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Grade 12, 2023

Information Technology

Practical Assessment Task

Phase 1

Table of Contents

Scenario & Scope

Climate change, caused by human activities, is deteriorating the planet. Greenhouse gas emissions have raised global temperatures, extreme weather events have been intensified by climate change disrupting ecosystems and posing a threat to biodiversity. Urgent action is necessary to combat this crisis and safeguard the future of our planet.

It is important that we as a society make an effort towards cleaning our environment but a lot of individuals don’t know where to begin. A majority of people are demotivated into tidying up the environment because of the friction involved in volunteering to cleaning the surrounding. There are a lot of unknown geographical areas that have a sufficient level of pollution even though they’re noticed by people, there is no straightforward way of notifying society of such places so that action can be taken.

The solution, an application that will connect people with the sole aim of eradicating pollution within the community. A hub where environmentally aware people come together to raise awareness on issues causing climate change and being able to come together to tackle them. It will be a centralised platform for those that are passionate about the environment or simply want to lend a helping hand in making their world a better place.

The proposed application will bridge communications with people that would like to partake in eradicating climate change contributors. It will provide a way of collecting data on areas of key interest and the capability to monitor them. This application will lessen the friction phased by those that want to take part in the fight against climate change.

User Requirement

<table>
<tr><th colspan="2">User</th></tr>
<tr><td colspan="2">This type of user is the normal user, individuals that want to use the serivces offered by the application. This user has to be computer literate in order to utilize the application and have a sufficient level of literacy in order to intake and understand the information presented by the application. In order for this user to be able to access this application him/her has to be physically abled or have an assistant that will aid them in using the application.</td></tr>
<tr><td>Capabilities</td><td>Limitations</td></tr>
<tr><td>User Registration: Users can create accounts on the social application by providing their personal information such as name, email, and password
Location Awareness: Users can identify and mark polluted areas on the platform's map interface to raise awareness about environmental issues.
Event and Campaign Creation: Users can create events and campaigns on the platform to organize clean-up activities in polluted areas. They can set the date, time, and location for the event, provide descriptions, and invite other users to participate.
Users can share updates, photos, videos, and other relevant content related to environmental issues. They can post about ongoing campaigns, progress in cleaning activities, and success stories to inspire others and generate further awareness.</td><td>Communication and Language Barriers: Users from diverse backgrounds may face communication and language barriers on the platform. It might limit their ability to effectively coordinate with others or understand content shared by users from different regions or cultural contexts.
Subject to Community Guidelines: Users must adhere to the platform's community guidelines and policies. Violations may result in content removal, temporary or permanent account suspension, limiting their ability to engage and contribute to the platform's environmental initiatives.
Lack of Direct Control: While they can mobilize and participate in cleaning campaigns, they may not have direct authority over the decision-making processes of pollution control measures at on the platform.
Regulatory and Legal Constraints: They must comply with local laws, obtain necessary permissions, and adhere to safety guidelines when organizing clean-up events or addressing pollution issues.</td></tr>
</table>

Admin	
The admin user is the one that will be responsible for maintaining and monitoring activities on the application. This user will ensure that everything runs accoridingly on the application and any anomaly or issue that arises is taken care of. This user will have higher previledges in order to have sufficient control to manage the application. It is necessary that this user has good ethics and values to perform his/her roles in a fair and honest manner.	
Capabilities	Limitations
1. Content Moderation: Admins have the ability to review and moderate user-generated content to ensure compliance with platform guidelines. They can remove or flag inappropriate, offensive, or spammy content to maintain a positive user experience. 2. User Management: Admins can manage user accounts, including user registration, account verification, and handling user requests such as password resets or account deletions. They can also handle user disputes and provide assistance to users when needed. 3. Event and Campaign Management: Admins can oversee and manage events and campaigns organized on the platform. They can verify the legitimacy of campaigns, ensure compliance with platform policies, and provide support to event organizers and participants. 4. Policy Development and Updates: Admins may contribute to the development and refinement of platform policies, guidelines, and terms of service. They can provide valuable insights and suggestions to improve the effectiveness and fairness of these policies.	1. Limited Influence on Platform Development: While admins may have input on platform improvements and feature requests, the actual development and implementation are beyond their control. They must work within the existing platform framework and rely on platform developers and management for updates and enhancements. 2. Limited Control Over User Behavior: Despite efforts to enforce guidelines and promote positive interactions, admins have limited control over users' behavior and actions outside the platform. Users may engage in inappropriate activities or discussions outside the platform's purview, which can impact the platform's reputation or effectiveness. 3. Privacy and Data Protection: Admins must handle user data responsibly, adhering to privacy laws and regulations. They need to ensure the security and confidentiality of user information while also complying with user requests regarding data management and privacy settings. 4. Multilingual Challenges: Admins may encounter language barriers when moderating content or communicating with users from diverse linguistic backgrounds. Handling reports or understanding the context of discussions in different

	languages can pose challenges and require additional resources or language support.

Database Design

Tables & Field Details

User

User

Field Name	Data Type
FirstName	Short Text
LastName	Short Text
Username	Short Text
Gender	Short Text
Disability	Short Text
DateOfBirth	Date/Time
EmailAddress	Short Text
PhysicalAddress	Short Text
PhoneNumber	Number
Password	Short Text
UserType	Short Text

Fields

- FirstName

General Lookup

Field Size	125
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- LastName

General Lookup

Field Size	125
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- Username

General Lookup

Field Size	125
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	Yes (No Duplicates)
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- Gender
- Disability

General Lookup

Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

Field Size	1
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- DateOfBirth

General Lookup

Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Indexed	No
IME Mode	No Control
IME Sentence Mode	None
Text Align	General
Show Date Picker	For dates

- EmailAddress

General Lookup

Field Size	255
Format	
Input Mask	Password
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	Yes (No Duplicates)
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- PhysicalAddress

General Lookup

Field Size	125
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- PhoneNumber

General Lookup

Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	Yes
Indexed	Yes (No Duplicates)
Text Align	General

- Password

General Lookup

Field Size	255
Format	
Input Mask	Password
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- UserType

General | Lookup

Field Size	4
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

Hotspot

Hotspot

Field Name	Data Type
ID	AutoNumber
User	Number
PhysicalAddress	Short Text
PollutionTypes	Short Text
SeverityLevel	Short Text
Timestamp	Date/Time
IsActive	Yes/No

Fields

- User

General | Lookup

Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Indexed	No
Text Align	General

- PhysicalAddress

General | Lookup

Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- PollutionTypes

General | Lookup

Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- SeverityLevels

General | Lookup

Field Size	4
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- Timestamp

General | Lookup

Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Indexed	No
IME Mode	No Control
IME Sentence Mode	None
Text Align	General
Show Date Picker	For dates

- IsActive

General | Lookup

Format	Yes/No
Caption	
Default Value	No
Validation Rule	
Validation Text	
Indexed	No
Text Align	General

Campaign

Campaign

Field Name	Data Type
ID	AutoNumber
User	Number
Ttile	Short Text
Timestamp	Date/Time
CampaigningDate	Date/Time
Hotspot	Number
Atendees	Number
IsActive	Yes/No

Fields

- User

General | Lookup

Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Indexed	No
Text Align	General

- Title

General | Lookup

Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Text Align	General

- Timestamp

General | Lookup

Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Indexed	No
IME Mode	No Control
IME Sentence Mode	None
Text Align	General
Show Date Picker	For dates

- CampaigningDate

General | Lookup

Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Indexed	No
IME Mode	No Control
IME Sentence Mode	None
Text Align	General
Show Date Picker	For dates

- Hotspot

General | Lookup

Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	Yes
Indexed	No
Text Align	General

- Atendees
- IsActive

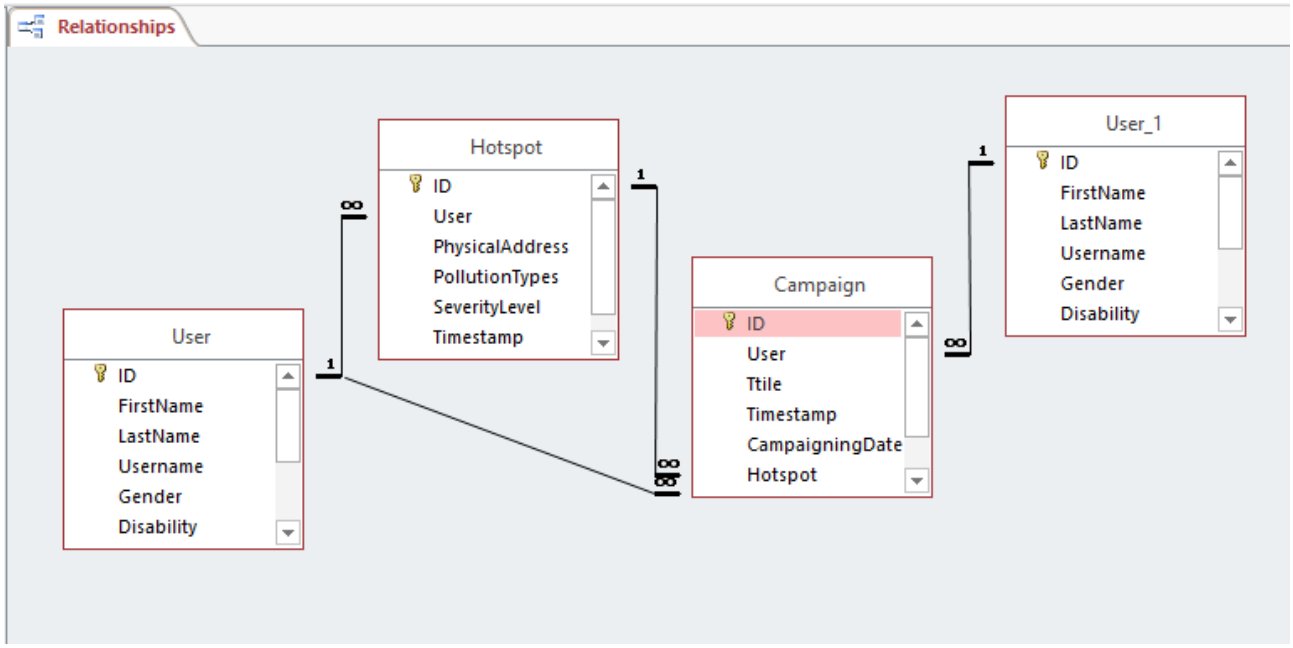
General | Lookup

Format	Yes/No
Caption	
Default Value	No
Validation Rule	
Validation Text	

General | Lookup

Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Indexed	No
Text Align	General

Relationships



Hotspot To User

- User

General Lookup

Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [User].[ID], [User].[FirstName], [User].[LastName], [User].[Username] FROM [User] ORDER BY [ID], [FirstName], [LastName], [Username];
Bound Column	1
Column Count	4
Column Heads	No
Column Widths	0cm;2.54cm;2.54cm;2.54cm
List Rows	16
List Width	7.619cm
Limit To List	Yes
Allow Multiple Values	No
Allow Value List Edits	Yes
List Items Edit Form	
Show Only Row Source V	No

Campaign To User

- User

General Lookup

Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [User].[ID], [User].[FirstName], [User].[LastName], [User].[Username] FROM [User] ORDER BY [ID], [FirstName], [LastName], [Username];
Bound Column	1
Column Count	4
Column Heads	No
Column Widths	0cm;2.54cm;2.54cm;2.54cm
List Rows	16
List Width	7.619cm
Limit To List	Yes
Allow Multiple Values	No
Allow Value List Edits	Yes
List Items Edit Form	
Show Only Row Source V	No

- Attendees

General Lookup

Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [User].[ID], [User].[FirstName], [User].[LastName], [User].[Username], [User].[Gender]
Bound Column	1
Column Count	5
Column Heads	No
Column Widths	0cm;2.54cm;2.54cm;2.54cm;2.54cm
List Rows	16
List Width	10.159cm
Limit To List	Yes
Allow Multiple Values	Yes
Allow Value List Edits	Yes
List Items Edit Form	
Show Only Row Source V	No

Campaign To Hotspot

- Hotspot

General Lookup

Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [Hotspot].[ID], [Hotspot].[PhysicalAddress], [Hotspot].[PollutionTypes], [Hotspot].[SeverityLevel], [Hotspot].[IsActive] FROM Hotspot ORDE
Bound Column	1
Column Count	5
Column Heads	No
Column Widths	0cm;2.54cm;2.54cm;2.54cm;2.54cm
List Rows	16
List Width	10.159cm
Limit To List	Yes
Allow Multiple Values	No
Allow Value List Edits	Yes
List Items Edit Form	
Show Only Row Source V	No

Data Dictionary

Classes and Objects

Classes and objects play a significant role in the application when it comes to managing user-related functionalities and data. The use of classes allows for the creation of a "User" class, which serves as a blueprint for creating user objects with specific attributes and behaviors. The User class can encapsulate essential user information such as username, email, password, and profile details.

By utilizing the User class, the application can organize and manage user-related operations more effectively. Each user object represents an individual user within the system, enabling personalized interactions and tracking of their activities. User objects can be instantiated and manipulated throughout the application, facilitating seamless user authentication, profile management, and personalized experiences. The User class can also handle authentication and authorization mechanisms, ensuring secure access to specific features and data based on user roles and permissions.

Furthermore, the use of classes and objects allows for code reusability and scalability. The User class can be extended or customized to accommodate additional user-related functionalities or attributes as the application evolves. For example, subclasses can be created to represent different user roles, such as "Admin" with their specific behaviors and privileges. This modular approach simplifies the management of user-related operations and promotes maintainability, as changes or updates to user-related functionality can be applied uniformly across all user objects.

The application of classes and objects in relation to the user enhances the organization, extensibility, and maintainability of the system. By utilizing the User class, the application can manage user-related data, behaviors, and permissions effectively. This promotes code reusability, scalability, and maintainability, enabling the application to provide a personalized and secure user experience while accommodating future enhancements or modifications.

User

TUser
- fName : string - fSurname : string - fUsername : string - fGender : character - fDisability : string - fDateOfBirth : date - fEmailAddress : string - fPhysicalAddress : string - fPhoneNumber : integer - fPassword : string
+ Create(sName, sSurname, sUsername, sDisability, sEmailAddress, sPhysicalAddress, sPassword : string; cGender : character; iPhoneNumber : integer; dtDateOfBirth : date) + GetName : string + GetSurname : string + GetUsername : string

+ GetGender : character
+ GetGenderReadable : string
+ GetDisability : string
+ GetEmailAddress : string
+ GetPhysicalAddress : string
+ GetPhoneNumber : integer;
+ IsDisabled : boolean
+ ToString : string
+ FullNames : string
+ Authenticate(sEmail, sPassword : string) : boolean
+ SetName(sName : string)
+ SetSurname(sSurname : string)
+ SetUsername(sUsername : string)
+ SetGender(cGender : character)
+ SetDisability(sDisability : string)
+ SetEmailAddress(sEmailAddress : string)
+ SetPhysicalAddress(sPhysicalAddress : string)
+ SetPhoneNumber(iPhoneNumber : integer)
+ SetPassword(sPassword : string)

TUser Method Types		
Accessors	**Mutator**	**Auxilary**
GetName	SetName	ToString
GetSurname	SetSurname	FullNames
GetUsername	SetUsername	IsDisabled
GetGender	SetGender	Authenticate
GetDisability	SetDisability	
GetEmailAddress	SetEmailAddress	
GetPhysicalAddress	SetPhysicalAddress	
GetPhoneNumber	SetPhoneNumber	

Text files

The use of text files is a convenient and versatile way to output data and information for both users and admins in the application. Text files offer a standardized format that can be easily generated and interpreted by various systems and applications, making them accessible to a wide range of users.

For users, text files serve as a means to export and download their personal data or activity logs from the application. For example, users may have the option to export their pollution reports, event participation history, or campaign contributions as a text file. This allows users to have a local copy of their data, enabling them to analyze, share, or archive their information as needed.

For admins, text files can be useful for generating reports, analytics, or summaries of user activities and platform statistics. Admins can extract data from the application's database, process it, and output the results as text files. These files can contain insights on pollution

trends, event participation rates, campaign impact, or any other relevant metrics. Admins can then use these text files for internal analysis, share them with stakeholders, or import them into other systems for further processing. Text files provide a structured and portable format that facilitates data exchange and integration with other tools or software used by admins.

Overall, the use of text files as an output mechanism in the application provides flexibility, portability, and interoperability for both users and admins. It allows for the easy transfer of data and information, empowering users to have control over their own data and enabling admins to leverage the data for analysis and decision-making purposes.

Arrays

The use of 1D and 2D arrays in the application brings several benefits and enhance its effectiveness. Arrays provide a structured and efficient way to store and manage data, allowing for easier access, manipulation, and processing of information.

1D arrays are used to store and organize data related to user profiles, pollution reports, events, and campaign details. For example, a 1D array can be used to store the usernames or emails of users participating in a specific event or campaign. This simplifies the process of retrieving and managing participant information, facilitating coordination and communication. Additionally, 1D arrays can be utilized to store and retrieve data related to pollution reports, such as the type of pollution, severity, and impact. This enables efficient searching, filtering, and analysis of pollution data, helping to identify patterns and trends.

2D arrays are particularly useful when dealing with tabular or grid-like data structures. They can be employed to represent the map grid, where each element of the array corresponds to a specific location on the map. This allows for the efficient storage and retrieval of information related to polluted areas, events, and campaign locations. For instance, a 2D array can store the status or type of pollution for each grid cell on the map, making it easier to visualize and analyze pollution hotspots. The use of 2D arrays simplifies the mapping and navigation within the application, enhancing user experience and facilitating effective decision-making.

Overall, the use of 1D and 2D arrays in the application improves data organization, retrieval, and processing. By leveraging the power of arrays, the application can handle large datasets, perform complex calculations, and facilitate seamless interactions between users and the platform, ultimately contributing to a more beneficial and effective user experience.

Navigation

1st Screen

Login screen with a login form

Home screen with buttons to login or register.

Registration screen with a registration form

An appropriate dashboard depending on the type of the account that is logged in

A user's dashboard with access to the following actions
- Creating and updating hotspots and campaigns
- View & interact with recent campaigns and hotsposts created by other people

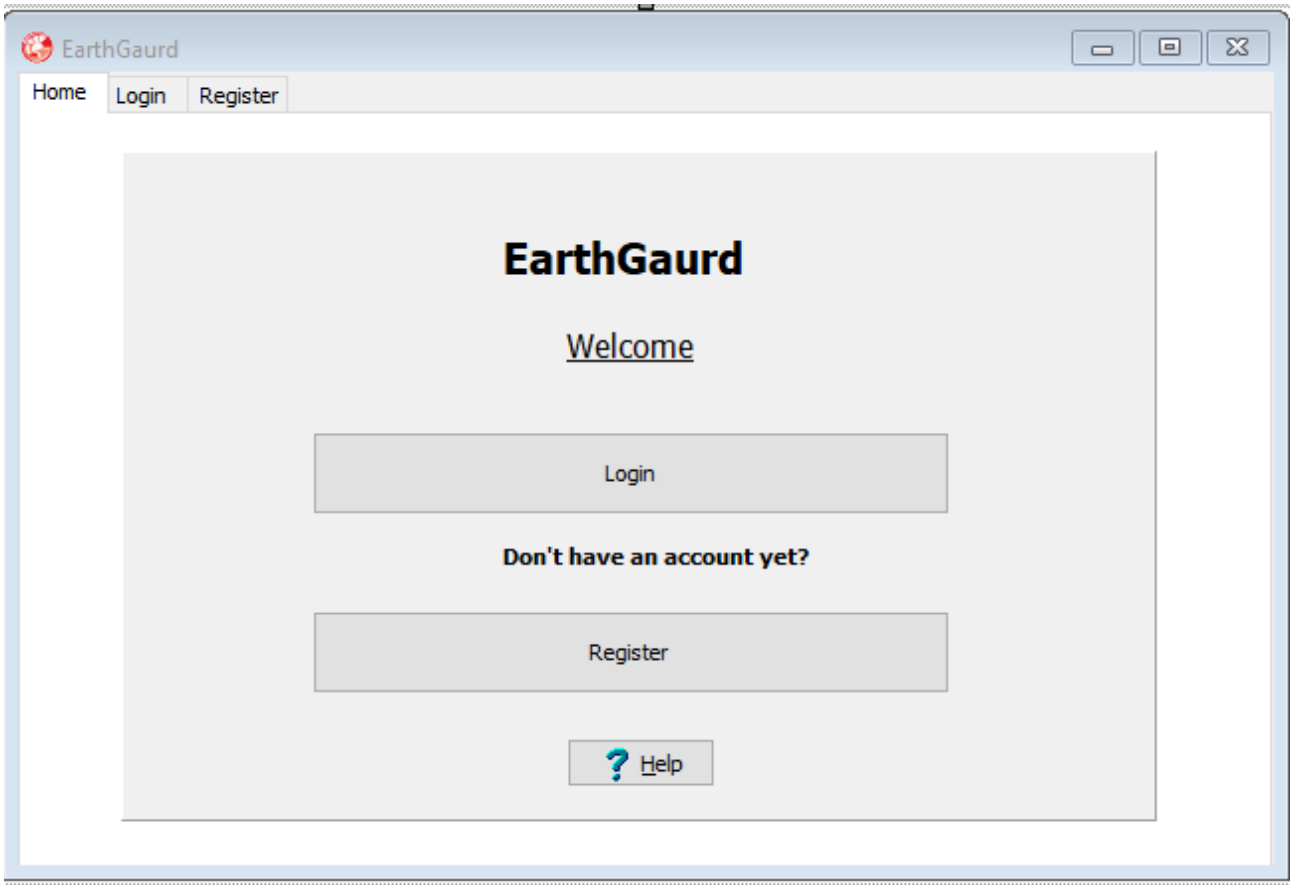
<u>Settings</u>
The user can do the following
- View his/her profile details
- Update his/her profile details
- Extract his/her profile data via an export to a text file
- Delete the user account

An admin's dashboard with access to the following actions
- View & interact with recent campaigns and hotsposts created by other people
- Manage campaigns and hotspots
- Extract data and information from campaigns and hotspots

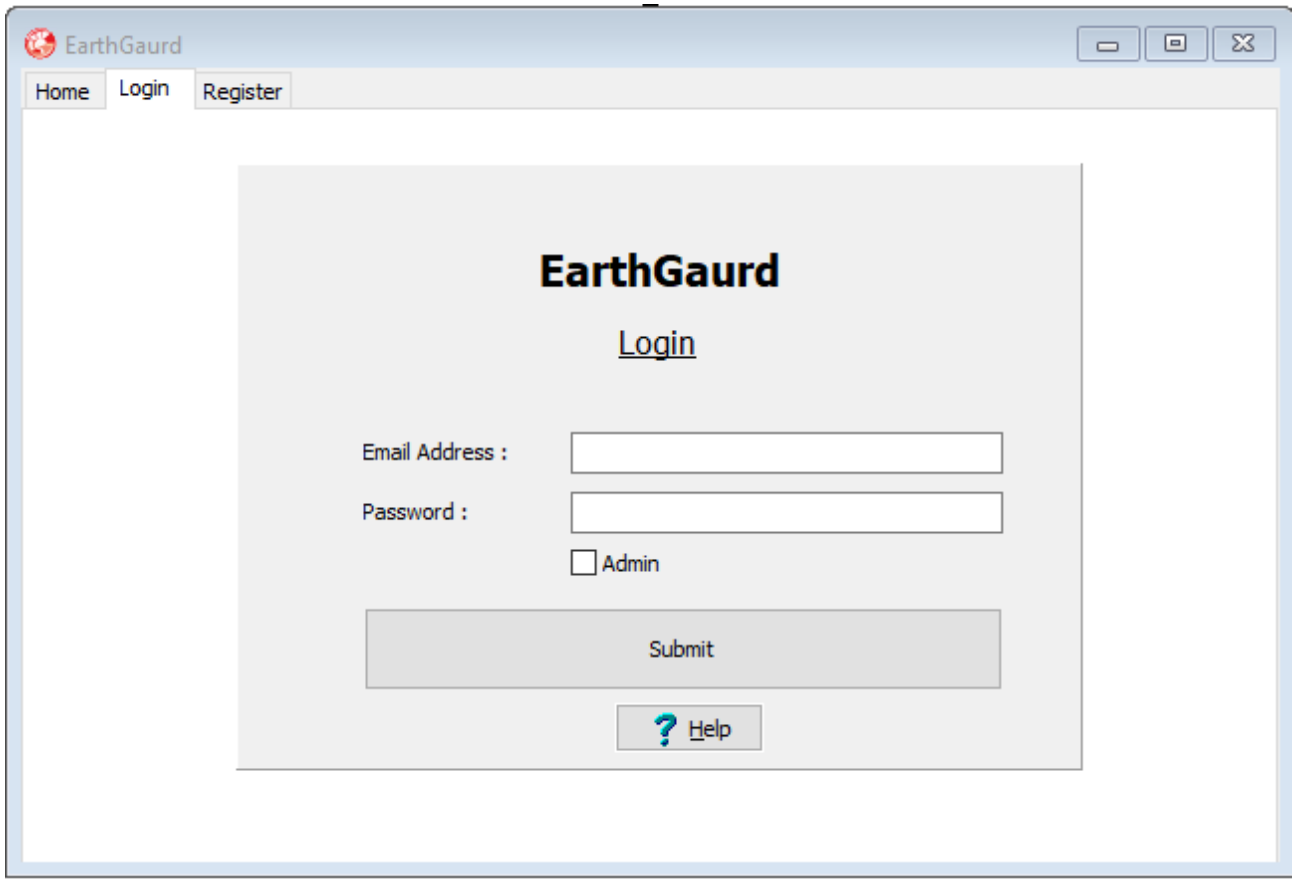
<u>Settings</u>
The user can do the following
- View his/her profile details
- Update his/her profile details
- Extract application data via an export to a text file
- Delete the admin account

Graphical User Interface Design

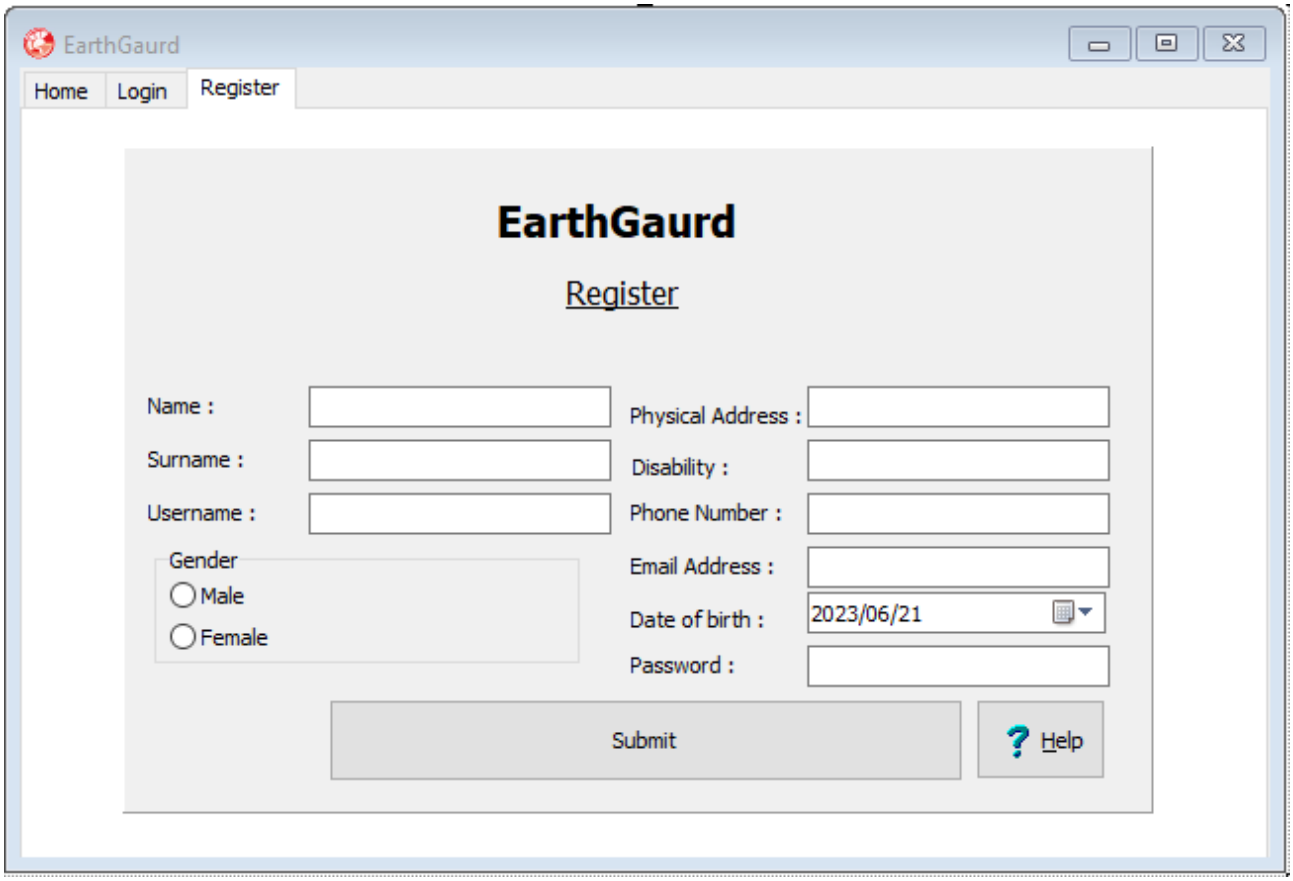
Home Screen



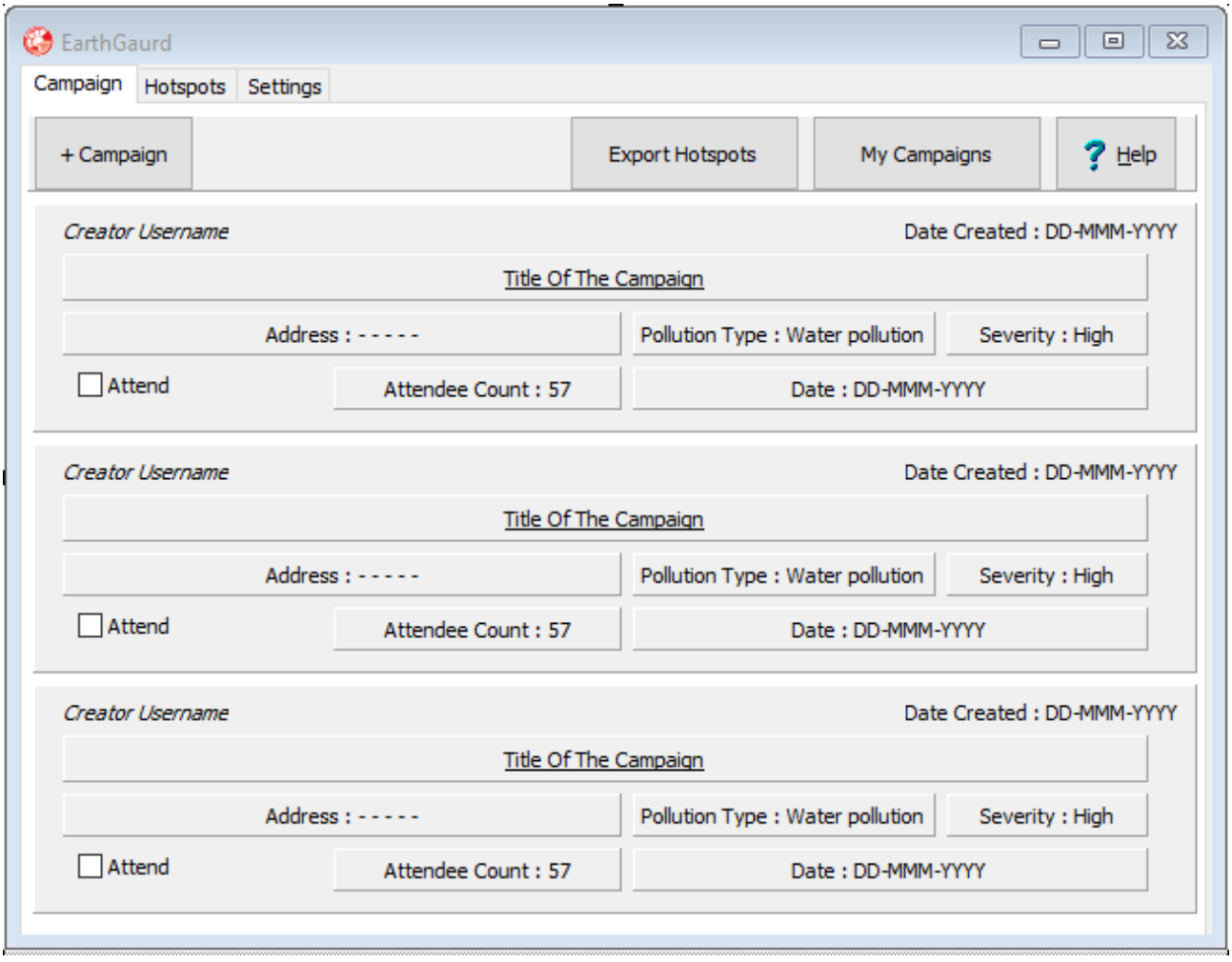
Login Screen



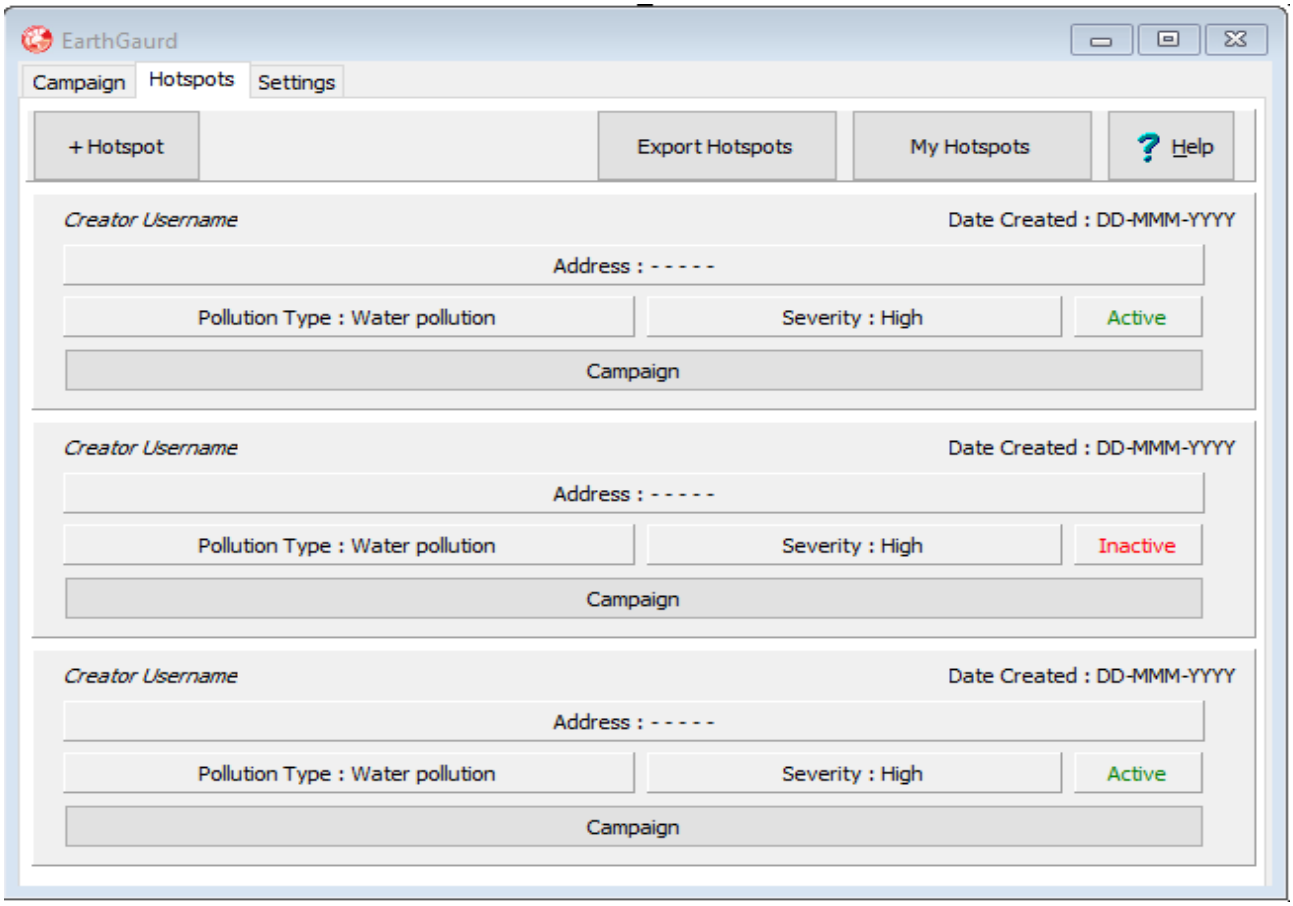
Registration Screen



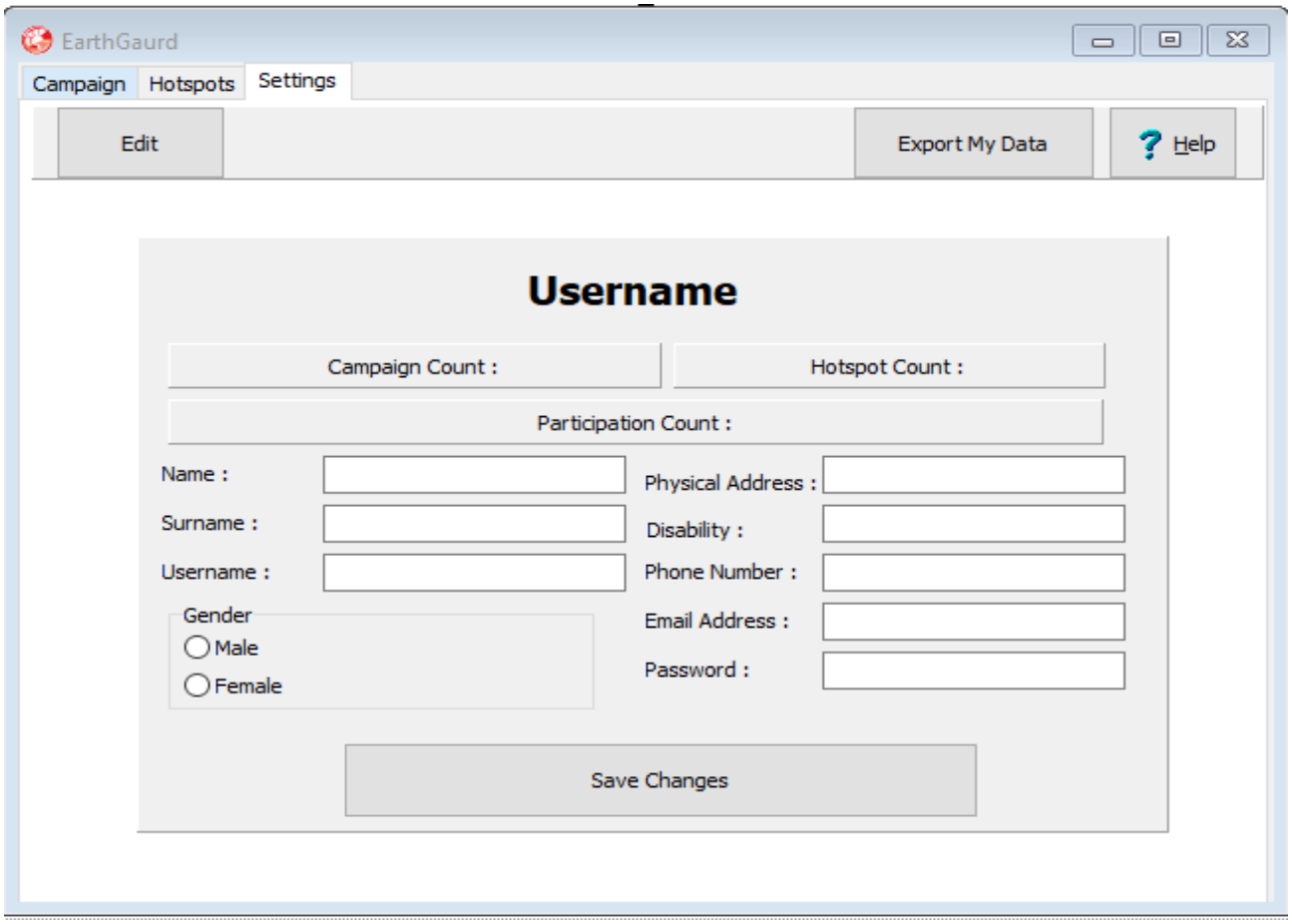
Campaigns Screen



Hotspots Screen



Settings Screen



Input, Processing & Output

Input

Interface 1 : Pollution Reporting via Hotspots

Input	Source	Data type	Format
User	Database	Integer	
Physical address	Keyboard via an edit box	String	<province> <suburb/township> <town/village>
Pollution types	Keyboard via a combo box	String	LAN/AIR/WAT/NOS
Severity level	Keyboard via a group box	String	LOW/MID/HIG
Timestamp	System	Date	DD-MM-YYYY

Data Validation

Input	Validation	Error Message
User	Check the current authenticated user and use his/her account ID	Instruct the user to login and redirect them to the login screen
Physical address	Ensure that the edit box is populated and the length of the title is greater than 2 characters	Tell the user to enter an address that is more than 2 characters long.
Pollution types	Ensure that at least one pollution type has been selected and is a valid option from the available choices	Tell the user to select at least one type from the provided options
Severity level	Ensure that a severity level has been selected and is a valid option from the available choices	Tell the user to select one level from the provided options

Interface 2 : Campaign

Input	Source	Data type	Format
User	Database	Integer	
Title	Keyboard via an edit box	String	No format
Campaigning date	Keyboard via a date selector	Date	DD-MM-YYYY
Hotspot	Keyboard via a combo box	Integer	No format

Attendees	Other users opting to attend via a checkbox	Integer	No format

Data Validation

Input	Validation	Error Message
User	Check the current authenticated user and use his/her account ID	Instruct the user to login and redirect them to the login screen
Title	Ensure that the edit box is populated and the length of the title is greater than 3 characters	Request the user to enter a title that is greater than 3 characters in length
Campaigning date	Ensure that a future date is selected	Request the user to provide a date that is in the future
Hotspot	Check for its presence and ensure that the selected hotspot exists	Request the user to select one of the available hotspots from the provided list
Attendees	Make sure that the attendee exist.	Request the attendee to create a user account on the platform.

Processing

Process	Mechanism
User registration	The application will provide a user registration interface where users can input their personal information such as name, email, and password. The input data will be validated to ensure it meets the required format and that all mandatory fields are filled. Upon successful input and validation, the user data will be stored in the user table of the database, creating a new user account.
Campaign creation	The application will offer a form or input fields where users can input data related to pollution hotspots. This may include severity levels, pollution types, and physical addresses. The input data will be validated to ensure the required fields are filled and that the severity levels and pollution types are within predefined ranges or options. The validated data will then be stored in the hotspot table of the database, associating it with the corresponding user who reported it.

User authentication	The application will present a login interface where users can input their login credentials, such as username/email and password. The input data will be validated to ensure it matches the records in the user table of the database. If the input data is valid, the user will be granted access to their account and authenticated for subsequent interactions with the application.
Campaign participation	The process of user participation on the platform involves users joining existing campaigns. Users can search for campaigns based on location or pollution type and input campaign IDs to join. The platform provides an interface for users to track their participation and contribute to the campaign's goals. User actions and progress are recorded and updated in the database, allowing for effective collaboration and collective efforts towards cleaning polluted areas.
User profile management	The application will offer a user profile interface where users can input and update their profile information. This may include contact details, preferences, and profile pictures. The input data will be validated to ensure it meets the required format and constraints. The updated user profile data will be stored in the user table of the database, reflecting the changes made by the user.
Campaign progress tracking	The application will provide a campaign tracking feature where users and administrators can input campaign IDs or names to retrieve information about the progress of specific campaigns. The input data will be used to query the database, fetching relevant campaign data such as the number of participants, actions taken, and goals achieved. The retrieved data will be displayed in a user-friendly format, allowing users and administrators to track and monitor campaign progress.
Data export	The application will offer an export functionality where users and administrators can input criteria such as date ranges, pollution types, or campaign IDs to specify the data they want to export. The input data will be used to filter and retrieve the

	selected data from the database. The exported data will be generated in text file format and made available for download or further analysis outside the application.
Hotspot mapping	The application will integrate mapping functionalities, such as Google Maps API, to allow users to input physical addresses or coordinates of pollution hotspots. The input data will be used to plot markers or pins on the map, visually representing the hotspots. The map display will be updated dynamically as users input new hotspot data, providing a visual overview of pollution distribution.

Output

Interface 1 : Campaign

Output	Format	Component
User	<user's name> <user's surname> <user's username>	A label
Title	It will be bolded and centred	A panel
Timestamp	DD-MMM-YYYY	A label
Campaigning date	DD-MMM-YYYY	A panel
Hotspot	<hotspot's physical address> <pollution type> <severity level>	A panel
Attendees	<attendee's username>	A string grid
Is active	Active / Inactive	A label

Interface 1 : User

Output	Format	Component
User's names	<user's name> <user's surname> <user's username>	A label
Gender	Male/Female	A panel
Email address	No format	A panel
Disability	No format	A label
Date of birth	DD-MMM-YYYY	A panel

Phone number	+27 <phone number>	A panel