issue		
Arguments Received: Issue, Past_status, organization_ username, time_stamp_past, Acknowledge_user, Acknowledge_authority		
Type of value returned: current_status, Time_stamp_current,		
Pre-condition: Issue should not be in a solved state		
Post-condition: status change in the issue		

Logic:

```

Read the current status of the post
Switch (current status) {
Case 1 current status=" Posted":
Send acknowledgement to the authorities;
If response=" yes"
Record the time stamp and update it on the post and the authority username
Change current status=" Acknowledged";
Else If response=" No"
No change in the current status until an authority selects "yes"
If multiple authority selects "Yes"
Then all the authorities will be queued in the order that they responded

```

Case current status = "Acknowledged":

Read the time stamp on the post

If the current time > time stamp on the post (+2 business days)

Send a notification to the authority to change the current status to "In Progress"

If the current time > time stamp on the post (+4 business days)

Then change current status = "Posted" and send notification to the next organization to provide acknowledgement.

Execute case 1;

Case 2:

current status=" In progress"

While (current status=" In Progress")

DO

{

T= time stamp when the post became in-progress

X=0

If (current time-t)-x >= 48

Then send notification alert ("provide updates on the issue (issue Id & issue name)")

X=x+48

}

Case3:

current status=" Resolved"

view the message "Provide feedback for this issue"

if "are you satisfied=yes"

{

Alert "thanks for the feedback"

Increase the satisfaction counter +1

}

If "are you satisfied=No"

{

Alert "thanks for the feedback"

Increase the not satisfied counter by +1

}

Method Name: AddEndorsement() AddReport()	Class name: Report Endorse	ID: ReportID() EndorseID()
Clients(Consumers): The person posting the issue, authorities		
Associated use case: checkReport(), checkEndorsement()		
Description of responsibilities: Registered members can endorse and report the issue		

Arguments Received: Issue
Type of value returned: current_status, Time_stamp_current,
Pre-condition: Issue must not be in resolved state
Post-condition: the reported and endorsement will be visible on the user interface for all users

Logic:

If (Click the “endorse” button on a post)

Record the UserID

The endorsement increases by +1

If endorsement button pressed twice on the same post by the same user ID

Then

Execute +1 and -1 on the post simultaneously

If (click the “report” button on a post)

Generate a popup with options (Misleading/incorrect tagging/trivial issue/others)

Select one of the options

If option=“ others”

Open a box with a reason heading and option to attach a file

Else

Record the issue reason and userID for the user

Increase the report icon by 1

Send the report > 5 then a notification is sent to the admin to take action

Project Management Deliverables

Project Activities and Timelines

Activity	Group Members	Completion Date
Project selection	Whole Team	09/13/2017
Project proposal	Whole Team	09/20/2017
Meeting minutes	Divya	12/09/2017
Executive Summary	Hersh	09/20/2017
Problem Statement	Hersh	09/23/2017
BPMN Diagram	Rohan	10/3/2017
Context Diagram	Rohan	10/15/2017
Use Case Diagram	Hersh	10/10/2017
Use Case Descriptions	Hersh	10/13/2017
Data Dictionary	Divya	10/14/2017
Class Diagram	Rohan	10/25/2017
Sequence Diagrams	Dinesh	11/2/2017
Interface design	Divya	11/5/2017
Database design	Rohan	11/9/2017
Software Design	Hersh	11/9/2017
Draft Presentation	Dinesh	11/27/2017
Draft Report	Divya	11/27/2017
Final Review of Presentation and Report	Whole Team	12/09/2017

Meeting Minutes

Meeting 1

Date and Time	09/13/2017 7:00PM to 8:00 PM
Attendees	Whole Team
Discussion	Brainstorm and come up with project ideas
Conclusion	Selected two ideas for project proposal

Meeting 2

Date and Time	09/18/2017 7:00PM to 8:00 PM
Attendees	Whole Team
Discussion	Outline and objectives of the project
Conclusion	Finalized an outline and decided on system boundaries

Meeting 3

Date and Time	09/26/2017 6:00PM to 8:00 PM
Attendees	Whole Team
Discussion	Decide on possible use cases
Conclusion	Finalized use cases and split tasks Hersh- Use Case Description Rohan- Use Case Diagram Divya- Data Dictionary

Meeting 4

Date and Time	10/07/2017 7:00PM to 8:00 PM
Attendees	Whole Team
Discussion	BPMN and Context Diagram
Conclusion	Finalized final diagrams Rohan- BPMN and Context Diagram using tool

Meeting 5

Date and Time	10/18/2017 7:00PM to 8:00 PM
Attendees	Whole Team
Discussion	Sequence Diagram
Conclusion	Finalized the sequence diagrams Dinesh- Sequence Diagrams using tool

Meeting 6

Date and Time	10/26/2017 7:00PM to 8:00 PM
Attendees	Whole Team
Discussion	Class Diagram and Database Design
Conclusion	Finalized Diagrams Rohan- Diagrams using tool

Meeting 7

Date and Time	11/04/2017 7:00PM to 8:00 PM
Attendees	Whole Team
Discussion	Interface design
Conclusion	Finalized user interface Divya- Storyboarding with tool

Meeting 8

Date and Time	11/11/2017 6:00PM to 8:00 PM
Attendees	Whole Team
Discussion	Software Design
Conclusion	Finalized methods for design Hersh- Software Design write-up

Meeting 9

Date and Time	11/27/2017 7:00PM to 8:00 PM
Attendees	Whole Team
Discussion	Report structure and final review
Conclusion	Finalized report structure and content for the report

Meeting 10

Date and Time	12/09/2017 5:00PM to 8:00 PM
Attendees	Whole Team
Discussion	Record the presentation and review report
Conclusion	Completed presentation and final report