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Implementations of WaSH Location Finder

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ABSTRACT

Public sanitation, as a health menace, is one of the most critical inconsistencies faced by the nation in today's time finding these fundamentals in a local area can be quite difficult as majority of people are unaware of their location & also they are not made available on any navigation application and/or tool.

According to a UN study on how to improve sanitation worldwide, more people have access to mobile phone than to a toilet.In this paper, an attempt is been made to provide a tool (WaSH services) that will assistance in finding the basic sanitation services according to closeness of our location for effective and timely assistance.

WaSH services encompassed of three provinces Drinking Water Index (DWI), Public Washroom Index (PWI) and Garbage disposal Index (GDI). Every index containing the information of the WaSH service, their location and route from your current location.

Keywords: *GDI, WaSH Services, DWI*

1. INTRODUCTION

Hygiene, sanitation and cleanliness are the aspects that remain unattended and cause major health risks. **WaSH** "Water, Sanitation and Hygiene" – are indispensable for good health and well-being. It includes several consistent public health issues that are of particular interest to international development programs. Reasonable access to WaSH is a key public health issue, especially in developing countries.

WaSH is a web application with a heavy mobile compatibility. Nowadays, mobile phones have become universal in the developing world. Mobile phones are increasingly being used as cost-effective tools for collecting data and distributing information. In the past decade, water and sanitation consultants have begun deploying mobile phones as tools to improve **water, sanitation, and hygiene (WaSH) services**. The WaSH includes transitional information about accessibility, ease and portability of the aforesaid in a geographical area.

1.2.PROPOSED SYSTEM

WaSH, web application, contains the information of washrooms, garbage disposal/dump yards, and drinking water booths in different tabs which the user can access as required. Along with the complete information it will help you in finding the nearest one. It is a fast and simple garbage washrooms, disposal/dump yards, and drinking water booths finder. The database of tens of hundreds of public toilets, dump yards, and drinking water booths is retrieved via internet for fast and access. Search for a location on the map and it will show the user the nearest service. Tap on the map to get directions provided by Google Maps. Or if user is only concerned with the existence of service in an area, they can tap the directions button and it will give directions to the closest service. The dynamic nature of the database allows it to keep making updates such as adding or modifying existing data.

Moreover, the user will have an access to upcoming news updates about WaSH sector and improvements

that are constantly established in this sector on national and international scale.

2. LITERATURE REVIEW

After researching for apps that deliver the similar or identical functions as our proposed system, we found the following:

"WeTap" WeTap app uses the crowd-sourced record of drinking water sources, to map new ones, and to report any broken fountains so they can be fixed and put into service. This app is made for public water fountains to be conserved, exenterated, made even more expansively obtainable and we need to be vocal in combating the fashion to eradicate overpriced bottled water. Instead of observing for a convenience store for a bottle of water, one can look for some free water. And if cities are seeing that their drinking fountains are being listed in a database, it might be an inducement to clean them up and make them function properly to avoid uneasiness.

"Toilet" Toilet app helps trace a toilet nearest to one's current locality as well as allows users to rate the quality and upkeep of public toilets in Delhi.
The app gives location and information on 1,000 toilets in Delhi, which is about 80% of the total toilets in the national capital. People can also add toilets through the app. This mobile app uses GPS to find nearby publicly accessible toilets.

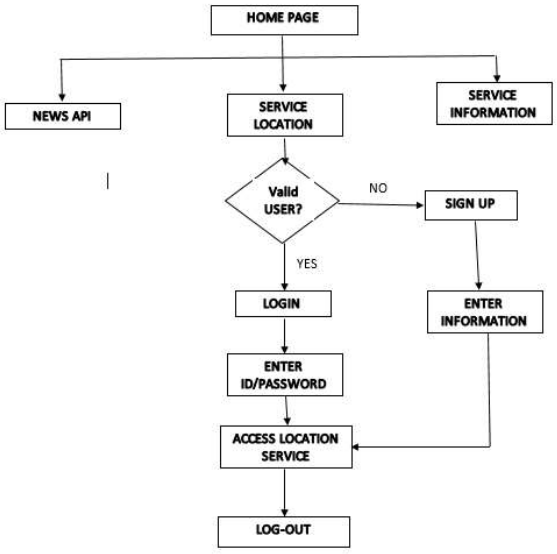
"**Trash"** A map-based application that helps detect trash bins in the purlieu. Bins can be located within 1km, 2km or 5km radius from the user. All users can add the bins to the app's database. The goal of the app is to organize locations of all trash bins in one's neighbourhood, inspiring civilizations to use them instead of chucking junk everywhere.

We found that the above apps lag behind in following scenarios, such as the app provides only the information of only one service, information is not updated; it does not provide the path from our nearest location, no suitable reviewing facility, and no the functioning or information is limited to a very small locality.

In this context, the strategic focus will be to design or identify, and rigorously test innovative micro- and medium-scale solutions to the problem of inadequate awareness to WaSH.

3. FLOW DIAGRAM

The flowchart displays the flow control of **WaSH** application. On entering the url of WaSh service, the first page showed the Homepage, that contains the Login and sign-in module. After Login the services Include modules demonstrating the News API, service Location and service information. News API display the news related to WaSh sector. On entering the targeted area where the services are required, the service location module will be activated and the location of requested services will be displayed on the google map. Along with providing the location, our application will also make information of the services available simultaneously with the map. When the user demand for any facility, the process initiate. It starts from the user's current location. It checks whether the requesting user is valid or not. if the user has not earlier signup it shows an invalid user, it request the user for signed up, it asks for the user name, ID and password, the user then search for the service in the search bar, by providing valid ID and Password, if it is valid it jumps for login ID and Password, by using the service the user can log out.



4. MODULES IN THE SYSTEM:

- Dataset Creation
- Search Location
- Add a location
- Rate/Review
- News API

4.1 Dataset Creation:

Data base creation which stores the review and the location information for the rating and user view for that location. Generating the user interface module; this will allow connection with the database and login for module verification.

4.2 Search Location:

This module of WaSH Services helps locate a washroom, drinking water booth or garbage dumps adjacent to one's current location as well as allows user to view all services in their locality.
This web application uses GPS to find nearby publicly reachable toilets. Once the nearest service is located and selected; the app will then provide the shortest route to exact location of the selected Service. The goal of the app is to collate locations of all WaSH services in one's locality, inspiring people to use them.

4.3 Add a location:

Users can rapidly add or modify information about public drinking washrooms, water booths and garbage disposals right from their smartphones, uploading the location with few information like type of service, landmark etc. On verification from the database administrator the location will be added to the application database.

4.4 Rate/Review:

People can write a review on current facilities available at the toilets. That is, people can prompt their thoughts, complaint or ideas for a better review of the service along whit the condition, the quality of service, and even adding a comment or a photo.
A rating module is added where the user will have to rate the service based upon the cleanliness, situation and quality of the service.

4.5 NEWS API:

This module is a simple HTTP rest-API for searching and regaining live news articles and updates relating to WaSH Sector from all over the web. The portion of this module will be the left side of the main page of our application.

5. IMPLEMENTATION DETAILS

Following are the screenshots extracted from the running application from the web host server. This includes screenshots of all the modules that were discussed earlier.

Fig 1.1: Welcome Page

On the left side of the welcome page is a simple slideshow that will reflect the basis fundamentals of WaSH and the images are updated after a certain period of time. If you are not a registered user, a message will pop up to create an account first.

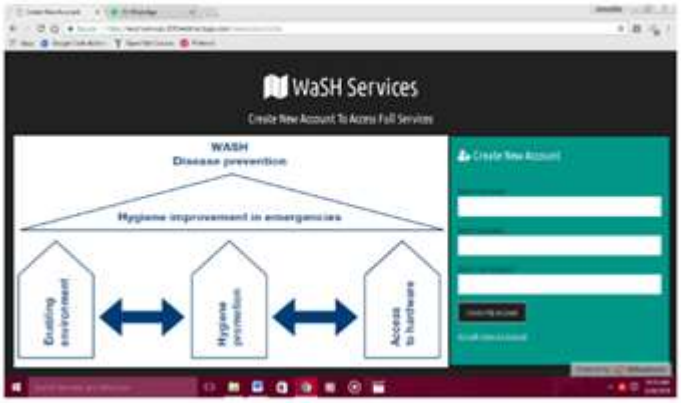


Fig 1.2. Sign-In Page

If a user is new, they can create their account to access full service and to rate and review any service they chose. For creation of a new account, only email address, name and a password is required. This information is stored in the server's database.

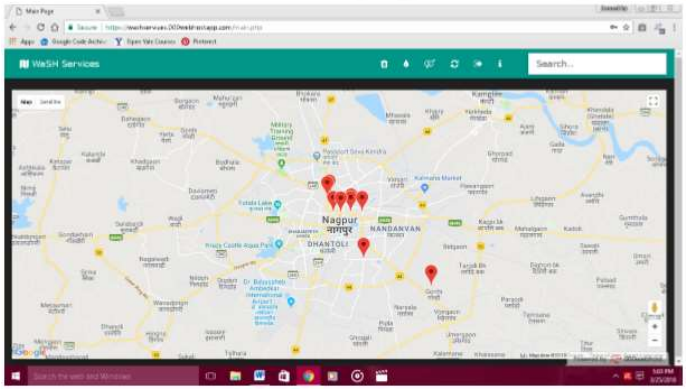


Fig 1.3. Home Page

After logging in or signing in, the home page will be displayed. This page will show the map embedded with Google.

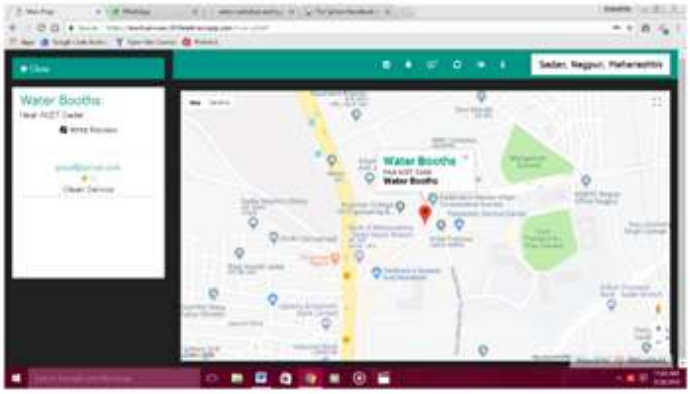


Fig 1.4. Locating a Service

After selecting a location, click on the tab for the service you are interested in. Service closer to the user will be displayed.

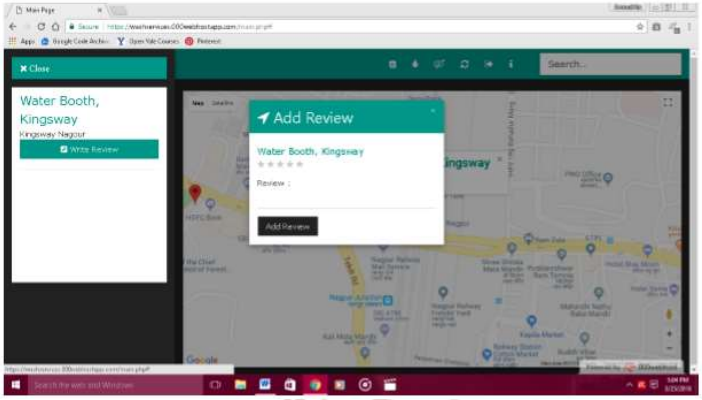


Fig 1.5. Locating a Service

After the service is located, reviews of the service are shown on the left side of the screen. You can close the review tab if you want to by clicking on the close button.

6. CONCLUSION

From the various research issues and challenges the conclusion is:
The ease of access that the user gets makes the tool more user-friendly. Aids in succeeding our nation to a better future while reducing access barriers to basic civic services.Inspires people to be a part of "*Swachcha Bharata Abhiyana*."

Provide updated information in the Google maps for more efficient access to information. Analysis of the water and sanitary information can help to identify regions and communities with greater needs and thereby help to design more pro- interventions.

Further enhancements can be added to these system, because the features of this application is very attractive and it is useful than the present one. The speed of the transactions is achieved.

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