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**1. INTRODUCTION**

**1.1 Purpose:**

In the metropolitan cities due to insincerity of some workers the garbage deposits remain unattended leading to pollution in the residential areas. The Municipal Corporation wants to develop a software which would monitor whether the garbage deposits are filled or not and if filled would immediately attend it to clean the respective deposit.

**1.2 Addressing the Need:**

To address the problem certain steps can be followed:

1. A sensor can be placed at each garbage deposits which would detect whether the garbage deposits are filled or not.
2. All the sensors shall be inter-connected through a common server which would be monitored by the administrator.
3. As soon as one of the garbage deposits has been filled the sensor would send signal to the server by which the administrator would be informed about the status of the deposits.
4. An Application can be developed which would update the status of each garbage deposits that would connect the administrator with the garbage collectors so that they can take the necessary actions.
5. After the garbage has been collected by the workers they would update the status of the particular garbage deposits which would be ensured by the administrator about the completion of the work thus solving the problem.

**1.3 Prospective User :**

The prospective users would mainly include:

1. The Administrator
2. The Garbage collectors
3. **The Administrator:** The admin would monitor whether the workers are working sincerely and whether the garbage deposits are cleared properly and in a regular interval.
4. **The Garbage Collectors:** The garbage collectors on receiving information from the administrator would take the necessary steps and after completion of their work would inform the administrator who then would take the necessary steps.

**1.4 Issues and Challenges:**

We need to develop the app as a part of this software to send notifications. We should make sure that sensors and this app is working perfectly or not.

**2. Planning and Scheduling of the work:**

|  |  |  |
| --- | --- | --- |
| **Week Number** | **Date** | **Planning** |
| Week 1 | 08.02.2019 | Development of SRS Document for the project |
| Week 2 |  |  |
| Week 3 |  |  |
| Week 4 |  |  |
| Week 5 |  |  |
| Week 6 |  |  |
| Week 7 |  |  |
| Week 8 |  |  |
| Week 9 |  |  |

**3. Specific Requirements:**

**3.1. Functional Requirements:**

It covers the main functions that should be provided by the system. When expressed as *user* requirement, they are usually described in an abstract way.

1. **Sensors in Garbage Deposits**: The sensors in garbage would send digital signals to the administrator once the garbage deposits are filled or emptied.

| **Input** | **Output** |
| --- | --- |
| Weights of garbage dumped | Digital Signal   1. 1-if filled 2. 0-if not filled |

1. **Administrator notifying the Workers:** The administrator on receiving information from the servers would send an SMS or some notification to the workers who on receiving the message would act accordingly.

| **Input** | **Output** |
| --- | --- |
| Digital signal on server as send from the garbage pit | Send notification to the workers to take necessary actions. |

1. **Workers informing to the administrator:**  The workers on completion of work would send the information to the administrator and simultaneously the sensor attached there would send information to the server. The administrator on matching 3both the records would update the same on the application and thus the corresponding work would be completed.

| **Person** | **Input** | **Output** |
| --- | --- | --- |
| **Workers** | Notification about which garbage is filled | Attend the garbage pit to clean it and after completion send the information to the administrator. |
| **Administrator** | 1. Info about cleaning status from the workers. 2. Sensors giving info to the server about the status of the corresponding garbage pit. | Update the status of the garbage pit on the application. |

**3.2. Non-Functional Requirements:**

Non-Functional Requirements describe how the system works. They serve as the constraints or restrictions on design of the system.

* 1. **Accessibility:** This software should be accessible only to the workers and the administrator. Updating the status of the garbage pit should be accessible only to the administrator.
  2. **Reliability:** Even after using it for a sufficiently long time, it should work accurately, else the man hours and the amount of money spent will be in vain.
  3. **Response Time:** Once the garbage pit is full, sensors should send digital signal to the main server as soon as possible. Also, the notifications sent by the administrators to the workers and by the workers to the administrator should reach immediately. And the status of the garbage pit should be modified as soon as the administrator changes it.
  4. **Extensibility:** This software and the corresponding application should be developed by taking future growth into consideration. It should be developed in such a way that it should be easy to modify the existing functional requirement and also to add the new functional requirement if at all required.

**4.Technology:**

**4.1 Software Requirement:**

**1. JAVA:**

Since we are developing an application, Java language is sufficient.

**4.2 Hardware Requirement:**

**1. PC:**

At the Administrator side for the server with built in Operating System.

**2.Smart Phone:**

At the workers side, with at least 1 GB RAM.

**5.Publicizing:**

Since this software is developed for the Municipal Corporation and not for the public/people, publicizing is not necessary. But for making the Government to implement it, we would explain the advantages of this software like how we can make hygienic and ecofriendly streets and colonies in an easy manner and with the less resources with the help of this software.