

Project Document

CIVIC CONNECT APP



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CIVIC CONNECT

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EXECUTIVE SUMMARY

CONTEXT

Currently, the only way to address the grievance of day-to-day problems 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 keep track of the issue itself. With the availability of mobile computing devices with the ability to take pictures or videos and the presence of GPS on these devices gives a very good opportunity to get information about the issue. There are a number of NGOs and NPOs 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 accepts issues about city infrastructure/a public system issue from registered users. Officials (NGO/NPO/government organisations) can accept and acknowledge the issue in real-time, and 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.

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SYSTEM PROPOSAL

BUSINESS NEED (Symptoms):

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

1. When a 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 responsibility of it and post it on the app for the authority to take appropriate action.
2. Civil members 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 NGOs/NPOs want to contribute to transforming society but they don't have the appropriate tools to get information from every part of the city they want to concentrate.
6. Currently, the only way to put an issue in the public domain is through social media or through news media. As we know both have their own shortcomings
 - Few people watch the 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 case and it cannot cater specifically to our use case.

OBJECTIVE

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 (a problem in which they specialize) and other filtering ways.
3. The Issue can be endorsed if many people view the same problem and want to report the same.
4. Any Issue can be reported 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 updates regularly on an issue and take feedback from 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 users:

Become a responsible citizen by reporting a problem or issue which becomes 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 real-time from real people. No need to wait for a 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 the public can openly audit. A fair way to measure the performance.

SCOPE

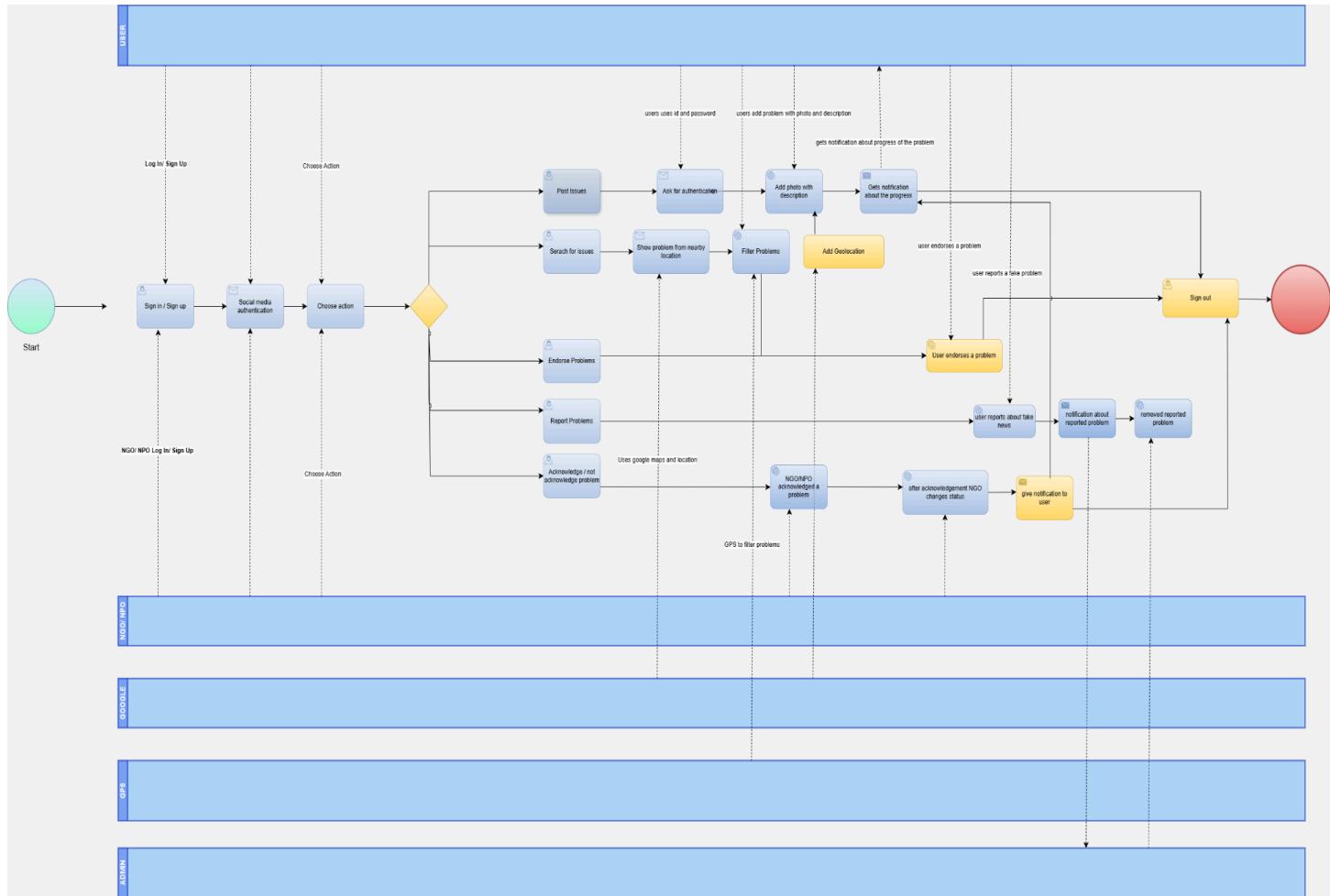
The scope of this application is to post a problem and issue and view its progress till it is resolved. For now, the customized issue tracker which reports in real time the progress of a task is out of scope. Also, the ability to have a detailed tracking of each issue is out of scope.

FUNCTIONAL SPECIFICATION

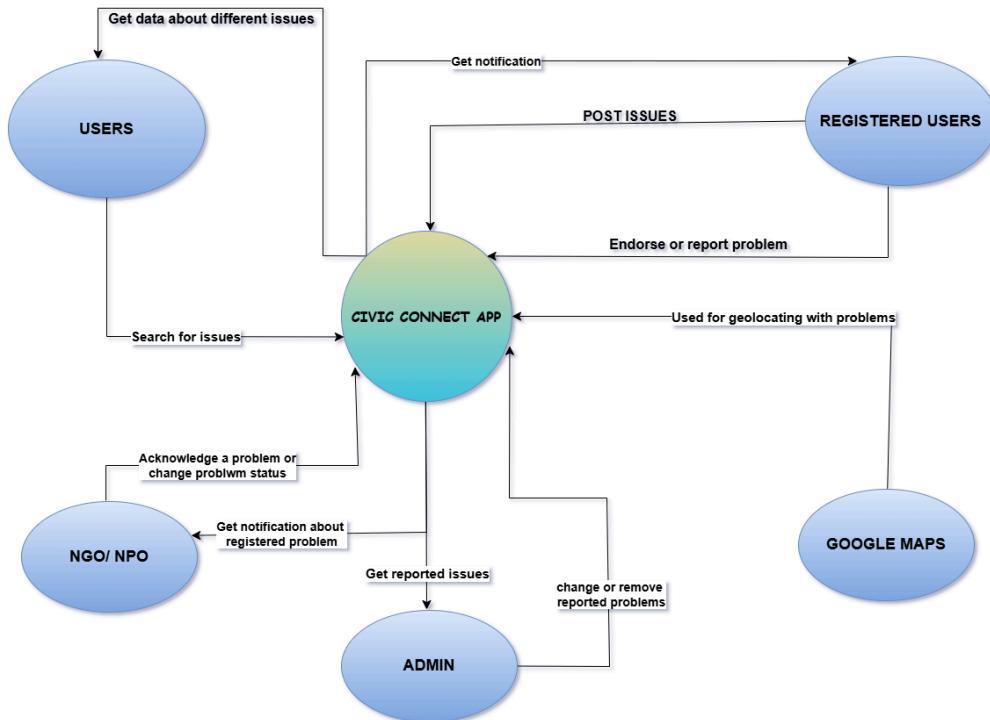
1. The proposed system will help users find issues inside the app based on the location of the person or based on the location entered by the user. The user will be able to filter the results based on the type of Issue it is concerned with.
2. The registered user will be able to post an Issue by taking an Image or video from their cell phone. Each issue will have a geolocation and time stamp.
3. The officials (NGO/NPO/government officials) will be able to get notifications based on their location preferences and the type of problem that they specialise in.
4. Each issue can be dealt with 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.
5. Any issue can be tracked right from it has been posted on the application till when it has been resolved by the official.

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BUSINESS PROCESS MODELING NOTATION

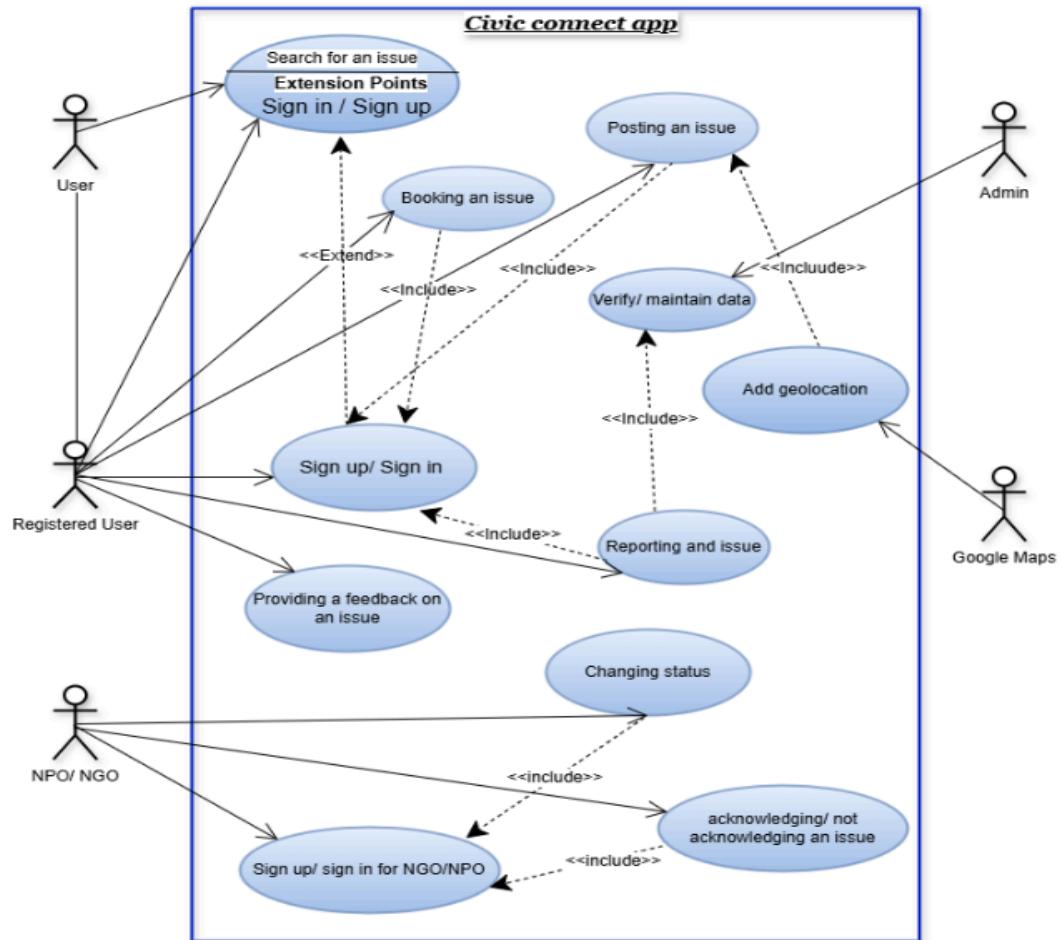


CONTEXT DIAGRAM



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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 the 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 a 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:
 1. S-1: Create Account
 - ❖ The User enters their full name, user email address, social media application log-ins that they would like connected to their user account, and
 2. S-2: Repeat User Verification
 - ❖ The User enters their Username and Password.
 - ❖ The system checks against the database of Current Users to validate the Username and Password Combination
- Exception Flow:
 1. S-1. 1a2; The User selects to log in with existing Facebook/Twitter/LinkedIn credentials, which the system validates against the Facebook application.
 2. S-2, 2a2; The User Name password combination is invalid, and 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 interact with the application
- Normal Flow of Events:
 1. The NGO/NPO/Government Organization 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 sub-flow is performed If the NGO/NPO already has an account, the S-2: Repeat User login sub-flow is performed
 - 3. The NGO/NPO is logged into the home screen for their user account.
 - Sub-Flows:

 - 1. S-1: Create Account

 - ❖ 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)
 - 2. S-2: Repeat NGO/NPO Verification

 - ❖ The NGO/NPO enters their Username and Password.
 - ❖ The system checks against the Current NGO/NPO database to validate the Username and Password Combination.
 - Exception Flow:

 - 1. S-1. 1a2; If it is an NGO then verification details are validated
 - 2. S-2, 2a2; The User Name password combination is invalid, and 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 the 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 problems, 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 Maps.
 3. Specify the tags (road issues, traffic issues, water problems, security issues) related to the problems
 4. Open the camera to capture the image/Video of the issue
 5. Publish the issue with the status "Posted" with the time stamp and the Geolocation.
- Exception flow:
 1. 5a1. If a similar issue has been posted within 100ft of the location and the tags are matching, then group the post 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 the personalised "ENDORSED" tab of the user
- Exception flow:
 1. 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 options like (Misleading/incorrect tagging/trivial issue/others). If a user picks "others", execute sub-flow S-1

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- 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 sent for consideration to the administrator who will investigate the issue, and the status of the post will be changed to “Pending approval”
- Sub-Flows:
 - 1. S-1. If the user selects the “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:
 - 1. 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. Users 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 get 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 the post will show details of the organization which has been acknowledged along with the time stamp.

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3. A new item will be added to the profile of the official with all the details of the issue and control of the post will be given to the official for further updating it to “InProgress”

Use Case Description 9:

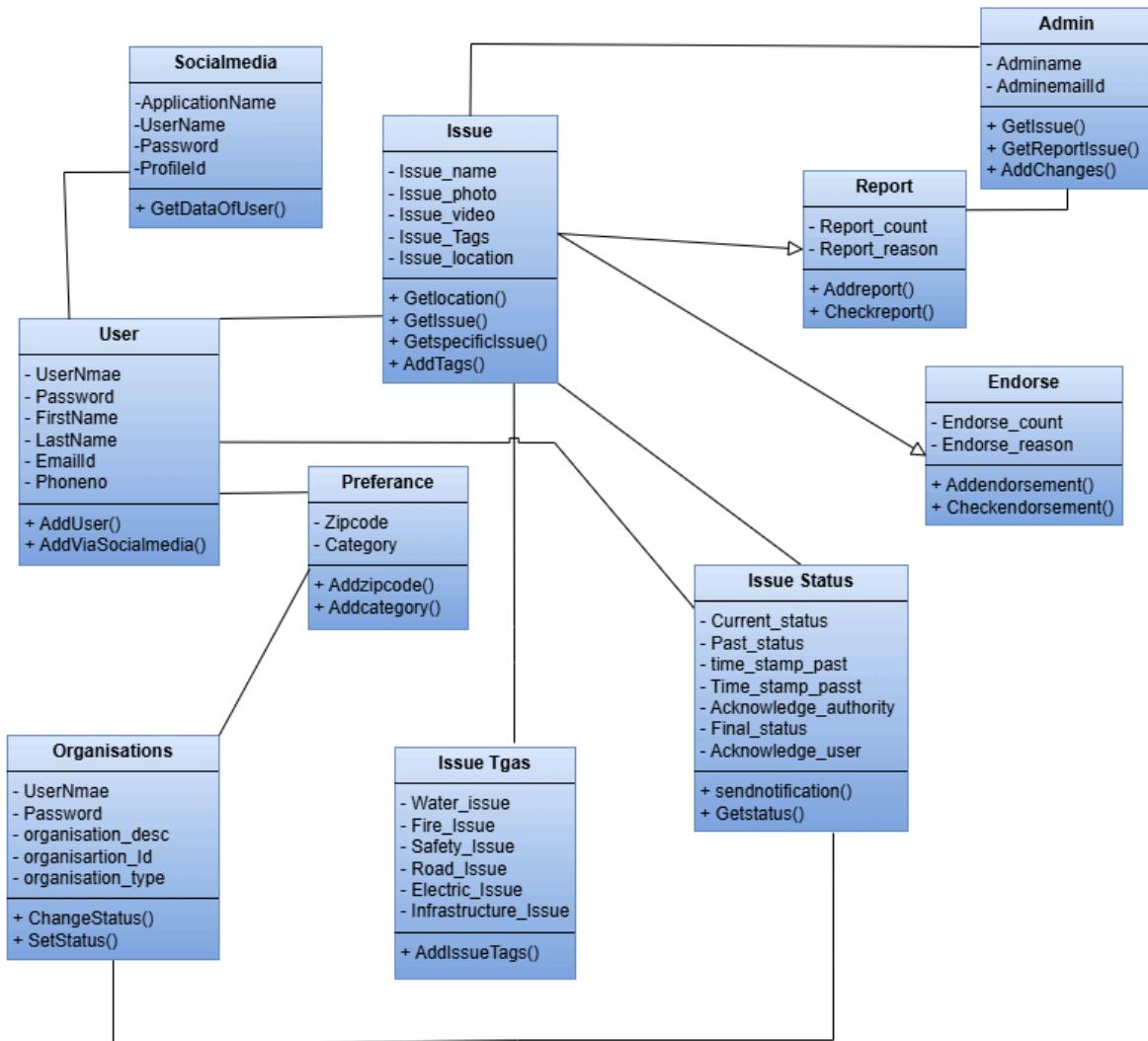
- Use Case Name: Changing status
- Primary Actor: Officials (Sign Up / Sign In for NGO/NPO/Government Organizations)
- Stakeholders: the official who Acknowledges the post
- Trigger: On Acknowledging the post
- Normal flow:
 1. If the official is not already signed in, then prompt the user to sign in 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 a 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: Civic Connect App
- Trigger: When any issue is reported / Application needs maintenance
- Normal Flow:
 1. Admin opens the via his credentials
 2. Check the reported posts
 3. If the reported issues do not match with the issue tags as described or the 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.
- Sub Flow:
 1. S-1. Maintenance
 - ❖ Admin Checks if the old issue is resolved or not.
 - ❖ If the issue is resolved then archive the issue or else go to step 3.

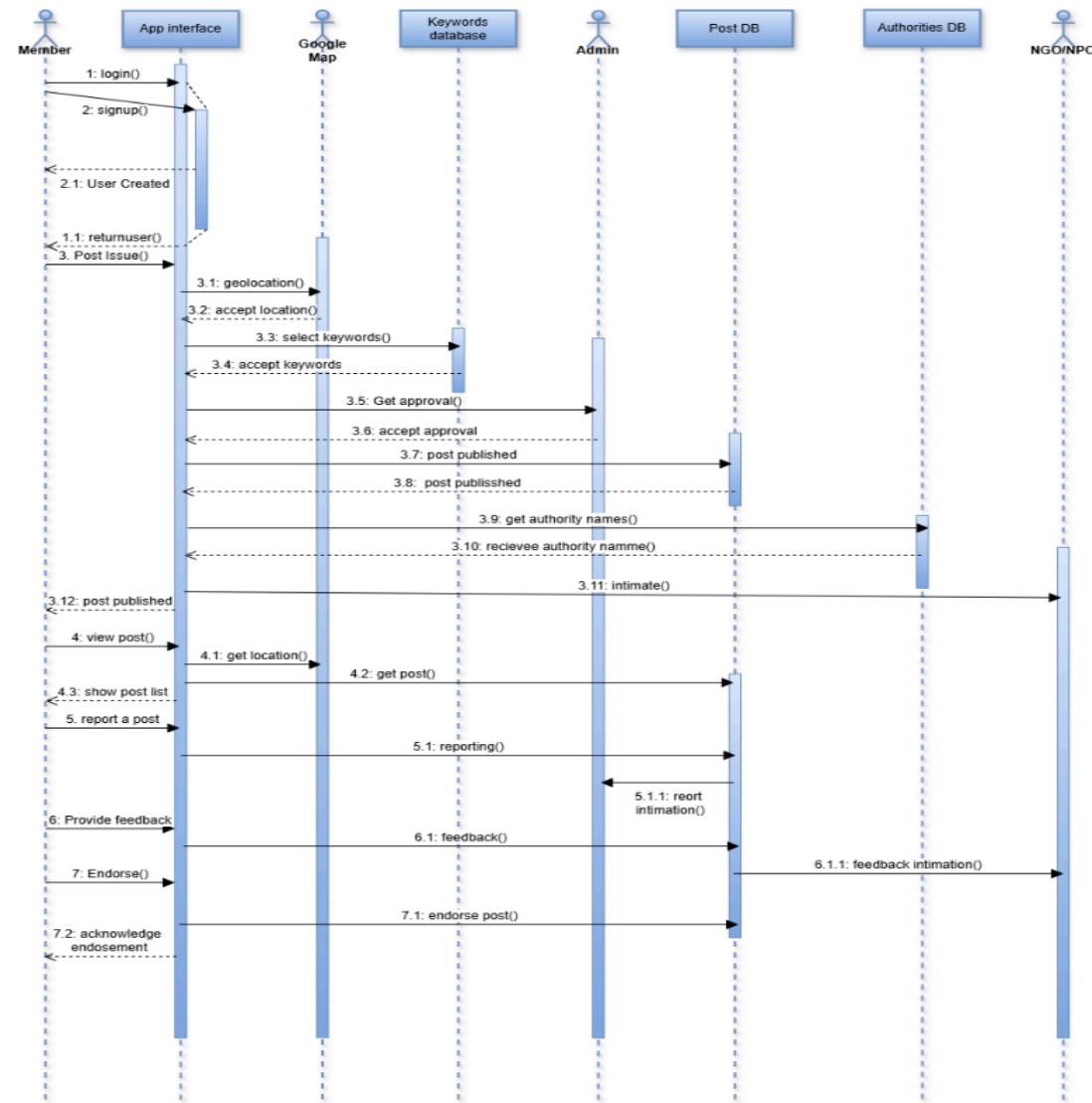
- ❖ Check for unwanted data and delete the unwanted data.
- ❖ Exit the application.

USE CLASS DIAGRAM

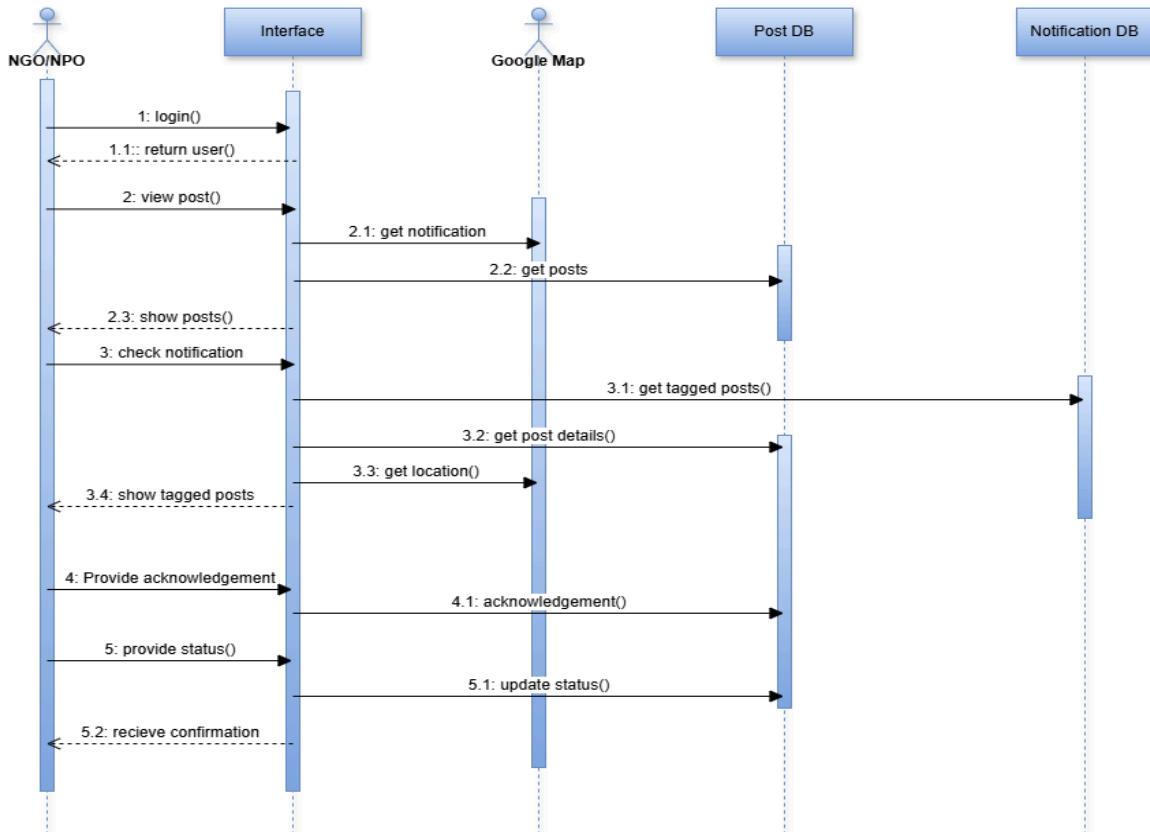


SEQUENCE DIAGRAMS

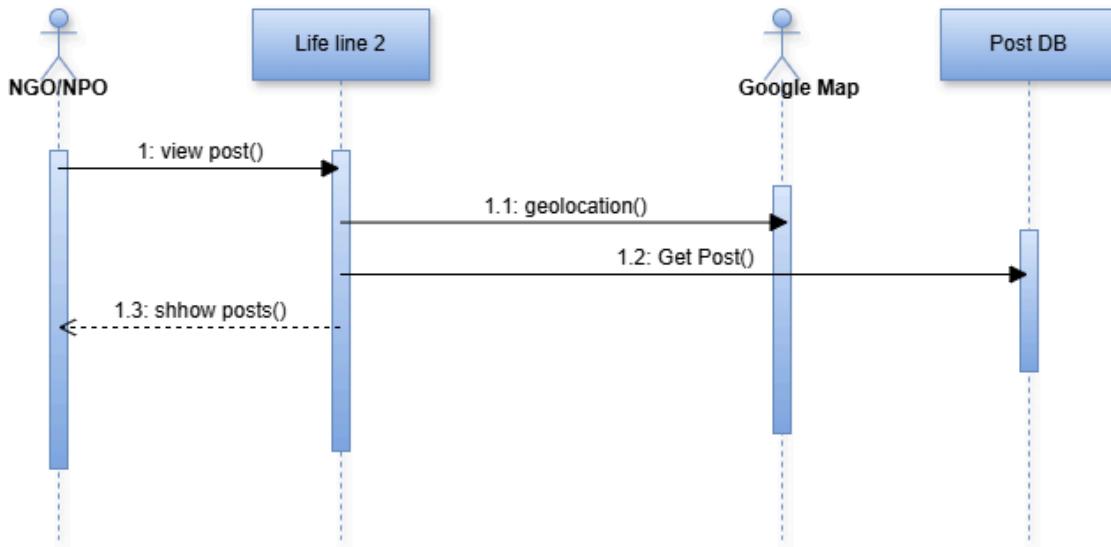
Registered Users Use Case Sequence Diagram:



Unregistered Users Use Case Sequence Diagram:



Unregistered Users Use Case Sequence Diagram:



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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}
- Organisation 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]

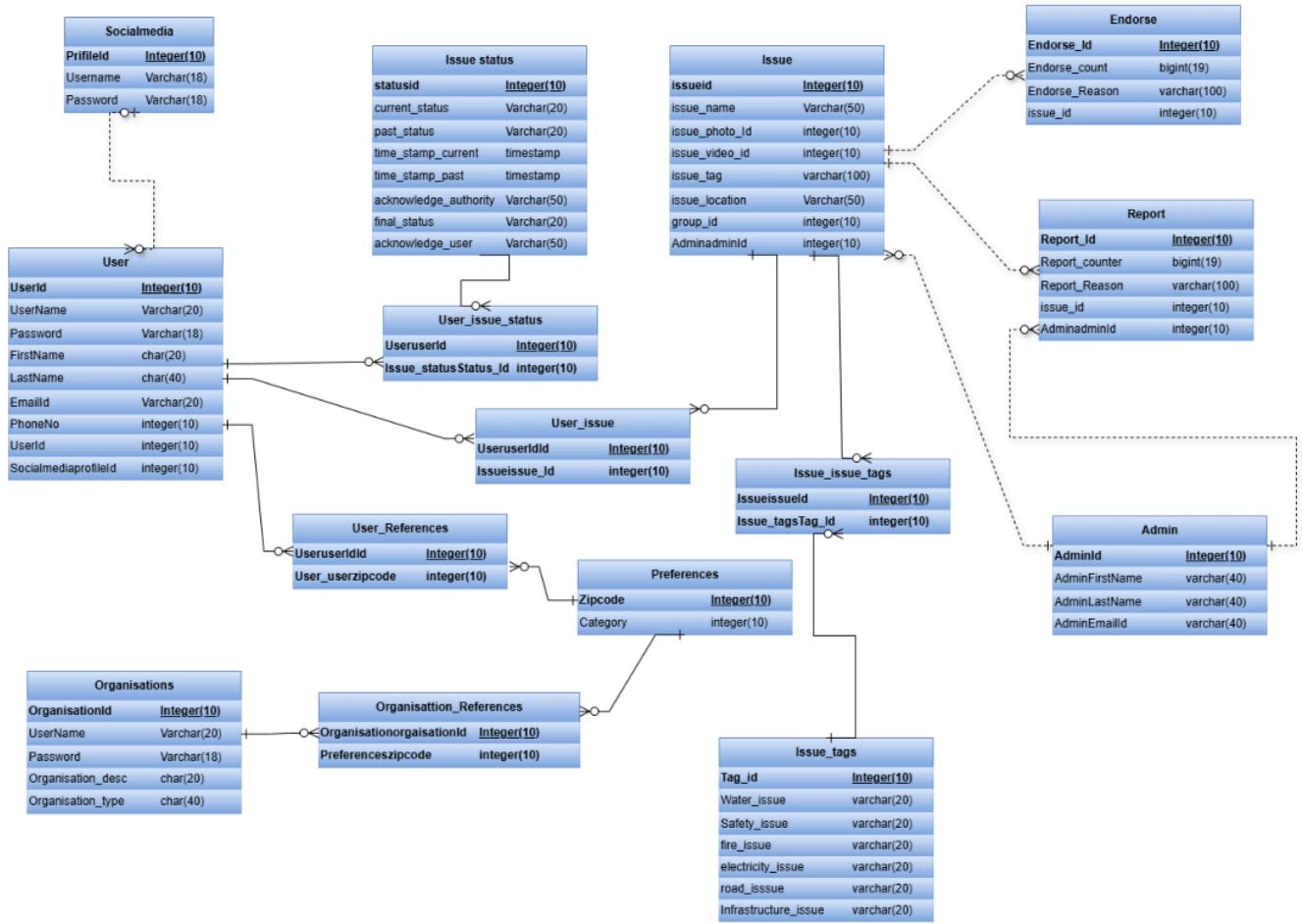
4. Use Case Name: Posting an Issue

- Location: GPS Location
- Tag: [Road| Traffic| Water| Safety| Other]
- Issue= [Image|Video|Text] + Location + Tag
- Post= Timestamp + Issue

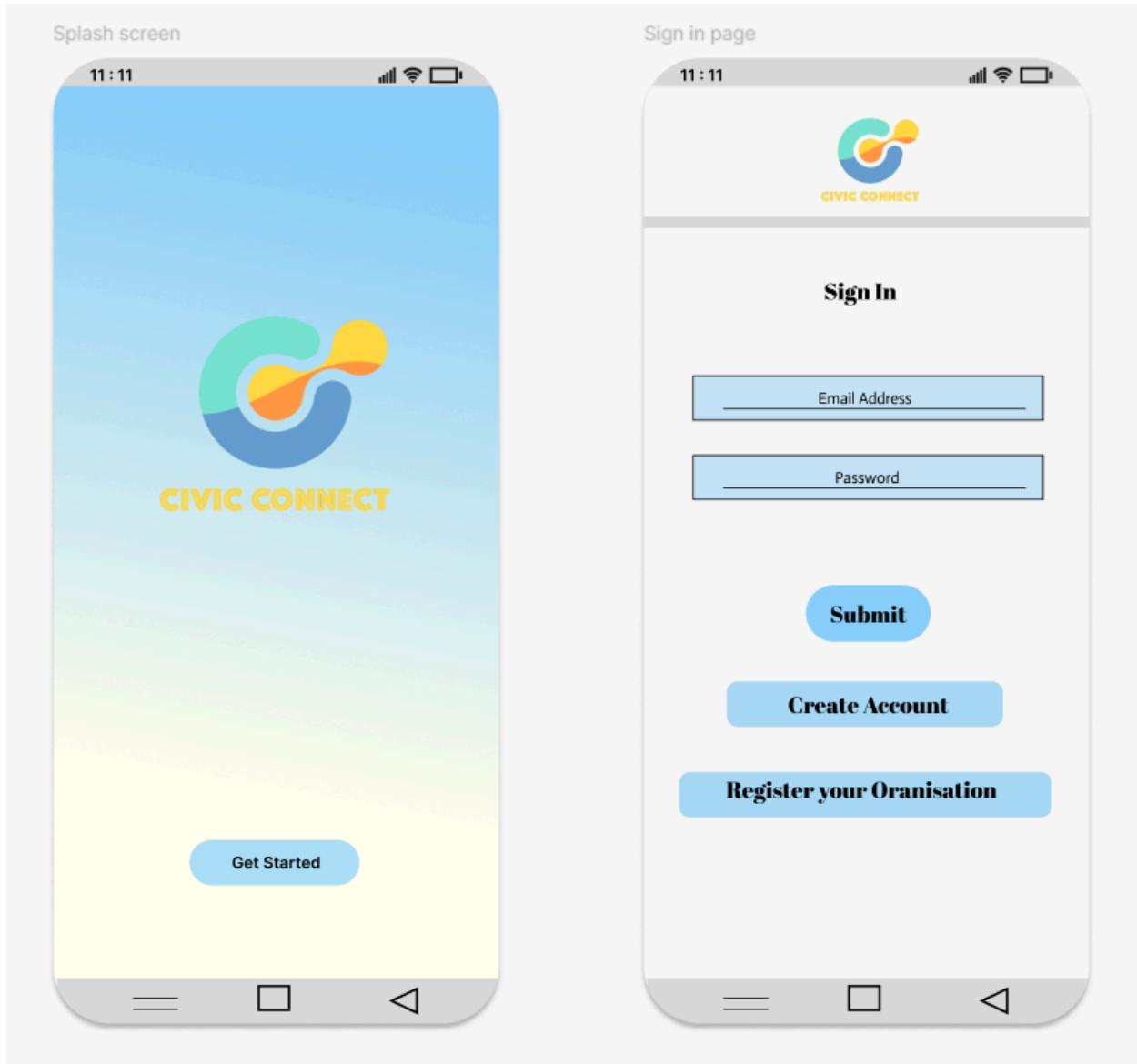
-
- 5. Use Case Name: Endorsing an Issue**
 - Endorse: Data Element
 - 6. Use Case Name: Reporting an Issue Report**
 - Issue= Report + (Comment)
 - Report: Data Element
 - 7. Use Case Name: Providing a Feedback on an Issue**
 - Feedback=[Yes|No]+(Negative Feedback)
 - Negative Feedback= [Unsatisfactory|Delayed|Other] + (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

The logo consists of the words "CIVIC CONNECT" in a bold, sans-serif font. The letters are partially overlaid, with "CIVIC" on top and "CONNECT" below it. The letters are colored in a gradient from light blue to yellow.

DATABASE DESIGN (ERD DIAGRAM)



INTERFACE WIREFRAMING



Sign up page 1

11:11



CIVIC CONNECT

Create Account

First Name

Last Name

Email Address

Continue

Sign up page 2

11:11



CIVIC CONNECT

Create Account

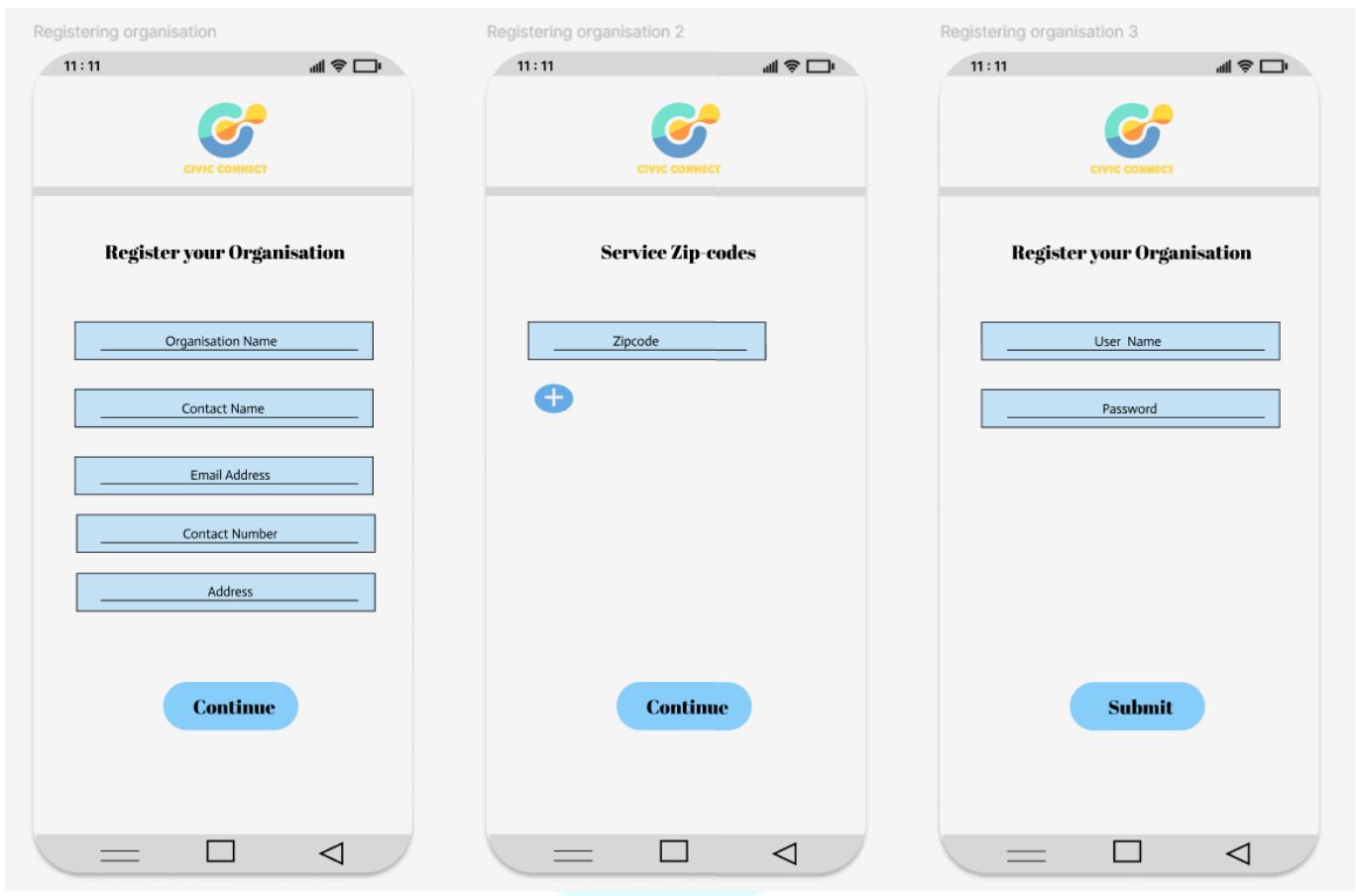
User Name

Password

Connect with Twitter

Connect with Facebook

Submit



The image displays two side-by-side screenshots of a mobile application interface for "Civic Connect".

User homepage (Left Screen):

- Top bar: "User homepage" and time "11:11".
- Header: "Profile" and "Feed".
- Profile icon: A blue person icon.
- Section: "Post Issue".
- List of buttons:
 - Posts
 - Endorsement
 - Reported Issues
 - Tracked Issues
 - Account Setting
 - Help
- Bottom navigation icons: three horizontal bars.

User homepage (Right Screen):

- Top bar: "User homepage" and time "11:11".
- Header: "Profile" and "Feed".
- Section: "Posts" and "Sort by".
- Sort by options:
 - Stats
 - Endorse
 - Report
 - Track
- Image placeholder: A blue square with a white camera icon.
- Text details:
 - Tags : Infrastructure Safety
 - Location : Bhubaneswar, Odisha
 - Endorsed : 33
 - Reported: 3
- List of buttons:
 - Stats
 - Endorse
 - Report
 - Track
- Bottom navigation icons: three horizontal bars.



CONCLUSION

Civic Connect provides a structured, transparent, and interactive way for citizens to report and track civic issues. It bridges the gap between residents and authorities, ensuring faster resolutions and increased civic participation.



CIVIC CONNECT