**Food Waste Management Application**

High Level Design & Low Level Design

**Document Control :**

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| **Food Waste Management Application** | | | | | | | | |
| Guided by-  **Mr. Biswa P Das** |  |  | |  |  |  |  |  |
| **Date** | **Version** | **Author** | **Brief Description of Changes** | | | | **Approver Signature** | |
| October 20-2022 | 1.0 | Devi Mounika Pitchika,  Batta Prathiba Chowdary,  Bale Manohitha,  Gajula Harshitha,  Meduri Thanuja. |  | | | |  | |

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# Introduction

**1 Purpose:**

The purpose of this project is to show the requirements for the Food Waste Management application, in which either NGO request the hotel/restaurant or the hotel/restaurant requests the NGO for the left-over food which is to be supplied for the needy.

**1.1 Intended Audience:**

This document is intended to be read by, NGO and hotel/restaurant and admin.

**1.2 Project Purpose:**

The purpose of this project is to show the requirements for the Food Waste Management application, in which either NGO request the hotel/restaurant or the hotel/restaurant requests the NGO for the left-over food which is to be supplied for the needy.

**1.3 Key Project Objectives:**

1. Allows NGO and hotel/restaurant to register.
2. NGO’s requests hotels/restaurants.
3. Hotels/Restaurants requests NGO’s.
4. File Maintenance by admin.
5. Admin check and reports the data.

**1.4 Scope:**

This project aims to create the development of food waste management application. This reduces restaurant food wastage by giving left-over food to NGO’s. NGO’s will raise a request, in case of any left-over food restaurants have. This request is sent to the restaurant manager of that particular restaurant. The NGO Manager then approves the request and assigns it to one of the NGO employees for takeaway and forwards the request to the restaurant. The left-over food at the restaurant can be given to NGO’s at the end of the day. The admin can track the history of restaurants and NGO’s for the left-over food.

* 1. **Functional Overview:**

**1.5.1: NGO:**

**1.5.1.1:FW\_01->NGO\_Registration:** This feature allows to add a new NGO record.It

asks for the NGO registration id, name of NGO, number of beneficiaries,established

year, office address and the telephone number.

**1.5.1.2:FW\_02->NGO\_Edit:** This feature allows the NGO to edit basic

details.

**1.5.1.3:FW\_03->NGO\_View:** This feature displays the details of NGO.

## 1.5.2:Hotel:

**1.5.2.1:FW\_04->Hotel\_Registration**: This feature allows to add the new Hotel/

restaurant record . It asks for the hotel / restaurant registration id, name,

address and contact details.

**1.5.2.2:FW\_05->Hotel\_Edit:** This feature allows the hotel / restaurants

to edit the basic datails.

**1.5.2.3:FW\_06>Hotel\_View:** This feature displays the details of hotel / restaurants.

## 1.5.3: Admin:

**1.5.3.1:NGO\_Record\_Maintenance:**

**1.5.3.1.1:FW\_07->Admin\_NGO\_ADD:** This feature adds a new NGO record to

the file by admin. It asks for the NGO registration id, name of NGO, number of

beneficiaries, established year, office address and the telephone number.

**1.5.3.1.2:FW\_08->Admin\_NGO\_Edit:** This feature edits the NGO’s record by

admin based on the registration id of the NGO’s, it help to modify the details such

as number of beneficiaries, name, office address and the telephone number.

**1.5.3.1.3:FW\_09->Admin\_NGO\_View:** This feature displays the details of NGO.

**1.5.3.1.4:FW\_10->Admin\_NGO\_Delete:** This feature deletes the details of

NGO based on registration id.

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## 1.5.3.2:Hotel\_Record\_Maintenance:

**1.5.3.2.1:FW\_11->Admin\_Hotel\_ADD:** This feature adds the new Hotel/

restaurant record to the file by admin. It asks for the hotel / restaurant

registration id, Name, address and contact details**.**

**1.5.3.2.2:FW\_12->Admin\_Hotel\_Edit:** This feature edits the details of the hotel/ restaurants like address, name, contact details by admin.

**1.5.3.2.3:FW\_13->Admin\_Hotel\_View:** This feature displays the details of hotel / restaurants.

**1.5.3.2.4:FW\_14->Admin\_Hotel\_Delete**: This feature deletes the details of

hotel/restaurants based on registration id.

**1.5.3.3:FW\_15->Admin\_Report:** This feature will give a report on the number of

requests for a day and display it. Also gives the name of the hotel / restaurants which got

maximum requests.

**1.5.3.4:FW\_16->Admin\_Check:** This feature calls the NGO request function if the

requested hotel can’t provide the food for that NGO.

**1.5.4: Food Request:**

**1.5.4.1:FW\_17->NGO\_Request:** This feature allows the NGO to request the

left-over food from hotel / restaurant. If the request is accepted by the hotel /restaurant

the confirmation slip is generated. If not the request will be forwarded to admin.

**1.5.4.2:FW\_18->Hotel\_Request:** This feature allows the hotel to request the

NGO to collect the left-over food.

**1.5.4.2.1:FW\_19->Yes:** This feature gives confirmation regarding Hotel is ready to

supply food.

**1.5.4.2.2:FW\_20->No:** This feature gives confirmation that Hotel cannot supply food.

So choose alternative hotel.

**1.5.5:File Handling:**

**1.5.5.1:NGO File Handling:**

**1.5.5.1.1:FW\_21->NGO\_to \_list:** This feature allows to write NGO records to the list.

**1.5.5.1.2:FW\_22->list\_to\_NGO:** This feature allows to read NGO records from the list.

**1.5.5.2:Hotel File Handling:**

**1.5.5.2.1:FW\_23->Hotel\_to\_list:** This feature allows to write Hotel records to the list.

**1.5.5.2.2:FW\_24->list\_to\_Hotel:** This feature allows to read Hotel records from the list.

**2. Design Overview:**

Food Waste Management comprises of the following modules:

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| --- | --- |
| Name of the Module | NGO Registration |
| Handled by | Bale Manohitha |
| Description | This feature allows the NGO to add a new record. It asks for the NGO registration id, name of NGO, number of beneficiaries, established year, office address and the telephone number |

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| Name of the Module | NGO edit |
| Handled by | Batta Prathiba Chowdary |
| Description | This feature allows the NGO to edit basic details. |

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| Name of the Module | NGO View |
| Handled by | Thanuja Meduri |
| Description | This feature displays the details of NGO. |

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| Name of the Module | NGO Request |
| Handled by | Gajula Harshitha |
| Description | This feature allows the NGO to request the left-over food from the hotel / restaurant. If the request is accepted by the hotel / restaurant the conformation slip is generated. If not the request will be forwarded to admin. |

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| Name of the Module | Hotel Registration |
| Handled by | Devi Mounika Pitchika |
| Description | This feature allows the hotel to add the hotel/restaurant record. It asks for the hotel/restaurant registration id, name,  address and contact details. |

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| --- | --- |
| Name of the Module | Hotel Edit |
| Handled by | Thanuja Meduri |
| Description | This feature allows the hotel to edit the basic details. |

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| --- | --- |
| Name of the Module | Hotel Request |
| Handled by | Bale Manohitha |
| Description | This feature allows the hotel to request NGO’s to collectthe left-over food. |

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| --- | --- |
| Name of the Module | Yes |
| Handled by | Gajula Harshitha |
| Description | This feature gives confirmation regarding Hotel is ready to supply food. |

|  |  |
| --- | --- |
| Name of the Module | No |
| Handled by | Gajula Harshitha |
| Description | This feature gives confirmation that Hotel cannot supply food.So choose alternative hotel. |

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| Name of the Module | Hotel view |
| Handled by | Batta Prathiba Chowdary |
| Description | This feature displays the details of hotel / restaurants. |

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| Name of the Module | NGO Add |
| Handled by | Devi Mounika Pitchika |
| Description | This feature adds a new NGO record to  the file by admin. It asks for the NGO registration id, name of NGO, number of  beneficiaries, established year, office address and the telephone number. |

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| --- | --- |
| Name of the Module | NGO Edit |
| Handled by | Gajula Harshitha |
| Description | This feature edits the NGO’s record by admin,  based on the registration id of the NGO’s, it help to modify the details such as number of beneficiaries, name, office address and the telephone number. |

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| --- | --- |
| Name of the Module | NGO Delete |
| Handled by | Batta Prathiba Chowdary |
| Description | This feature deletes the details of NGO  based on registration id. |

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| --- | --- |
| Name of the Module | NGO View |
| Handled by | Devi Mounika Pitchika |
| Description | This feature displays the details of NGO. |

|  |  |
| --- | --- |
| Name of the Module | Hotel Add |
| Handled by | Gajula Harshitha |
| Description | This feature adds the new hotel/restaurant record to the file by admin. It asks for the hotel/restaurant registration id, name, address and contact details. |

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| --- | --- |
| Name of the Module | Hotel Edit |
| Handled by | Bale Manohitha |
| Description | This feature edits the details of the hotel/  restaurants like address, name, contact details by admin. |

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| --- | --- |
| Name of the Module | Hotel Delete |
| Handled by | Thanuja Meduri |
| Description | This feature deletes the details of hotel/  restaurants based on registration id. |

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| --- | --- |
| Name of the Module | Hotel View |
| Handled by | Bale Manohitha |
| Description | This feature displays the details of hotel/ restaurants. |

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| --- | --- |
| Name of the Module | Admin Check |
| Handled by | Thanuja Meduri |
| Description | This feature checks for the requests made for a  particular day by an NGO and if the requested hotel can’t provide the food for that NGO  then he can assign an alternative hotel/ restaurants to the NGO. |

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| Name of the Module | Admin Report |
| Handled by | Gajula Harshitha |
| Description | This feature will give a report on the number  of requests for a day and display it. Also gives  the name of the hotel / restaurants which got  maximum requests. |

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| --- | --- |
| Name of the Module | NGO to list |
| Handled by | Bale Manohitha |
| Description | This feature allows to write NGO records to the list. |

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| --- | --- |
| Name of the Module | List to NGO |
| Handled by | Batta Prathiba Chowdary |
| Description | This feature allows to write NGO records to the list. |

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| --- | --- |
| Name of the Module | Hotel to list |
| Handled by | Devi Mounika Pitchika |
| Description | This feature allows to write Hotel records to the  list. |

|  |  |
| --- | --- |
| Name of the Module | List to Hotel |
| Handled by | Thanuja Meduri |
| Description | This feature allows to write Hotel records to the  list. |

**2.1 Design Objectives:**

Food Waste Management Application communicates among NGO’s, Hotels and admin for the supply of left-over food to the needy.

This reduces restaurant food wastage by giving leftover food to NGO’s. NGO’s will raise a request, in case of any leftover food restaurants have. This request is sent to the restaurant manager of that particular restaurant. The NGO Manager then approves the request and assigns it to one of the NGO employees for takeaway and forwards the request to the restaurant. The leftover food at the restaurant can be given to NGO’s at the end of the day. The admin can track the history of restaurants and NGO’s for the leftover food.

**2.2Error Detection / Exceptional Handling:**

If the NGO’s or the Hotels wants to register with the existed user ID then it displays “User already Exists”. If the NGO’s or Hotels wants to add or edit the details of each other it displays “Permission Denied”.

**2.3 Performance:**

The system will work on the admin terminal. The performance depends on the hardware component of the admin’s system.

**2.4 Maintenance:**

Very little maintenance should be required for this setup. An initial configuration will be the only system required interaction after system is put together. The only other user maintenance would be any changes to settings after setup, and any specified special cases where user settings or history need to be changed. Physical maintenance on the system’s parts may be required, and would result in temporary loss of data or Internet. Upgrades of hardware and software should have little effect on this project but may result in downtime.

**3.Environment Description:**

**3.1 Time Zone Support:** IST- Kolkata

**3.2 Language Support:** English

**3.3 User Desktop Requirements:**

a. 64-bit processor, 1 GHz or faster

b. At least 2 GB free hard drive space

c. At least 1 GB RAM

**3.4 Server-Side Requirements:**

a. 64-bit processor, 1 GHz or faster

b. At least 1 GB free hard drive space

c. At least 1GB RAM

**3.4.1 Deployment Considerations:**

a. Easy setup: no session storage daemon, use tmpfs and memory

caching to enhance performance.

b. Local storage is used.

c. No network latency to consider.

d. To scale buys a bigger CPU, more memory, larger hard drive, or

additional hardware.

**3.4.2 Application Server Disk Space:**

No such disk space is required as the program is fully functional on

online IDE(s) as well. The Local Operating System is required and

one text file to store the records of processes.

**3.4.3 Database Server Disk Space:**

No such disk space is required as the program is fully functional on

online IDE(s) as well. The Local Operating System is required and

one text file to store the records of processes.

**3.4.4 Integration Requirements:**

1. Language: C

2. Tools: Splint , Valgrind

3. Complier: gcc

4. Linux Environment

**3.4.5 Jobs:**

We can establish connections between clients who are connected to the server. And we can search the chat history of the clients.

**3.4.6 Network:** End to End

**3.5 Configuration:**

**3.5.1: Operating System**: Linux environment