**A MINI-PROJECT REPORT**

**ON**

**“JAL SANKET”**

***Submitted to***

**Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur**

***in partial fulfillment of the requirement for the degree of***

***BACHELOR OF TECHNOLOGY***

***in***

***Computer Science & Engineering***

**Submitted By**

|  |  |  |  |
| --- | --- | --- | --- |
| Atharva Shrikhande | Aashish  Tawale | SakshiNimje | Kinjal  Tiwari |
| CSE/RN/65 | CSE/RN/68 | CSE/RN/16 | CSE/RN/26 |
| 255814 | 255817 | 255765 | 255775 |

**under the Guidance of**

***Dr. D. J. Chaudhary***

****

**Department of Computer Science & Engineering**

**Government College of Engineering**

**Nagpur – 441108 (M. S.)**

**2023-2024**

***Certificate***

***This is to certify that the mini-project entitled***

**“Jal Sanket” *Is a bonafide work and it is submitted to the***

***Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.***

***By***

|  |  |  |  |
| --- | --- | --- | --- |
| Atharva Shrikhande | Aashish  Tawale | SakshiNimje | Kinjal  Tiwari |
| CSE/RN/65 | CSE/RN/68 | CSE/RN/16 | CSE/RN/26 |
| 255814 | 255817 | 255765 | 255775 |

***For the partial fulfillment of the requirement for the degree of***

***Bachelor of Technology in Computer Science & Engineering, during***

***the academic year 2023-2024.***

******

***Dr. D. J. Chaudhary Dr. Latest Bhagat***

***Project Guide Head of CSE Dept.***

**Department of Computer Science & Engineering.**

**Government College of Engineering,**

**Nagpur – 441108 (M. S.)**

**2023-2024**

**ACKNOWLEDGMENT**

It gives me immense pleasure in submitting the mini-project report on

**“Jal Sanket”**

to my guide **Dr. D. J. Chaudhary**, and Head of Department **Dr. Latesh Gagan Malik,** Computer Science & Engineering Department, who was a constant source of guidance and inspiration through the seminar work.

I am also very thankful to all staff members of the Computer Science & Engineering department; whose encouragement and suggestions help me to complete the Mini-Project work.

I also express my sincere gratitude to our respected Principal **Dr. Rewatkumar Pithuji Borkar** for providing us necessary facilities.

At last, I am thankful to my friend whose encouragement and constant inspiration helped me to complete this seminar work verbally and theoretically.

Mr./ Miss Name(s) of Student

(Third Year B.E.)

Computer Science & Engineering

Government College of Engg., Nagpur

**ABSTRACT**

*The increasing frequency and severity of water-related issues such as floods, leaks, breaks, and water contamination, pose significant challenges to communities nationwide. There is a lack of centralized and user-friendly platform dedicated to reporting such incidents efficiently, mainly due of lack of accurate, real-time information. Enlisting their help for crowdsourcing water-related problems is a formula for success.*

*The Jal Sanket App crowdsources and categories water-related problems at different administration and serves as a valuable tool for planning and managing water-related problems. The exact location of the affected areas is displayed on the map which could be accessed by the government or other NGOs to resolve the problems. The data is analyzed and synthesized to track the location of crisis region.*

*Data collected from this platform holds immense potential as a foundational resource for future city planning towards enhancement of drainage systems and infrastructural developments and strategizing sustainable water management practices.*

1. **INTRODUCTION**

Urban flooding is a common across the world. It is estimated that the overall annual cost of floods in Asia alone runs upwards of USD 15 billion. As a result of continuous heavy rains, the city streets get flooded, especially when the planned drainage capacity is insufficient or it has been damaged. The drainage capacity could have been damaged or blocked due to some vegetation growth or due to some construction work leading to improper dumping of debris, etc. Storms, mudslides, etc. could also cause damage to the drainage system. In some cities adjacent to rivers, flooding, could also be due to the swollen river. Coastal cities could also experiences flooding due to storm surges.

In all these cases, when the flooding occurs, the authorities may not have timely and accurate information and updates on the nature and extent of flooding at various locations, the amount of damage to life and property, the rescue and relief needs of people, volunteer help available, etc. They will have to rely on the feedback from the victims. This results in substantial delays in the estimation of damages and the allocation and dispatch of relevant relief and rescue efforts to the affected citizens. It could in turn cause added suffering and result in additional losses to life, health and property.

Smart phones are ubiquitous in today’s world especially in the urban areas. Many people possess more than one smart phone. Use of smart phone apps for various tasks has become a way of life. The behavior presents a unique opportunity to unleash the power of these smart phones and their usage patterns towards solving the problems associated with urban flood management is done today. If the citizens of a metro can be motivated to get involved in crowdsourcing initiatives to help the authorities or other relief agencies in flood management. The citizens need to realize that they are actually helping themselves by participating in crowdsourcing. When this realization dawns, they will want to help spontaneously without the need for any incentives. The participation of citizens in crowdsourcing will enable real-time updates on flooding and will ensure timely delivery of appropriate rescue and relief supplies to the victims. It will encourage citizens to participate in the relief efforts by donating their time and money towards it.

The Jal Sanket app aims to crowdsource water-related problems such as floods, leaks, breaks, and contamination of water, from around a community, open-source data, etc. and display all these sources on the map. The app is expected to categorize water-related problems at different administrations and should serve as a valuable tool for planning and managing water-related problems. The exact location of the affected areas plotted on the map could be accessed by the government or the other NGOs to resolve the problems. The app will address the inherent problems in conventional urban flood management with the help of citizens. In addition to the citizens as end users, the app-suite provides detailed, relevant and up-to-date information to the relief and rescue providers. The main focus should be on creating a platform that provide key access to crucial information about issues related to floods and water management which involves developing a user interface that provides quick data collecting, simple and information sharing in real time.

1. **LITERATURE SURVEY**
2. **ANALYSIS**

Requirements Gathering sessions are conducted to understand the functionalities required in the app. The collected requirements are carefully analyzed to prioritize features essential for addressing water-related issues efficiently.

* 1. **EXISTING SYSTEMS AND DRAWBACKS**

While systems for addressing similar issues exists, they often lack real-time status updates.