**TY. B. Tech.**

**CS 3001: Software Engineering Laboratory**

Assignment No: 1

**eMandai – Intelligent Pocket Builder**

**Project Statement of Work**

***1 March 2019***

***Version 1.0***

|  |  |  |  |
| --- | --- | --- | --- |
| Project Group Information | | | |
| Roll. No. | **Gr. No.** | **Name** | **Roles** |
| 35 | **161074** | **Param Ekbote** | **Leader** |
| 42 | **161438** | **Pankaj Umbarkar** | **DB / PHP** |
| 64 | **161166** | **Bharat Karamchandani** | **Python** |

**Approved By: Prof. Dr. Mahesh R. Dube**

**Academic Year: 2018-19 Semester: II**

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# TITLE

**eMandai - Intelligent Pocket Builder** is a website provides statistical analysis services to the grocery store owner, where not only it directly connects to the customer but also gets a proper analysis of its stock and predictions for the future need from the canteen and mess owners requirements. Also it provides a platform to the customer where he/she can buy all the necessary ingredients for a particular recipe on a single click.

# BACKGROUND

Looking from a customer’s point of view, making a particular recipe requires shopping of the ingredients. It’s tedious when we have to roam different shops for different ingredients. Our website provides convenient buying of required ingredients on a single click on the customers door step. It connects all the grocery stores in a particular area.

The mandate of the grocery stores is to provide all the required things to the customers (individuals or canteen owners).

* 1. This product can be used by grocery stores, canteen owners and also common people.
  2. The money that grocery stores and canteen owners put into buying the groceries needs to be properly used.
  3. They need to make sure that neither the money nor the stock gets wasted at the end of the day.
  4. The canteen owners gather their daily sales and use up of the groceries, send it to the grocery store stating their requirements.
  5. The grocery store analyses the needs according to the data from the canteen owners and the customers he is receiving daily and buys the predicted stock from the wholesaler.
  6. This website would help the grocery store and the canteen owners to properly organize their demand and supply, increase their income and reduce the wastage of daily groceries (Vegetables, fruits etc.).

# OBJECTIVE

The objective of this request for proposal is to develop a tool in order to assist both consumer and the seller of goods. Consumer will be provided a tool in which all necessary ingredients for a recipe are added into cart just by a single click on recipes option been provided, with a freedom of shortlisting the ingredients which they actually want to buy. The grocery store owner will sell their goods on website. Depending upon the sells being made by grocery store owner, predictions will be made for future stock request that would be made. In addition to this, canteen and mess owner are also considered as consumer of the goods being sold.

1. We look forward to develop a system which will target to be an interface between the consumer and seller of ingredients.
2. The 11th hour plan of consumers would be handled swiftly by the assistance of the system. By collecting the number of sells being by a grocery store owner.
3. They will be provided information in order to prepare themselves and make appropriate decisions.
4. The system will be open source. It’s users would be categorized into grocery store owner, consumer, mess/canteen owner.
5. There would be multiple accounts in each domain. Depending upon the user type particular features will be provided.
6. The system will be able to predict the stock requirement for the store owners for their future sell.

# DEFINITIONS AND APPLICABLE DOCUMENTS

**Customer:**

In [sales](https://en.wikipedia.org/wiki/Sales), [commerce](https://en.wikipedia.org/wiki/Commerce) and [economics](https://en.wikipedia.org/wiki/Economics), a **customer** (sometimes known as a [**client**](https://en.wiktionary.org/wiki/client), [**buyer**](https://en.wikipedia.org/wiki/Buyer), or [**purchaser**](https://en.wikipedia.org/wiki/Purchasing)) is the recipient of a [good](https://en.wikipedia.org/wiki/Good_(economics)), [service](https://en.wikipedia.org/wiki/Service_(economics)), [product](https://en.wikipedia.org/wiki/Product_(business)) or an [idea](https://en.wikipedia.org/wiki/Intellectual_property) - obtained from a [seller](https://en.wikipedia.org/wiki/Seller), [vendor](https://en.wikipedia.org/wiki/Vendor), or [supplier](https://en.wikipedia.org/wiki/Distribution_(business)) via a [financial transaction](https://en.wikipedia.org/wiki/Financial_transaction) or [exchange](https://en.wikipedia.org/wiki/Exchange_(economics)) for [money](https://en.wikipedia.org/wiki/Money) or some other valuable [consideration](https://en.wikipedia.org/wiki/Consideration).

**Vendor:**

In a [supply chain](https://en.wikipedia.org/wiki/Supply_chain), a vendor, or a seller, is an enterprise that contributes goods or services. Generally, a supply chain vendor manufactures inventory/stock items and sells them to the next link in the chain. Today, these terms refer to a supplier of any good or service.

**Store:**

A convenience store, convenience shop, or corner store is a small [retail](https://en.wikipedia.org/wiki/Retail) business that stocks a range of everyday items such as [groceries](https://en.wikipedia.org/wiki/Groceries), [snack foods](https://en.wikipedia.org/wiki/Snack_foods), [confectionery](https://en.wikipedia.org/wiki/Confectionery), [soft drinks](https://en.wikipedia.org/wiki/Soft_drinks), [tobacco](https://en.wikipedia.org/wiki/Tobacco) products, [over-the-counter drugs](https://en.wikipedia.org/wiki/Over-the-counter_drug), [toiletries](https://en.wikipedia.org/wiki/Toiletries), [newspapers](https://en.wikipedia.org/wiki/Newspaper), and [magazines](https://en.wikipedia.org/wiki/Magazine). In some jurisdictions, convenience stores are licensed to sell [alcohol](https://en.wikipedia.org/wiki/Alcoholic_drinks), typically [beer](https://en.wikipedia.org/wiki/Beer) and [wine](https://en.wikipedia.org/wiki/Wine).

**Prediction:**

A prediction , or [forecast](https://en.wikipedia.org/wiki/Forecasting), is a statement about a future [event](https://en.wikipedia.org/wiki/Event_(probability_theory)). A prediction is often, but not always, based upon experience or knowledge. There is no universal agreement about the exact difference between the two terms; different authors and disciplines ascribe different [connotations](https://en.wikipedia.org/wiki/Connotation).

Applicable Documents: Certificate of shop registration from the Municipal Corporation

GST Number

ITR (Income Tax Return)

Shop and Establishment License

A bond between canteen owner and grocery store

# BUSINESS AND/OR TECHNICAL ENVIRONMENT

The system requires the following Business and Technical Environment -

1. The hour of operation will not be dependent as that of the organization. There will be weekly report made and will be given at the reporting time. The team will be working Monday to Friday, 3-4 hours per day.
   * 1. Initially the major focus would be on documentation. As it would be helpful in development of project at its starting phase.
     2. Later on the focus would be shifted on planning and deciding the strategies for the implementation of the project.
     3. Altogether appropriate time utilization would there among all the stages- Documentation, Planning, Execution, Testing and Debugging.
     4. The further work could be completed on weekend as per the team/ member's convenience.
   1. The system will be delivered as a web engineered product. Although the system would not seek for a very high end specification. The system would be developed taking into consideration of audience by which the tool is being used.
      1. An internet connection speed up to 512kbps is adequate.
      2. RAM requirement is up to 4 GB(minimum) for smooth functioning of website.

# DESCRIPTION AND SCOPE OF WORK

The work that is done under “eMandai – Intelligent Pocket Builder” involves multiple steps,

1. Acquiring daily statistics from the canteen owner, about how much of his stock was used up and feeding it to the account of grocery store they are connected to. The number of customers that contacted the grocery store directly for their needs.
2. Data cleaning and formatting according to the needs.
3. Data visualization in order to understand when to buy which stock and in how much quantity.
4. Feature engineering so as to create useful features from the data.
5. Regression analysis
6. Developing a web based front end with three different logins , one for customer, one for canteen owner and one for the grocery store

“eMandai – Intelligent Pocket Builder” will be made for two different purposes. Considering the customer’s point of view, he would be able to get all his ingredients as he orders online. At first the priority would be given to the grocery store that has all the items demanded by the customer in his vicinity. If not available at single grocery store then the distance of the customer from the grocery store and the cost would be considered and he/she will receive all the ingredients from different stores.

Now looking from canteen owner’s point of view, they would everyday make entries of the stock received at the start of the day and how much of the stock is left at the end of the day. They would request a certain amount of groceries from the store and then on the grocery store’s side, the website would give him total amount of stock the store needs to purchase from the wholesaler the next day.

The organization reserves the right to amend the Scope of Work as the situation permits depending on the feasibility and limitations of the scope.

# DELIVERABLES

At start there might be a variation in between initial stage of development and deliverables as the system would grow into a product. But the contract deliverables are the core concepts of the Project and will not change in any case. The changes would only be related with the User Interface.

Following are the deliverables that a team can out lie at this stage of development -

|  |  |
| --- | --- |
| **Month** | **Details** |
| March | Statement of work |
| March | Feature set Document |
| March | System Requirement Specification |
| April | Feasibility Study |
| April | Project Plan |
| April | Product Backlog |
| April | User Story Cards |
| April | System Construction |
| April | Project Review |

# 

# CONTRACTOR RESOURCE REQUIREMENTS AND QUALIFICATIONS

The contractor is bound to provide the website maintenance and customer care. The contractor is not liable to provide delivery system. The deliveries would have to be taken care of by the grocery store itself.

# APPROACH AND METHODOLOGY

The approach to be followed to develop this system is:

1. Designing and making proper documentation and getting the views of the team and organisation by creating appropriate SOW, Feature Set Document and SRS Document.
2. A Feasibility Study is to be performed depending on the features discussed between team and organisation and a Project Plan will be drawn up.
3. The Project will follow the Agile model and all the important steps shall be taken as per Industry standards.
4. A Sprint Execution will be carried out in phases to finish the project in the stipulated time, this will be done with the help of a Sprint Design and Plan.
5. A Software Configuration Management Plan (SCMP) will be presented to ensure
6. consistency of the product's performance, functional, and physical attributes with its requirements, design, and operational information throughout its life.
7. At the end of each sprint, the team will have produced a coded, tested and usable piece of software.
8. The System will be reviewed by the concerned organisation and all the issues will be presented to the team.
9. Upon resolution of these issues a final and formal sign-off will be suggested.

**T.Y. B. Tech.**

**CS 3001: Software Engineering Laboratory**

Assignment No: 2

**eMandai - Intelligent Pocket Builder**

**Project Feature Set Description**

***10 March 2019***

***Version 1.0***

|  |  |  |  |
| --- | --- | --- | --- |
| Project Group Information | | | |
| Roll. No. | **Gr. No.** | **Name** | **Roles** |
| 35 | **161074** | **Param Ekbote** | **Leader** |
| 42 | **161438** | **Pankaj Umbarkar** | **Developer** |
| 64 | **161166** | **Bharat Karamchandani** | **Analyst** |

**Approved By: Dr. Mahesh R. Dube**

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# 1. PROJECT VISION

To swiftly connect every customer to the store from an organized grid of grocery stores and provide means for analysing the grocery requirements.

# 2. PROJECT MISSION

* 1. The ‘eMandai – Intelligent Pocket Builder’ will provide the home delivery service to the customers, of the ingredients required.
  2. To the grocery store owners to organize their purchase/sale of groceries. This service would be available in form of a website.
  3. The project is complete when a customer can buy all the ingredients on a single click and the grocery store owner can successfully predict the precise stock to buy for the next day.
  4. This project would benefit the customer in saving his time and money. Also on the grocery store owner side, it will help him neatly organize his sales and achieve maximum profit.

# 3. PROJECT SCOPE

" eMandai – Intelligent Pocket Builder " will be developed to provide assistance to a consumer in order to connect with shopkeeper nearby. The customer will be provided an option to shortlist ingredients in the cart to purchase, depending on their need. The ingredients required to prepare a recipe are provided at doorstep with fair prices. However the delivery of grocery would be done by the shopkeeper. At the end depending upon the daily sells made by the shopkeeper a stock requirement forecast will be made.

These are the project goals:

1. Collect grocery stores data: The goal is to create a profile for a grocery store. The grocery profile shall include the Name, address, personal mobile number, etc… This information is obtained in this goal. The user will be provided with the store options as per the information user information.
2. Create recipes and ingredients: We will create recipes which include information of ingredients and store the collected information into the database.
3. Process recipes database: Queries will be user initiated and user will get information for their queries. Database includes information of recipes and ingredients according to which queries will be solved and solution is given to users.
4. Analyse the day-to-day sales: Analysis of the sales done to predict the future needs for the grocery store owner.
5. Determine the system accuracy: System accuracy is determined by the grocery store owner.
6. Provides the statistical analysis: A detailed report of the statistical analysis is provided.

# 4. GOALS

1. Collect grocery Stores Data.

2. Create recipes and ingredients.

3. Process recipes database.

4. Analyse the day-to-day sales.

5. Determine the system accuracy.

6. Analyse the prediction.

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| --- | --- | --- |
| **Goal-ID** | **Priority** | **Factors Addressed** |
| **1** | 1 | Collect Grocery Stores Data |
| **Target Audience** | Customers |
| **Driver** | To get current statistics |
| **Description** | Populating the database with data of grocery stores |
| **Response** | To extract data from web scrapping and other sources |
| **Open Issues** | * How to collect live data of stocks? * How to insert that data into system? * What should the system do? * How should traders trade? * How should system work? |

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| **Goal 1 Description:** | | | | |
| **Specific Test** | | | | |
| Is ‘What’ identifiable? | Is the ‘Why’ clear? | Can ‘Who’ be identified? | ‘Where’ will it be performed? | ‘Which’ resources are needed? |
| Collecting data of Grocery Stores | To populate the whole database for future analyzing | The analyzing model will use this data | Mobile Devices, Portable Devices, Computers. | Web scraping and simple data entry or using prepared data set |

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| --- | --- | --- |
| **Goal 1 Description:** | | |
| **Measurable** Test | | |
| Is the end result quantifiable? | ‘Figure’ of Measurement | Has the goal a clear end date/point? |
| It will be a database of enough grocery stores to make good predictions | It can be measured on the basis of how many numbers of store’s details are stored in the database | This is the initial step of database, so good amount of store’s details is the end point of this goal |

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| --- | --- | --- | --- |
| **Goal 1 Description:** | | | |
| **ATTAINABLE Test** | | | |
| What is your reaction to goal? | Does it feel realistic? | Is it overwhelming? | Do you find it motivating? |
| This is the most major or building block for the whole system | Web Scraping and data Collection can be done in fair amount of time | To some extent, if the system demands details of thousands store’s then this itself is a challenge | It is motivating because it is a main part of a system |

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| --- | --- | --- |
| **Goal 1 Description:** | | |
| **RELEVANT Test** | | |
| Does it fit into the overall team / organization objective? | Taking overall fit is the timing appropriate? | Do you have sufficient resources / budget to succeed? |
| This forms the crucial part of the system and hence helps attain a problem that the organization faces | By using the sprint execution method, we can achieve this goal. | The resources we need should be served after the input stage. In terms of hardware requirements, team has enough resources |

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| **Goal 1 Description:** | | |
| **TIME BOUND Test** | | |
| Does it have a clear end date/point? | Is the focus clear so you can create an action plan? | Is its position on an Urgency/Importance grid clear? |
| This is the initial step of database, so good amount of store’s details is the end point of this goal | The focus of this goal is clear: to populate the database. So, steps forward can be taken. | This is going to be base data for all new stores. So this is the most important part of the system. |

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| --- | --- | --- |
| **Goal-ID** | **Priority** | **Factors Addressed** |
| **2** | 2 | Create recipes and ingredients |
| **Target Audience** | Customers |
| **Driver** | To list all the recipes |
| **Description** | Creating database of all the recipes |
| **Response** | To get all the required ingredients for a particular recipe |
| **Open Issues** | * What to display for profile page? * Designing form submission page * What Profile form should hold? * How should profile page load? * Designing profile background |

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| **Goal 2 Description:** | | | | |
| **Specific Test** | | | | |
| Is ‘What’ identifiable? | Is the ‘Why’ clear? | Can ‘Who’ be identified? | ‘Where’ will it be performed? | ‘Which’ resources are needed? |
| Collecting all recipes | To get to know the requirements | The analyzing model will use this data | Mobile Devices, Portable Devices, Computers. | Web scraping and simple data entry or using prepared data set |

|  |  |  |
| --- | --- | --- |
| **Goal 2 Description:** | | |
| **Measurable** Test | | |
| Is the end result quantifiable? | ‘Figure’ of Measurement | Has the goal a clear end date/point? |
| It will be a database of enough recipes to make good predictions | It can be measured on the basis of how many numbers of recipe’s details are stored in the database | This is the initial step of database, so good amount of recipe’s details is the end point of this goal |

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| --- | --- | --- | --- |
| **Goal 2 Description:** | | | |
| **ATTAINABLE Test** | | | |
| What is your reaction to goal? | Does it feel realistic? | Is it overwhelming? | Do you find it motivating? |
| This is the most major or building block for the whole system | Web Scraping and data Collection can be done in fair amount of time | To some extent, if the system demands details of thousands of recipes, then this itself is a challenge | It is motivating because it is a main part of a system |

|  |  |  |
| --- | --- | --- |
| **Goal 2 Description:** | | |
| **RELEVANT Test** | | |
| Does it fit into the overall team / organization objective? | Taking overall fit is the timing appropriate? | Do you have sufficient resources / budget to succeed? |
| This forms the crucial part of the system and hence helps attain a problem that the organization faces | By using the sprint execution method, we can achieve this goal. | The resources we need should be served after the input stage. In terms of hardware requirements, team has enough resources |

|  |  |  |
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| **Goal 2 Description:** | | |
| **TIME BOUND Test** | | |
| Does it have a clear end date/point? | Is the focus clear so you can create an action plan? | Is its position on an Urgency/Importance grid clear? |
| This is the initial step of database, so good amount of store’s details is the end point of this goal | The focus of this goal is clear: to populate the database. So, steps forward can be taken. | This is going to be base data for all new stores. So this is the most important part of the system. |

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| --- | --- | --- |
| **Goal-ID** | **Priority** | **Factors Addressed** |
| **3** | 3 | Process the Recipe Database |
| **Target Audience** | Customers |
| **Driver** | To get ingredients for a recipe |
| **Description** | Retrieval of data from database |
| **Response** | Agreement on Goal Statement |
| **Open Issues** | * What should be the data to be collected from traders? * How to update duplicate data? * How to validate data? * What should the system do for permissions? * How to handle exceptions? |

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| **Goal 3 Description:** | | | | |
| **Specific Test** | | | | |
| Is ‘What’ identifiable? | Is the ‘Why’ clear? | Can ‘Who’ be identified? | ‘Where’ will it be performed? | ‘Which’ resources are needed? |
| Retrieval of data from database | To generate the list of ingredients required for a recipe | The user who searches for a recipe | It will be performed when an user searches for a particular recipe | Database of Recipes and their corresponding ingredients |

|  |  |  |
| --- | --- | --- |
| **Goal 3 Description:** | | |
| **Measurable Test** | | |
| Is the end result quantifiable? | ‘Figure’ of Measurement | Has the goal a clear end date/point? |
| The user will get the list of all the ingredients of the recipe | It can be measured on the basis of how well it performs on different recipes | The user gets the list of ingredients |

|  |  |  |  |
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| **Goal 3 Description:** | | | |
| **ATTAINABLE Test** | | | |
| What is your reaction to goal? | Does it feel realistic? | Is it overwhelming? | Do you find it motivating? |
| This will be one of the main goals to be achieved in this system. | The user directly gets the entire list of all the ingredients | To some extent, but this will reduce the work for user | It is motivating because it will reduce the work of the user |

|  |  |  |
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| **Goal 3 Description:** | | |
| **RELEVANT Test** | | |
| Does it fit into the overall team / organization objective? | Taking overall fit is the timing appropriate? | Do you have sufficient resources / budget to succeed? |
| This forms the crucial part of the system and hence helps attain a problem that the organization faces | By using the sprint execution method, we can achieve this goal. | The resources we need should be served after the input stage. In terms of hardware requirements, team has enough resources |

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| **Goal 3 Description:** | | |
| **TIME BOUND Test** | | |
| Does it have a clear end date/point? | Is the focus clear so you can create an action plan? | Is its position on an Urgency/Importance grid clear? |
| Although the goal is achieved once we freeze this process and produce a system, it should be used even when the system is in production. | The focus of this goal is clear: to retrieve the list of ingredients | It’s really important because if we don’t do it then we can get garbage results for a recipe’s ingredients |

|  |  |  |
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| **Goal-ID** | **Priority** | **Factors Addressed** |
| **4** | 4 | Analyse day-to-day sales |
| **Target Audience** | Grocery Store Owner/ Stakeholder |
| **Driver** | Predictions |
| **Description** | Daily sales data would be accepted from the grocery store and will be processed. |
| **Response** | The goal is to perform operations on a given day sales in order to generate value for it. |
| **Open Issues** | * How to extract stock market values? * How to classify the stocks? * How to load share market values? * What value should stock hold? * What should the stocks do? |

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| --- | --- | --- | --- | --- |
| **Goal 4 Description:** | | | | |
| **Specific Test** | | | | |
| Is ‘What’ identifiable? | Is the ‘Why’ clear? | Can ‘Who’ be identified? | ‘Where’ will it be performed? | ‘Which’ resources are needed? |
| Handling user input | To give daily predictions of how much stock to buy | Grocery Store owner | It will be performed on the server machine. | The daily sales made by the grocery store. |

|  |  |  |
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| **Goal 4 Description:** | | |
| **Measurable Test** | | |
| Is the end result quantifiable? | ‘Figure’ of Measurement | Has the goal a clear end date/point? |
| It will be a prediction of values. | It can be measured on the basis of how well it performs on different sales figures. | This goal will be accomplished at the end of every day. |

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| **Goal 4 Description:** | | | |
| **ATTAINABLE Test** | | | |
| What is your reaction to goal? | Does it feel realistic? | Is it overwhelming? | Do you find it motivating? |
| This will be one of the main goals to be achieved in this system. | Once the earlier goal is achieved, it is very realistic. | Its feasibility is dependent on how well the data is fed to it. | It is motivating because it is a main part of a system that aims to maximize the store’s profits. |

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| **Goal 4 Description:** | | |
| **RELEVANT Test** | | |
| Does it fit into the overall team / organization objective? | Taking overall fit is the timing appropriate? | Do you have sufficient resources / budget to succeed? |
| |  | | --- | | This forms the crucial part of the system that creates functionality to handle input. | | By using the sprint execution method, we can achieve this goal. | The resources we need should be served after the input stage and the previous processing stage. In terms of hardware requirements, team has enough resources. |

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| **Goal 4 Description:** | | |
| **TIME BOUND Test** | | |
| Does it have a clear end date/point? | Is the focus clear so you can create an action plan? | Is its position on an Urgency/Importance grid clear? |
| |  | | --- | | The goal will need to be achieved at the end of day’s sales. | | The focus of this goal is clear: to handle user input programmatically. So, steps forward can be taken. | In the initial stages, it would be less important as input goals need to be cleared first, after that it would have medium to high priority. |

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| **Goal-ID** | **Priority** | **Factors Addressed** |
| **5** | 5 | Determine the System’s Accuracy |
| **Target Audience** | Customers |
| **Driver** | To improve the system in future |
| **Description** | Statements Describing Feature |
| **Response** | Agreement on Goal Statement |
| **Open Issues** | * How to take queries? * How to distinguish between queries? * How to classify stocks? * What to add for traders? * How to distinguish between share market values |

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| **Goal 5 Description:** | | | | |
| **Specific Test** | | | | |
| Is ‘What’ identifiable? | Is the ‘Why’ clear? | Can ‘Who’ be identified? | ‘Where’ will it be performed? | ‘Which’ resources are needed? |
| Determine the system’s accuracy | To improve the system in future | It can be done by the engineers and the user as well, because any new input from user can also generate feedback. | It will be performed on development machines during development of the system and on client/user machines later. | The store details and the list of their corresponding ingredients. |

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| **Goal 5 Description:** | | |
| **Measurable Test** | | |
| Is the end result quantifiable? | ‘Figure’ of Measurement | Has the goal a clear end date/point? |
| It is a qualitative result, as an improvement in predictions. It can be measured by comparing the earlier predictions with new predictions. | It can be measured on the basis of how well it performs on different player profiles after feedback. | This goal must be accomplished before production. |

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| **Goal 5 Description:** | | | |
| **ATTAINABLE Test** | | | |
| What is your reaction to goal? | Does it feel realistic? | Is it overwhelming? | Do you find it motivating? |
| This will be one of the goals to be achieved in this system to improve from what we have achieved. | Once the earlier goal is achieved, it is feasible. | It is plausible considering that we have a prediction and we can clearly create a way to feedback. | It is motivating because it is a main part of a system that aims to solve a valid problem. |

|  |  |  |
| --- | --- | --- |
| **Goal 5 Description:** | | |
| **RELEVANT Test** | | |
| Does it fit into the overall team / organization objective? | Taking overall fit is the timing appropriate? | Do you have sufficient resources / budget to succeed? |
| This forms the part of this system that handles feedback mechanism., which will be a helpful addition. | The timing will be a little short as the data has to observed over a period of time even after project completion. | The resources we need should be served after the input stage and the previous processing stage. In terms of hardware requirements, team has enough resources |

|  |  |  |
| --- | --- | --- |
| **Goal 5 Description:** | | |
| **TIME BOUND Test** | | |
| Does it have a clear end date/point? | Is the focus clear so you can create an action plan? | Is its position on an Urgency/Importance grid clear? |
| The goal will need to be achieved before the deliverable product is produced. | The focus of this goal is clear: to create a feedback mechanism. So steps forward can be taken. | In the initial stages, it would be less important as input goals need to be cleared first, after that it would have medium/high importance. |

|  |  |  |
| --- | --- | --- |
| **Goal-ID** | **Priority** | **Factors Addressed** |
| **6** | 6 | Analyse the prediction |
| **Target Audience** | Customers |
| **Driver** | To improve the system in future |
| **Description** | Statements Describing Feature |
| **Response** | Agreement on Goal Statement |
| **Open Issues** | * What should we ask as feedback? * What topics to be mentioned for the user to respond to? * What questions to ask? * How to generate feedback? * What to deal with low values for feedback? |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Goal 6 Description:** | | | | |
| **Specific Test** | | | | |
| Is ‘What’ identifiable? | Is the ‘Why’ clear? | Can ‘Who’ be identified? | ‘Where’ will it be performed? | ‘Which’ resources are needed? |
| Determine the system’s accuracy | To improve the system in future | It can be done by the engineers and the user as well, because any new input from user can also generate feedback. | It will be performed on development machines during development of the system and on Mobile Devices, Portable Devices, Computers. | The store details and the list of their corresponding ingredients. |

|  |  |  |
| --- | --- | --- |
| **Goal 6 Description:** | | |
| **Measurable Test** | | |
| Is the end result quantifiable? | ‘Figure’ of Measurement | Has the goal a clear end date/point? |
| It is a qualitative result, as an improvement in predictions. It can be measured by comparing the earlier predictions with new predictions. | It can be measured on the basis of how well it performs on different player profiles after feedback. | This goal must be accomplished before production. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Goal 6 Description:** | | | |
| **ATTAINABLE Test** | | | |
| What is your reaction to goal? | Does it feel realistic? | Is it overwhelming? | Do you find it motivating? |
| This will be one of the goals to be achieved in this system to improve from what we have achieved. | Once the earlier goal is achieved, it is feasible. | It is plausible considering that we have a prediction and we can clearly create a way to feedback. | It is motivating because it is a main part of a system that aims to solve a valid problem. |

|  |  |  |
| --- | --- | --- |
| **Goal 6 Description:** | | |
| **RELEVANT Test** | | |
| Does it fit into the overall team / organization objective? | Taking overall fit is the timing appropriate? | Do you have sufficient resources / budget to succeed? |
| This forms the part of this system that handles feedback mechanism., which will be a helpful addition. | The timing will be a little short as the data has to observed over a period of time even after project completion. | The resources we need should be served after the input stage and the previous processing stage. In terms of hardware requirements, team has enough resources |

|  |  |  |
| --- | --- | --- |
| **Goal 6 Description:** | | |
| **TIME BOUND Test** | | |
| Does it have a clear end date/point? | Is the focus clear so you can create an action plan? | Is its position on an Urgency/Importance grid clear? |
| The goal will need to be achieved before the deliverable product is produced. | The focus of this goal is clear: to create a feedback mechanism. So steps forward can be taken. | In the initial stages, it would be less important as input goals need to be cleared first, after that it would have medium/high importance. |

# 5. FEATURE SET

Following are features that make our product unique –

|  |  |
| --- | --- |
| Feature-ID | Feature Description |
| 1 | **Accurate in predicting the list of ingredients required to make a recipe.** |
| 2 | **Frontend is user friendly and has quick and important operations** |
| 3 | **Predictions are updated as stats are collected regularly.** |
| 4 | **Portability since the product can be accessed at any platform.** |
| 5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 | **Adding necessary ingredients to make a dish to cart on a single click.**   |  | | --- | | Optimized UI for stock sources | | Back-end that stores data efficiently | | Speeds up page loading | | Stability because of using tested, peer-reviewed open-source libraries | | Sources for stocks are saved in traders log history. | | Front-end that enables quick and useful operation | | Manages stocks page and Traders profile page relations. | | Reviews given by the team and the existing customers of the company | | Relevant and specific details of the normal users and admin user qualifications. | | Easy access to information and reviews of the traders in their area. | | Easy way of providing services to traders | | Front-end that enables quick and useful operation | | User can provide feedback about the Organizations. | | Optimized DB for stock sources | | Very fast execution speed for Share market database management. | | Ease of access of profile page to trader. | | Valid values that point to realistic share market | | Manages stocks page and Traders profile page relations. |   **Optimized UI for stock sources** |

**.**

# 6. STAKEHOLDERS

|  |  |  |  |
| --- | --- | --- | --- |
| Stakeholder | Concerns | Quadrant | Strategy/ Benefits |
| Start-up Owner | Ensuring proper handover of project to operations team | Minimal Effort | Communicate project specifications as required |
| Project Guide | Resource and scheduling constraints for production once project is transitioned to operations | Key Player | Solicit stakeholder as member of steering committee and obtain feedback on project planning. Frequent communication and addressing concerns are imperative |
| Marketing and Delivery Team | Ensuring on time delivery of materials | Minimal Effort | Communicate project schedule and material requirements ahead of time to ensure delivery |
| Grocery Store Owner / Customers | Product performance must meet or exceed current product | Key Player | Communicate test results and performance specifications and obtain feedback on customer requirements or any changes. Provide frequent status reports and updates. |
| Design Team | Questions regarding design of product | Keep Informed | Allow technical staff to work with stakeholder to answer questions and address concerns and provide test results for validation |

# 7. CRITERIA

1. Since the prediction model designed to produce crucial insights about future sales, would be trained on a large data set. Thus it would produce proper results. The ingredients for a particular recipe would be an integration of standard list provided by popular chiefs or websites followed by many of people.
2. The Project Manager has set the following tasks for achieving successful delivery of the project –

2.1 As the objectives of the project have been discussed earlier with the customer and those would be satisfied when delivering the product.

2.2. While project has to be handed over, the project manager will review the project.

2.3 Also there would be an external team which will have its primary goal to assess if team has stayed true to their promises.

2.4 If there are any changes that customer wishes after completion of project will be addressed in 1-2 weeks of the initial written application by the customer.

2.5 The following is a deliverables acceptance document.

|  |  |  |
| --- | --- | --- |
| Item | Concerns | Accepted / Rejected |
| Vision Definition | **Complexity** | **Accepted** |
| Mission Definition | **Relational with Deliverables** | **Accepted** |
| Goals | **Description and Structure** | **Accepted** |
| Feature Definitions | **Readability and non-technical stakeholders** | **Accepted** |
| Deliverables definition | **Consistency** | **Accepted** |

**T.Y. B. Tech.**

**CS 3001: Software Engineering Laboratory**

Assignment No: 3

**eMandai – Online Grocery System**

**System Requirement Specification**

***15 March 2019***

***Version 1.0***

|  |  |  |  |
| --- | --- | --- | --- |
| Project Group Information | | | |
| Roll. No. | **Gr. No.** | **Name** | **Roles** |
| 35 | **161074** | **Param Ekbote** | **Designer** |
| 42 | **161438** | **Pankaj Umbarkar** | **Developer** |
| 64 | **161166** | **Bharat Karamchandani** | **Analyst** |

**Approved By: Dr. Mahesh R. Dube**

**Academic Year: 2018-19 Semester: II**

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# 1. INTRODUCTION

Software Requirements Specification (SRS) provides an overview of the entire SRS with purpose, scope, definitions, acronyms, abbreviations, references and overview of the SRS. The aim of this document is to gather and analyse and give an in-depth insight of the complete **eMandai – Online Grocery System** software system by defining the problem statement in detail. Nevertheless, it also concentrates on the capabilities required by stakeholders and their needs while defining high-level product features.

|  |  |
| --- | --- |
| Item | Description |
| Purpose | |  | | --- | | To jot down the System Requirement Specifications of the eMandai – Online Grocery System. The purpose of the SRS to give a complete technical background of our system and its likely implementation. | |
| Audiences | Developers, Clients and other concerned audiences. |
| SRS Scope | This SRS is also aimed at specifying requirements of software to be developed but it can also be applied to assist in the selection of in-house and commercial software products. The standard can be used to create software requirements specifications directly or can be used as a model for defining an organization or project specific standard. It does not identify any specific method, nomenclature or tool for preparing an SRS. |
| Project Scope | Primarily, the scope pertains to the food market for making the eMandai – Online Grocery System project live. It focuses on the stakeholders and applications, grocery store owners and the customers (common public). |

**References:**

1] Statement of Work

2] Feature Set Document

# TERMS OF REFERENCE

**2.1. Background**

1. The grocery market is quite huge out there and it is directly attached with one of basic need of human which is food.
2. Thus in the grocery market customer and shopkeeper consistently come across one another, when customer purchases some grocery in order to cook for his/her living.
3. Now days there is huge trend of using e-commerce sites for purchasing things online. People like to get things deliver at their doorstep. Also shopkeeper sells lots of goods daily, so they need to do several analyses and have insights.
4. In such case sense of authenticity is required to maintain flow of sells swiftly at the shopkeeper side by staying aware about future needs.
5. The shopkeepers are looking for such platform where they can sell their stocks to a larger market. Plus it’s beneficial for the consumer to add their choice of ingredients by a single click.
6. Grocery-One Click Away! Would help the customer to add ingredients to cart. Also according to sells made by a shopkeeper.

**2.2. Objectives**

1. There are two primary objectives. First, to swiftly connect every customer to the store from an organized grid of grocery stores.
2. Second, to provide a platform for shopkeeper to sell goods and provide them future stock sells and requirement predictions
3. Stage wise objectives.

* Collecting data of grocery store.
* To make a set of recipes and its corresponding set of ingredients.
* Process the Recipe Database
* Analyse day-to-day sales

1. Target Audience:

* Customers
* Shopkeepers
* Grocery Stock Dealers

1. Resources required would be clearer along the course of the implementation but the basic necessities include shop and recipe data, machine learning techniques and UI design.

**2.3. Issues**

1. Efficiency – Efficiency of the algorithm and its outcome to predict values.
2. Relevance – Proving relevance to stakeholders.
3. Effectiveness – Exact outputs of the project and realization of benefits.
4. Impact – the market is ever growing and the product’s use will never cease to exist.
5. Sustainability – The project if successful will have wide ranging benefits and will become
6. Self-sustainable soon after its initiation.

**2.4. Methodology**

1. Data Acquisition, Filtering, Data Mining, Data Analysis, Data Sorting & Classification
2. Stakeholder involvement at initial and final stages will ensure smooth implementation
3. The planning and designing phase and implementation phase will each take about 1 month.
4. The information collection tools to be used throughout the project for monitoring purposes
5. are Media Reports and similar online resources
6. Data analysis rules

**2.5. Expertise**

The expertise needed for doing a project defines a set of professional requirements for the individuals and teams involved in project implementation. It will be the basis for team building, including training and skill assessment.

The Expertise section of a Project Terms of Reference template should identify the following:

1. The type of work involved in the project is Data Analysis and Machine Learning along with UI development.
2. The type of skills and abilities required to do project work are Machine Learning,

Data Processing, DBMS, UI development, etc.

1. 3 students from T.Y, B. Tech will be involved in the development of the project.
2. The period of engagement of each team member is about the same, roughly 3 months.
3. A description of the duties and responsibility per teammate has been provided in earlier documents and will be further described in the succeeding documentation.
4. The relationship between the team members, including leadership roles are specified in the following table.

|  |  |
| --- | --- |
| Name | Roles |
| Param Ekbote | Designer |
| Pankaj Umbarkar | Developer |
| Bharat Karamchandani | Analyst |

**2.6. Reporting**

Reports provide valued information about project performance over a certain period. Reporting is a

process that starts once a project is launched and continues until the project is completed and its product is handed over. Reporting requirements will define how to write and submit project reports and what information to include. The Reporting Requirements section of a Terms of Reference

template should clearly specify the requirements for the reporting process, and might include the details of:

1. Table of contents for project reports/ Rules for composing annexes
2. Report templates/ The language to be used in reports
3. Computer software programmes to be used/ Submission dates
4. People responsible for reporting and approving

**2.7. Work Plan**

A work plan is a kind of strategy that aims to help solve problems throughout a project and boost employee drive and focus. It determines what actions need to be taken to start, implement, and

complete the project within a specified time period and under defined budget. It is often used as a general guide for developing a project implementation plan. The Work Plan section of a Project Terms of Reference template should set out the activities and necessary resources required for achieving the project’s results and purpose. It should therefore include a summary of the anticipated work and time schedule, which are based upon the following:

* 1. An analysis of the issues, in terms of the evaluation criteria
  2. The proposed implementation methodology/ The reporting requirements
  3. It will be further covered in the Project Plan document.

# PROBLEM DESCRIPTION

|  |  |
| --- | --- |
| The problem of | Selecting each ingredient of a recipe, individually. |
| Affects | The customer and the market of the Supplier |
| The impact of which is | 1. Customers currently have to select each and every item individually. 2. Customer sometimes finds this process tedious, and may forget to purchase few items. 3. This decreases the sales of the store. |
| A successful solution would | 1. A successful solution will help the customer by reducing his work. 2. The store owner will get an insight of the market. |

|  |  |
| --- | --- |
| For | Customers |
| Who | Wish to make some purchases for preparing a recipe. |
| The ‘eMandai ’ | is an user-friendly E-Commerce site |
| That | Helps the user to select all the ingredients of a particular recipe in a single click. |
| Unlike | Any other ordinary E-Commerce site. |
| Our product | Provides fair value for the goods and authentic insights to the Store Owner |

# FUNCTIONAL HIERARCHY

|  |  |  |  |
| --- | --- | --- | --- |
| **Goal-ID** | **1** | **Collect Data of Grocery Stores** | **Description** |
| **Objective ID** | 1 | Acquire Data | |
| Process ID: 1 | Acquire the data of all grocery stores |
| Process ID: 2 | Clean data abnormalities |
| **Objective ID** | 2 | Analyse Data | |
| Process ID: 1 | Filter relevant data |
| Process ID: 2 | Ascertain data correctness |

|  |  |  |  |
| --- | --- | --- | --- |
| **Goal-ID** | **2** | **List recipes and their corresponding ingredients** | **Description** |
| **Objective ID** | 1 | Acquire Data | |
| Process ID: 1 | Acquire the data of all recipes |
| Process ID: 2 | Clean data abnormalities |
| **Objective ID** | 2 | Analyse Data | |
| Process ID: 1 | Filter relevant data |
| Process ID: 2 | Ascertain data correctness |

|  |  |  |  |
| --- | --- | --- | --- |
| **Goal-ID** | **3** | **Process the**  **Recipe Data** | **Description** |
| **Objective ID** | 1 | Pre-Process Data | |
| Process ID: 1 | Retrieve the Data from Database |
| Process ID: 2 | Check the corresponding data |
| **Objective ID** | 2 | Decide statistical model | |
| Process ID: 1 | Choose statistical model |
| Process ID: 2 | Optimize choices |

|  |  |  |  |
| --- | --- | --- | --- |
| **Goal-ID** | **4** | **Analyse Day-to-Day Sales** | **Description** |
| **Objective ID** | 1 | Recognize User Queries | |
| Process ID: 1 | Standardize Query Format |
| Process ID: 2 | Execute Prediction |
| **Objective ID** | 2 | Handle User Input Data | |
| Process ID: 1 | Pre-Process User Input Data |
| Process ID: 2 | Append Relevant Dataset |

|  |  |  |  |
| --- | --- | --- | --- |
| **Goal-ID** | **5** | **Determine the System’s Accuracy** | **Description** |
| **Objective ID** | 1 | Generate Feedback Mechanism | |
| Process ID: 1 | Access User Feedback |
| Process ID: 2 | Process User Feedback |
| **Objective ID** | 2 | Apply Improvement Steps | |
| Process ID: 1 | Determine Feedback Response |
| Process ID: 2 | Apply Necessary Changes |

# USER INTERFACES

5.1 Abbreviated UI, it is the junction between a user and a computer program. An interface is a set of commands or menus through which a user communicates with a program. A command-driven interface is one in which you enter commands. A menu-driven interface is one in which you select command choices from various menus displayed on the screen.

The user interface is one of the most important parts of any program because it determines how easily you can make the program do what you want. A powerful program with a poorly designed user interface has little value. Graphical user interfaces (GUIs) that use windows, icons, and pop-up menus have become standard on personal computers.

GUI is a program interface that takes advantage of the computer's graphics capabilities to make the program easier to use. Well-designed graphical user interfaces can free the user from learning complex command languages. On the other hand, many users find that they work more effectively with a command-driven interface, especially if they already know the command language.

Graphical user interfaces, such as Microsoft Windows and the one used by the Apple Macintosh, feature the following basic components:

- **Pointer:**

A symbol that appears on the display screen and that you move to select objects and commands. Usually, the pointer appears as a small angled arrow. Text -processing applications, however, use an I-beam pointer that is shaped like a capital I.

**- Pointing device:**

A device, such as a mouse or trackball that enables you to select objects on the display screen.

**- Icons**:

Small pictures that represent commands, files, or windows. By moving the pointer to the icon and pressing a mouse button, you can execute a command or convert the icon into a window. You can also move the icons around the display screen as if they were real objects on your desk.

**- Desktop:**

The area on the display screen where icons are grouped is often referred to as the desktop because the icons are intended to represent real objects on a real desktop.

**- Windows:**

You can divide the screen into different areas. In each window, you can run a different program or display a different file. You can move windows around the display screen, and change their shape and size at will.

**- Menus:**

Most graphical user interfaces let you execute commands by selecting a choice from a menu.

In addition to their visual components, graphical user interfaces also make it easier to move data from one application to another. A true GUI includes standard formats for representing text and graphics. Because the formats are well-defined, different programs that run under a common GUI can share data. This makes it possible, for example, to copy a graph created by a spread sheet program into a document created by a word processor.

5.2 Characteristics of Successful User Interfaces

- **Clear**:

Clarity is the most important element of user interface design. Indeed, the whole purpose of user interface design is to enable people to interact with your system by communicating meaning and function. If people can’t figure out how your application works or where to go on your website they’ll get confused and frustrated.

**-Concise**:

Clarity in a user interface is great, however, you should be careful not to fall into the trap of over-clarifying. It is easy to add definitions and explanations, but every time you do that you add mass. Your interface grows. Add too many explanations and your users will have to spend too much time reading through them. Keep things clear but also keep things concise. When you can explain a feature in one sentence instead of three, do it. When you can label an item with one word instead of two, do it. Save the valuable time of your users by keeping things concise. Keeping things clear and concise at the same time isn’t easy and takes time and effort to achieve, but the rewards are great.

- **Familiar**:

Many designers strive to make their interfaces ‘intuitive’. But what does intuitive really mean? It means something that can be naturally and instinctively understood and comprehended. But how can you make something intuitive? You do it by making it ‘familiar’. Familiar is just that: something which appears like something else you’ve encountered before. When you’re familiar with something, you know how it behaves – you know what to expect. Identify things that are familiar to your users and integrate them into your user interface.

- **Responsive**:

Responsive means a couple of things. First of all, responsive means fast. The interface, if not the software behind it, should work fast. Waiting for things to load and using slaggy and slow interfaces is frustrating. Seeing things load quickly, or at the very least, an interface that loads quickly (even if the content is yet to catch up) improves the user experience. Responsive also means the interface provides some form of feedback. The interface should talk back to the user to inform them about what’s happening. Have you pressed that button successfully? How would you know? The button should display a ‘pressed’ state to give that feedback.

- **Consistent**:

Consistent interfaces allow users to develop usage patterns – they’ll learn what the different buttons, tabs, icons and other interface elements look like and will recognize them and realize what they do in different contexts. They’ll also learn how certain things work, and will be able to work out how to operate new features quicker, extrapolating from those previous experiences.

- **Attractive**:

This one may be a little controversial but I believe a good interface should be attractive. Attractive in a sense that it makes the use of that interface enjoyable. Yes, you can make your UI simple, easy to use, efficient and responsive, and it will do its job well – but if you can go that extra step further and make it attractive, then you will make the experience of using that interface truly satisfying. When your software is pleasant to use, your customers or staff will not simply be using it – they’ll look forward to using it. There are of course many different types of software and websites, all produced for different markets and audiences. What looks ‘good’ for any one particular audience will vary. This means that you should fashion the look and feel of your interface for your audience. Also, aesthetics should be used in moderation and to reinforce function. Adding a level of polish to the interface is different to loading it with superfluous eye-candy.

- **Efficient**:

A user interface is the vehicle that takes you places. Those places are the different functions of the software application or website. A good interface should allow you to perform those functions faster and with less effort. Now, ‘efficient’ sounds like a fairly vague attribute – if you combine all of the other things on this list, surely the interface will end up being efficient? Almost, but not quite. What you really need to do to make an interface efficient is to figure out what exactly the user is trying to achieve, and then let them do exactly that without any fuss. You have to identify how your application should ‘work’ – what functions does it need to have, what are the goals you’re trying to achieve? Implement an interface that lets people easily accomplish what they want instead of simply implementing access to a list of features.

**-Forgiving**:

Nobody is perfect, and people are bound to make mistakes when using your software or website. How well you can handle those mistakes will be an important indicator of your software’s quality. Don’t punish the user – build a forgiving interface to remedy issues that come up. A forgiving interface is one that can save your users from costly mistakes. For example, if someone deletes an important piece of information, can they easily retrieve it or undo this action? When someone navigates to a broken or non-existent page on your website, what do they see? Are they greeted with a cryptic error or do they get a helpful list of alternative destinations?

|  |  |  |  |
| --- | --- | --- | --- |
| UI-ID | UI Name | Type | Scope |
| 1 | Collect Data | Input | Every sale is added to the database |
| 2 | Acquire Statistics | Input | System acquires statistics of the day’s sale |
| 3 | Normalize Data | Command | This will normalize the input data |
| 4 | Display Feature | Navigation | The features of the data model will be displayed in a graph. |
| 5 | Process queries | Command | Query is processed to acquire data and proceed |
| 6 | Value Feedback | NL | The form will gather feedback about the correctness of the value. |
| 7 | Main Page | Menu | Users can navigate to different parts of the website using the main page |
| 8 | Navigation Bar | Navigation | It will appear on each page from where users can switch to any option |

# HARDWARE INTERFACES

|  |  |
| --- | --- |
| Profile | Description |
| Processor | **Intel 3rd Generation** |
| RAM | **4 GB RAM** |
| Server Side Technology | * **Database storage space: 1 GB** * **Monitor of resolution 1024 x 768** |
| Client Side Technology | * **Monitor of resolution 1024 x 768** * **Working Internet Connection and Port** |
| External Devices | * **Monitor** * **Mouse** * **Keyboard** |

# SOFTWARE INTERFACES

|  |  |
| --- | --- |
| **Profile** | **Description** |
| Front-end Capabilities | Browser, HTML5 Support |
| Back-end Capabilities | PHP |
| Programming Languages | HTML5,PHP |
| Operating Environment | Any |
| Software Platform | Browser |
| Database Servers | MySQL |
| Framework Resources | NA |
| API (If Any) | Google Maps |
| Other Services/Resources | NA |
| Communication Interfaces | Email |

# LOGICAL DATABASES

|  |  |  |
| --- | --- | --- |
| 1. **Database Name** | Parameter | **Scope** |
| Grocery Stores | All the basic details of Stores | Input Data |
| Availability | List of all ingredients available at a Store | Input Data |
| Recipes | All the basic details of Recipes | Input Data |
| Recipes and Ingredients | All combinations of Recipes and their ingredients | Input Data |
| Window | The list of all recipes as selected by the user | Updated Data |

# NON-FUNCTIONAL REQUIREMENTS

* **Reliability:**

Specify the factors required to establish the required reliability of the software system at time of delivery. If you have MTBF requirements, express them here. This doesn’t refer to just having a program that does not crash. This has a specific engineering meaning.

* **Availability:**

Specify the factors required to guarantee a defined availability level for the entire system such as checkpoint, recovery, and restart. This is somewhat related to reliability. Some systems run only infrequently on-demand (like MS Word). Some systems have to run 24/7 (like an e-commerce web site). The required availability will greatly impact the design. What are the requirements for system recovery from a failure? “The system shall allow users to restart the application after failure with the loss of at most 12 characters of input”.

* **Security:**

Specify the factors that would protect the software from accidental or malicious access, use, modification, destruction, or disclosure. Specific requirements in this area could include the need to:

* + Utilize certain cryptographic techniques
  + Keep specific log or history data sets
  + Assign certain functions to different modules
  + Restrict communications between some areas of the program
  + Check data integrity for critical variables
* **Maintainability:**

Specify attributes of software that relate to the ease of maintenance of the software itself. There may be some requirement for certain modularity, interfaces, complexity, etc. Requirements should not be placed here just because they are thought to be good design practices. If someone else will maintain the system

* **Portability:**

Specify attributes of software that relate to the ease of porting the software to other host machines and/or operating systems. This may include:

* + Percentage of components with host-dependent code
  + Percentage of code that is host dependent
  + Use of a proven portable language
  + Use of a particular compiler or language subset
  + Use of a particular operating system
* **Correctness** –

Extent to which program satisfies specifications, fulfils user’s mission objectives

* **Efficiency** –

Amount of computing resources and code required to perform function

* **Flexibility –**

Effort needed to modify operational program

* **Interoperability –**

Effort needed to couple one system with another

* **Reliability –**

Extent to which program performs with required precision

* **Reusability –**

Extent to which it can be reused in another application

* **Testability –**

Effort needed to test to ensure performs as intended

* **Usability –**

Effort required to learn, operate, prepare input, and interpret output

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Characteristic** | **H/M/L** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
| 1 | Correctness | H |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | Efficiency | L |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | Flexibility | L |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | Integrity/Security | H |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | Interoperability | M |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | Maintainability | H |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | Portability | M |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | Reliability | H |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | Reusability | L |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | Testability | M |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | Usability | H |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | Availability | H |  |  |  |  |  |  |  |  |  |  |  |  |

**T.Y. B. Tech.**

**CS 3001: Software Engineering Laboratory**

Assignment No: 4

**eMandai – Online Grocery System**

**Feasibility Study Report**

***21 Mar 2019***

***Version 1.0***

|  |  |  |  |
| --- | --- | --- | --- |
| Project Group Information | | | |
| Roll. No. | **Gr. No.** | **Name** | **Roles** |
| 35 | **161074** | **Param Ekbote** | **Designer** |
| 42 | **161438** | **Pankaj Umbarkar** | **Developer** |
| 64 | **161166** | **Bharat Karamchandani** | **Analyst** |

**Approved By: Prof. Dr. Mahesh Dube**

**Academic Year: 2018-19 Semester: II**

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# 1. INTRODUCTION

|  |  |
| --- | --- |
| Item | Description |
| Scope of Study | 1. Acquire day’s sale from the grocery shop 2. Provide estimate quantity of products to buy 3. Customer would be able to order all the ingredients at single click |
| Audiences | 1. Grocery Shop owner 2. Customer |
| Project Type | Small Scale |
| Platform Details | Existing domain/platform   1. Retailers Association of India 2. Receipe Key   Existing Technology Usage  Front End –  1. HTML  2. CSS  3. Javascript/JQuery  Back End –  1. MySQL  2. PHP |

# 2. DESCRIPTION OF SERVICES

|  |  |  |  |
| --- | --- | --- | --- |
| Service -ID | Service Name | Audience | Scope |
| S-1 | Collect grocery stock data | Stakeholder | Detail information of the store’s stock |
| S-2 | Illustrate recipes | Customer | The user would be able to order all the required ingredients |
| S-3 | Collect daily sales | Stakeholder | Detailed information about every product being sold |
| S-4 | Examine Feedback | User | The feedback about the system will be considered and processed. |
| S-5 | Forecast the profitable sales for next day | Stakeholder | The grocery store owner would get a forecast of which groceries to buy and in what quantity |

# TECHNOLOGY CONSIDERATIONS

|  |  |  |
| --- | --- | --- |
| Current Technology | | |
| Type | **Parameter** | **Description** |
| Hardware | CPU | Intel Xeon E2630 v4 – 10 core processor, 2.2 GHz with Turbo  boost up to 3.1 GHz |
| RAM | 4 GB |
| Software | Local Server | XAMPP (PHP) version upto 5.6.34 / PHP 5.6.34 |
| Browser | Mozilla/Chrome/Microsoft Edge at least up to version 50.0.1, 31.0.1650 and 0.11.10051. |

|  |  |  |
| --- | --- | --- |
| Deployment Technology | | |
| Type | **Parameter** | **Description** |
| Hardware | Browser | Mozilla or Chrome |
| Support | HTML5, CSS, BOOTSRAP, JavaScript, jQuery |
| Software | Device | Desktop, Laptop, Tablet, Mobile |
| Screen | Screen with minimum 1024×576 resolution |

# FEASIBILITY STUDY RESULTS

|  |  |  |  |
| --- | --- | --- | --- |
| Option | Outcome | Ranking | Discussion |
| Collect data from grocery stores | Expected | H | The data of the stores is collected from targeted areas and successfully retrieved and sent for processing. |
| Unexpected | L | Grocery store data is not available. This is unlikely since the data about most stores can be easily collected. |
| Collect data of recipe and it’s ingredients | Expected | H | The data of the popular food items and its ingredients is available and sent for processing. |
| Unexpected | L | Ingredients for a food item are not available. This is unlikely since data about most food items are available. |
| Display food items recipes | Expected | H | The ingredients required and available at store, mapped for a food item will be displayed correctly. |
| Unexpected | L | The ingredients displayed are incorrect because of database issue. |
| Analysis of day to day sales | Expected | H | The statistics and forecast will be shown to shopkeeper, based on their sales. |
| Unexpected | L | The statistics will be too inconsistent to be illustrated with the help of graphs. |
| Process Queries | Expected | H | Queries are specific. Processing works properly and output is produced. |
| Unexpected | L | Query has anomaly in it. In such a case, the problem will be pointed out to and user will be able to correct it. |
| Process Feedback | Expected | M | Feedback is positive. The statistics and forecast are precise and consistent. |
| Unexpected | M | Feedback is negative. In such case model is retrained with correct parameter that generate positive feedback. |

# REFERENCES

1. Statement of Work
2. Feature Set
3. System Requirement Specifications
4. Standard Customer-Shopkeeper Market Model
5. RecipeKey.com
6. rai.net.in

**T.Y. B. Tech.**

**CS 3001: Software Engineering Laboratory**

Assignment No: 5

**eMandai – Online Grocery System**

**Project Plan Outline**

***28 Mar 2018***

***Version 1.0***

|  |  |  |  |
| --- | --- | --- | --- |
| Project Group Information | | | |
| Roll. No. | **Gr. No.** | **Name** | **Roles** |
| 35 | **161074** | **Param Ekbote** | **Designer** |
| 42 | **161438** | **Pankaj Umbarkar** | **Developer** |
| 64 | **161166** | **Bharat Karamchandani** | **Analyst** |

**Approved By: Mahesh R. Dube**

**Academic Year: 2018-19 Semester: II**

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| 6 | Task Prioritization |  |
| 7 | Risk Register |  |

# 1. INTRODUCTION

|  |  |
| --- | --- |
| Deliverables | Benefits |
| 1. SOW | Gives an idea of what the system is. |
| 1. Feature Set | Provides the set of features the system will provide. |
| 1. SRS | Specifies the requirements for the system. |
| 1. Feasibility Study | Gives an account of how feasible it is to use the system. |
| 1. Project Plan | Will provide information on how the project will be executed. |
| 1. Sprint Level Planning Activity | Planning will help in easy execution of the system. |
| 1. Sprint Level Design Activity | Preparing the design will make the implementation faster because a Blue print will be available. |
| 1. Software Configuration 2. Management Plan | It will make the execution of the software much easier as there is a plan in place. |
| 1. Sprint Execution | The system will be available to use as early as possible. |
| 1. Sprint Review | Fast review of the system so that so that errors can be removed as early as possible. |

# 2. PROJECT MILESTONES

|  |  |  |
| --- | --- | --- |
| Milestones | Phase | Description |
| 1 | Inception | Delivering Statement of Work document |
| 2 | Inception | Delivering Feature Set document |
| 3 | Elaboration | Feasibility study and Project Plan using AGILE |
| 4 | Elaboration | Sprint level planning activity |
| 5 | Construction | Sprint Plan and Sprint Design |
| 6 | Construction | Software Configuration Management Plan (SCMP) and Sprint Execution |
| 7 | Transition | Sprint Review and Sign- offs |
| 8 | Transition | Feedback |

# 3. WORK BREAKDOWN STRUCTURE

|  |  |  |  |
| --- | --- | --- | --- |
| WBS Package | Role | Description | Delivery Date |
| Documentation | Inception | Creation of SOW, FRS, SRS | 1 March 2019 |
| Designing | Elaboration | Making Prototypes | 10 March 2019 |
| Development | Construction | Development of Real System using appropriate languages | 15 March 2019 |
| Testing | Construction | Testing of System for Defects and checking for correctness | 20 March 2019 |
| Product Release | Transition | Marketing, Managing of the System in live  Environment | 25 March 2019 |
| Feedback | Transition | Taking user experience as feedback and  modifying System | * + - 1. pril 2018 |

# 4. PROJECT COMMUNICATION

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Communication Type | Description | Frequency | Format | Participants/ Distribution | Deliverable | Owner |
| Weekly Status Report | Email summary of project status | Weekly | Email | Project Guide , Project Team | Status Report | Project Manager |
| Weekly Project Team Meeting | Meeting to review action register and status | Weekly | In Person | Project Team | Updated Action Register | Project Manager |
| Project Monthly Review (PMR) | Present metrics and status to team and sponsor | Monthly | In Person | Project Sponsor, Team, and Stakeholders | Status and Metric Presentation | Project Manager |
| Project Gate Reviews | Present closeout of project phases and kick off next phase | As Needed | In Person | Project Sponsor, Team and Stakeholders | Phase completion report and phase kickoff | Project Manager |
| Technical Design Review | Review of any technical designs or work associated with the project | As Needed | In Person | Project Team | Technical Design Package | Project Manager |

# 5. ACTIVITY REGISTER

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Activity Number** | **Activity Name** | **Activity description** | **Responsibility** | **Comments** |
| 1 | Prepare Documentation | * Create Project Initiation Documents | * Param Ekbote is responsible for coordinating with the team. | * Meet Deadlines |
| * Documents: SOW, Feature Set and SRS | * WBS Package 1 |
| 2 | Conceptualise Design | * Evaluate Feasibility | * Param Ekbote is responsible for execution of project planning phase. | * Quick Execution Required |
| * Develop Project Plan | * WBS Package 2 |
| 3 | Collect Data | * Acquire Data from Sources on the Internet. | * Pankaj Umbarkar is responsible for acquiring correct data. | * WBS Package 2 |
| * Important phase for smooth development |
| 4 | Developing System | * Develop Machine Learning Model | * Bharat Karamchandani is responsible for delegating everyone with instructions for development. | * Development in Sprints |
| * Implement Model to Predict Values | * WBS Package 3 |
| 5 | Design UI | * Create User Interface | * Param Ekbote will see UI creation activity. | * WBS Package 3 |
| * Design UI to appropriately display the statistics | * The phase execution will have to run in parallel with development stage. |
| 6 | Checking for bugs | * Unit and System Testing | * Pankaj Umbarkar will be in charge of creating test cases and checking bugs. | * Prepare Test Cases * WBS Package 4 |
| * Debugging |
| 7 | Release Product | * Advertising System | * Bharat Karamchandani is responsible for the marketing of the product. | * Good Marketing Strategies * WBS Package 4 |
| * Finding Clients |
| 8 | Feedback of System | * Taking review from customers * Implementing new features | * Bharat Karamchandani will oversee the feedback and update activities. | * Understanding what changes are needed * WBS Package 6 |

# 6. TASKS PRIORITAZATION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Task is of high importance, with high urgency factor.***  *Must be done today & to high standard.*  *Action ASAP* |  | ***High Importance*** | ***Low Importance*** | ***Task is of low importance, with high urgency factor.***  *These tasks need to be completed on time.*  *ONLY spend sufficient time on them as not important.*  *Don’t be diverted* |
| ***High Urgency*** | 1. Collect stock information of the store at the start and end of the day 2. Initiation Documentation 3. Create Project Repository | 1. Build Daily Sales Profiles 2. Finding Grocery Store APIs 3. Study Similar Projects 4. Study Legality Issues |
| ***Task is of high importance, but has low urgency factor.***  *By nature long-term so need to:*   1. *Set target if none exists.* 2. *Break-up into chunks of work* | ***Low Urgency*** | 1. Create UI 2. Determine System’s Accuracy 3. Classify Sales Data 4. Display the products being sold 5. Version Control Mechanism | 1. Integrate Feedback 2. Create Graphs for Acquired Data | ***Task is both low in importance & urgency.***  *Discard as many of these tasks as possible because they cause great harm to your productivity.*  *Delegate if they develop another’s KSA’s.* |

# 7. RISK REGISTER

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Risk Description** | **Likely Cause of Risk Occurring** | **Effect on Project** | **Phase Affected** | ***Severity Level*** | **Ability to Detect** | **Risk Rank** |
| **1** | **GROCERY STORE DATA**  **NOT AVAILABLE** | * **NOT ENOUGH DATA AVAILABLE** * **DATA NOT AVAILABLE FOR OPEN USE** | **FAILURE TO MAKE**  **PREDICTION** | **TRANSITION** | ***High*** | **Moderate** | **Serious** |
| **2** | **GROCERY STORE DATA**  **AREN’T CORRECT** | * **DATA SOURCE MIGHT HAVE ANOMALIES** | **STATISTICS NEED**  **TO BE FETCHED**  **AGAIN** | **CONSTRUCTION** | ***Med*** | **Moderate** | **Modest** |
| **3** | **RECIPE INGREDIENTS**  **INFORMATION OUTDATED** | * **THE RECIPE INGREDIENTS WERE NOT UPDATED TIME TO TIME.** | **PREDICTIONS**  **OBLIVIOUS OF**  **CURRENT**  **SCENARIO** | **TRANSITION** | ***Med*** | **Moderate** | **Serious** |
| **4** | **PROCESS QUERIES ARE**  **ANOMALOUS** | * **THE USER ENTERED WRONG DISH INFORMATION** * **REQUIRED INFORMATION IN QUERY IS MISSING** | **PREDICTION**  **CANNOT BE MADE** | **TRANSITION** | ***Low*** | **Easy** | **Trivial** |
| **5** | **WRONG FEATURES**  **SELECTED/DROPPED** | * **LACK OF DOMAIN KNOWLEDGE** * **IMPROPER MODEL SELECTION** | **BIASED OR HIGH**  **VARIANCE MODEL** | **CONSTRUCTION** | ***Med*** | **Moderate** | **Serious** |
| **6** | **INSUFFICIENT DATA** | * **THE DATA**   **AVAILABLE IS**  **INSUFFICIENT FOR GENERALIZATION** | **OVERFITTING** | **CONSTRUCTION** | ***High*** | **Complex** | **Critical** |

# T.Y. B. Tech.

**CS 3001: Software Engineering Laboratory**

## Assignment No: 6

**eMandai – Intelligent Pocket Builder**

**Product Backlog**

***29 March 2019***

**Version1.0**

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Group Information** | | | |
| **Roll. No.** | **Gr. No.** | **Name** | **Roles** |
| 35 | **161074** | **Param Ekbote** | **Designer** |
| 42 | **161438** | **Pankaj Umbarkar** | **Developer** |
| 64 | **161166** | **Bharat Karamchandani** | **Analyst** |

**Approved By: Prof. Dr. Mahesh R. Dube**

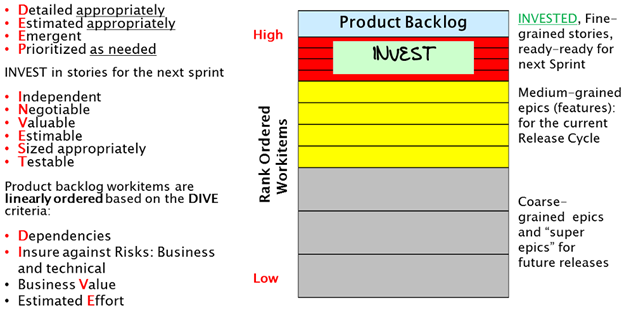
## AcademicYear:2018-19 Semester:II

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# 1.INTRODUCTION

A product backlog stores, organizes and manages all work items that you plan to work on in the future. The key characteristics of a well-organized and managed product backlog are summarized in the image below. DEEP, INVEST and DIVE is meaningful words.



*Figure 1: Characteristics of a Managed Product Backlog*

The **granularity** or size of work items should be determined based on how far into the future you are planning a product, i.e., the planning horizon. It is the observation that the longer or shorter the planning horizon, the larger or smaller the work items. This makes sense as it takes a lot more effort to develop, specify and maintain a large number of small-grain work items compared to developing, specifying and maintaining a small number of large-grain work items. Smaller work items, stories, are typically developed by breaking down larger work items, epics. Stories are the unit of software design, development and value delivery.

**DEEP product backlog**

A product backlog may have several hundred or more work items, hence the acronym DEEP. Work items can be comprised of stories, defects and test sets. DEEP is acronym capturing the essence of the logical structure of product backlog.

* **Detailed appropriately**: Work-items in the backlog are specified at an appropriate level of detail.
* **Estimated appropriately**: Work-items in the product backlog are estimated appropriately.
* **Emergent**: Product backlog is not frozen or static; it evolves or emerges on an on-going basis in response to product feedback, and changes in competitive, market and business. New backlog items are added, existing items are groomed (revised, refined, elaborated) or deleted or re-prioritized.
* **Prioritized as needed**: Work-items in the backlog are linearly rank-ordered as needed.

# SPRINT PLANNING AND WORK-ITEM GRANURALITY

If the planning horizon is the next, i.e., upcoming sprint or iteration (typically 2 to 4 weeks), each Work-items is small enough to fit in a single sprint, and is 100% ready (“ready-ready”) to be worked on, as indicated in Figure 1 – see the top red-colour region. A ready-ready story has already been analysed with clear definition (User Role, Functionality, and Business Value) and associated Acceptance Criteria. Work-items planned for the next sprint are stories, defects and test sets. The Work-items in the next sprint have the highest rank order compared to Work-items in later sprints or later release cycles. I will soon explain how this rank ordering is done.

The rank order information is used to decide the order in which the team will undertake work on Work-items in a sprint backlog, and also decide which incomplete Work-items to push out to the release or product backlog at the end of a sprint time-box.

Work-items in the next sprint collectively satisfy the well-known INVEST criteria; it is a meaningful English word, as well as an interesting acronym coined by Bill Wake. Its letters represent important characteristics of Work-items in the next sprint backlog. Stories in the next sprint backlog should be:

* **Independent of each other**: At the specification level stories are independent; they offer distinctly different functionality and don’t overlap. Moreover, at the implementation level these stories should also be as independent of each other as possible. However, sometimes certain implementation-level dependencies may be unavoidable.
* **Negotiable**: Stories in the next sprint are always subject to negotiations and clarifications among product owner (business proxy) and the members of agile development team.
* **Valuable**: Each story for the next sprint offers clear value or benefit to either external users or customers (outside the development team), or to the team itself, or to a stakeholder. For most products and projects, most stories offer value to external users or customers.
* **Estimable**: From the specification of story itself, an agile team should be able to estimate the effort needed to implement the story; this estimate is in relative size terms (story points), and optionally, it can also be in time units (such as ideal staff-hours or staff-days for the whole team). Thus, stories are estimated in story points, and also often in ideal time units.
* **Sized Appropriately**: A simpler interpretation of this criterion is that each story is Small enough to be completed and delivered in a single sprint. The letter “S” can be taken to mean Sized Appropriately; specifically, each story should take no more than N/4 staff-weeks of team effort for an N-week long sprint. Thus, for a 2-week sprint, each story should take no more than 2/4 staff-week = 0.5 staff-week = 20 staff-hours of effort. A story substantially larger than 20 staff-hours of total effort should be treated as an epic and be broken down into smaller stories. For a 4-week sprint, each story should take no more than 4/4 staff-week = 1 staff-week = 40 staff-hours of effort. If a sprint backlog has a mix of stories that are small, medium or large size stories (their average far exceeds N/4 staff-weeks), the average cycle time across all stories will increase dramatically reducing the team velocity.
* **Testable**: Each story specification is very clear to be able to develop all test cases from its acceptance criteria (which is part of the specification).

Stories may be broken down into implementation tasks, such as Analysis, Design, Code Development, Unit Testing, Test Case Development, On-line Help, etc. These tasks need to be SMART:

* + S: Specific
  + M: Measurable
  + A: Achievable
  + R: Relevant
  + T: Time-boxed (typically small enough to complete in a single day)

If a story needs to take no more than N/4 staff-week of team effort (ex. 20 staff-hours for 2-week sprints), all SMART tasks in a story should add up to no more than N/4 staff-week of team effort. If you have 5 tasks, each task on an average should take 4 hours of ideal time effort or less. Stories and its SMART tasks for the next sprint are worth INVESTing in, as the return on that Investment is high because they are scheduled to be worked on and delivered as working software in the next sprint itself.

# RELEASE PLANNING AND WORK GRANURALITY

If the planning horizon is an upcoming release cycle (typically 8 to 26 weeks, or 2 to 6 months long – consisting of several sprints), Work-items are “medium-grain” as shown in the middle yellow colour region of Figure 1. Typically, many of these Work-items are epics; however, they should be still small enough to fit in a release cycle and can be completed over two or more sprints in a release cycle. These epics are typically called features or feature-epics. These feature-epics should still be specified with User Role, Action, Value and Acceptance Criteria formalism that is often used for specifying stories, but now you are capturing a larger functionality represented by a feature-epic. Feature-epics are divided into stories – small enough to fit in a sprint – before the sprint in which a story will be implemented.

Over the time horizon of an entire release cycle, INVESTing in stories for an entire release cycle has poor returns, because it takes a lot of effort to ensure that the INVEST criteria is being satisfied correctly for a large number of stories covering an entire release cycle, and those stories are much more likely to change over the release cycle spanning several sprints; so this kind of Investment may not yield expected results as stories will very likely change during an entire release cycle after they have been specified.

**Feature-epics** in a release cycle can and should be estimated in relative size terms, but without expending the effort needed to break down all feature-epics in a release cycle into individual stories. This epic-level estimation can be done by comparing relative sizes of epics.

It still makes sense to rank order feature-epics in a release cycle to decide which ones will be scheduled in Sprint 1, 2, 3, and so on. However, this assignment may change as each sprint is completed and more information and learning emerge.

# PRODUCT PLANNING AND WORK-ITEM GRANURALITY

If the product planning horizon is over multiple release cycles (typically 6 to 24 months) going beyond the current release cycle, Work-items are “**coarse-grain**” as shown in the bottom graycolour region of Figure 1. These large epics or super epics require two or more release cycles to complete. These super epics may be described in plain English (bulleted text) or with screen mock-up or video or prototype or with any form of expression suitable to express the intent and value of super epics. These super epics are divided into feature-epics – small enough to fit in a single release cycle – before the release cycle in which that feature-epic will be implemented.

Over the time horizon of multiple release cycles, INVESTing in stories has even poorer returns compared to INVESTing in stories for a single release cycle. This kind of INVESTment will not yield expected results as stories are very likely to change over much longer duration of multiple release cycles.

Large epics or super epics that need multiple release cycles to be implemented can and should be estimated in relative size terms, but without expending the effort needed to break down large epics into feature-epics, and breaking those, in turn, into stories.

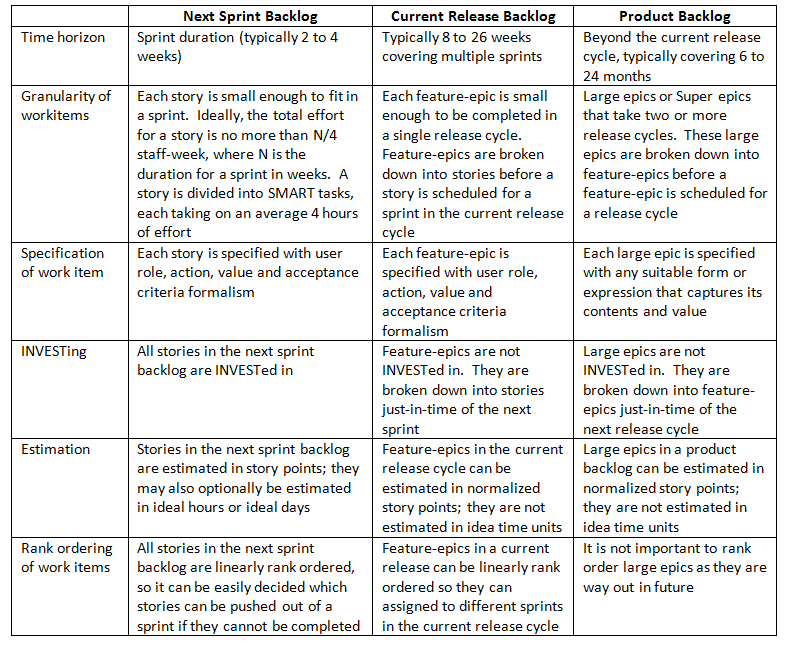
DIVE the product backlog carefully

There is rarely enough time or resources to do everything. Therefore, agile teams must prioritize (rank-order, to be more precise) which stories to focus on and which lowest rank-order stories could be pushed out of scope when close to the end of a sprint. For agile development projects, you should linearly rank-order the backlog, rather than do coarse-grain prioritization where stories and epics are lumped into a small number of priority buckets, such as Low, Medium, High, Critical priorities. Linear rank ordering (i.e., 1, 2, 3, 4 ….n) avoids inflation of priority, keeps everyone honest, and forces decisions on what is really important. It discourages the “kid-in-a-candy-shop” behaviour when the business side clamours that everything is of high-priority or of equal importance.

Note that epics and stories are conceptually different, and should not be mixed or aggregated while developing a rank order. An epic rank order is separate from a story rank order.

The responsibility of agile rank ordering is shared among all members of a team; however, the rank ordering effort is led by the product owner. Similar to DEEP, INVEST and SMART, DIVE is a meaningful English word, and also an acronym. Product backlog items should be linearly ordered based on the DIVE criteria, which requires careful consideration of all four factors captured in the DIVE acronym:

* Dependencies: Even after minimizing the dependencies among stories or epics (which is always a good thing to do), there may still be few unavoidable dependencies and they will have an impact on rank ordering. If Work-item A depends on B, B needs to be rank-ordered higher than A.
* Insure against Risks: Business as well as technical risks
* Business Value
* Estimated Effort



# PRODUCT BACKLOG: GOALS GRANURALITY

|  |  |
| --- | --- |
| **Goal-ID-1** | Collect grocery Stores Data |
| **Purpose** | To populate the whole database for future analysis.  The aim is to collect grocery sales data. This shall be achieved by collecting data from thed depletion in grocery stores database. |
| **Target Audience** | Customers |
| **Status** | Completed |
| **Task Description** | 1. Gather And Arrange Item Data. 2. Determine Data Correctness |
|  | 3. Filter Data Sources |
|  | 4. Identify Database System To Preserve Data. |
|  | 5. Analyse Data And Create Data Restore Point |
|  | 6. Extract Appropriate Data |
|  | 7. Insert Extracted Data |
|  | 8. Find Another Data Sources |
|  | 9. Create Backup of Database |
|  | 10. Log out after closing of application   |  | | --- | | 11. Avoid duplication of data | | 12. Search stock values in live databases from sources | | 13. Manage valid data input provided by the acquisition of stocks | | 14. Deal with Database updates | | 15. Keeping a track of entries made in the Database. | | 16. Consider Database validations | |

|  |  |
| --- | --- |
| **Goal-ID-2** | Create recipes and ingredients |
| **Purpose** | To make a set of recipes and its corresponding set of  ingredients |
| **Target Audience** | Customer |
| **Status** | Completed |
| **Task Description** | 1. Detect items in selected ingredients of recipe. |
|  | 2. Check item availability. |
|  | 3.Use classes to improve value prediction |
|  | 4. Use classes to Improve Searchability |
|  | 5. Remodel Database |
|  | 6.Analyse Database |
|  | 7. Consider Database Limitation |
|  | 8. Run Test Classifications |
|  | 9. Resolve classification overlaps |
|  | 11. Store traders profile data in standard formats |
|  | 12. Limit trader to update same data |
|  | 13. Avoid data leak by managing stock profile copies |
|  | 14. Handle storage of Database for profiles |
|  | 15. Maintain specifications of the Database |
|  | 16. Let user provide valid data and avoid over rights. |

|  |  |
| --- | --- |
| **Goal-ID-3** | Process recipes database |
| **Purpose** | Analysis is one of the main aspects of our project. To gather data and compile a proper sales/profit estimation for a store. |
| **Target Audience** | Grocery Store Owner/Stakeholder |
| **Status** | On-Going |
| **Task Description** | 1.Locate items in database |
|  | 2.Access the items.  3.Retrieve items statistics |
|  | 4.Examine Cost Details. |
|  | 5.Analyse daily sale of items.  6.Detailed reports on daily sale of items |
|  | 7.Graphs visualising percentage sales  8.Analyse graphical representaions of sales.  9.Predict various stock aspects. |
|  | 10.Recommendation of stock |
|  | 11. Analysis of Data transactions |
|  | 12. Systemize queries of the user |
|  | 13. Maintain consistency between databases |
|  | 14. Transact with stocks if available |
|  | 15. Control transactions |
|  | 16. Deal with repeated transactions. |

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| **Goal-ID-4** | Analyse the day-to-day sales |
| **Purpose** | To correct and cross validate the system. It helps in improving the system. Necessary so that the system stays in touch with the real parameters and gives accurate predictions. |
| **Target Audience** | Customer |
| **Status** | On-going |
| **Task Description** | 1. Get feedback from user |
|  | 2. Process Feedback |
|  | 3. Determine Feedback Response |
|  | 4. Analyse Required Changes |
|  | 5. Finalise the necessary changes |
|  | 6. Get it approved from the team |
|  | 7. Apply the necessary changes |
|  | 8. Formulate the software |
|  | 9. Re-Release Software |
|  | 11. Validate stock details |
|  | 12. Gain stock characteristics through live databases |
|  | 13. Manage stock exchanges |
|  | 14. Deal with changes of stock values continuously |
|  | 15. Generate data from company’s information |
|  | 16. Transact with company efficiently. |

|  |  |
| --- | --- |
| **Goal-ID-5** | Determine the system accuracy |
| **Purpose** | To improve the system in future by determining the system’s accuracy on the basis of how well it performs on different player profiles after feedback. |
| **Target Audience** | Customers |
| **Status** | On-going |
| **Task Description** | 1. Gather And Arrange Item Data. 2. Determine inaccuracies |
|  | 3. Determine causes |
|  | 4. Maintain inaccuracies record |
|  | 5. Sort out the inaccuracies |
|  | 6. Implement solutions |
|  | 7. Maintain restore point |
|  | 8. Backup data. |
|  | 9. Reform system |
|  | 10. Recommend trader competency |
|  | 11. Store the queries for future reference |
|  | 12. Update database according to the query |
|  | 13. Handle stock value |
|  | 14. Validate query before response |
|  | 15. Deal with database’s stock value updates and display |
|  | 16. Search for query in query log. |

|  |  |
| --- | --- |
| **Goal-ID-6** | Analyse the prediction. |
| **Purpose** | To understand the prediction given , verify it, and measure its accuracy and report the errors and possible solutions. |
| **Target Audience** | Customers |
| **Status** | On-going |
| **Task Description** | 1. Gather data on predictions.. 2. Analyse the data. |
|  | 3. Determine accuracy . |
|  | 4. Identify errors. |
|  | 5. Analyse errors |
|  | 6. Produce solutions |
|  | 7. Verify solution correctness |
|  | 8. Report the error and solution. |
|  | 9. Keep error record |
|  | 10. Re-Evaluate Regularly |
|  | 11. Validate feedback form |
|  | 12. Work accordingly to the feedback |
|  | 13. Store the necessary changes. |
|  | 14. Handle data updates due to feedback |
|  | 15. Apply changes on the software |
|  | 16. Control feedback system |

**T.Y. B. Tech.**

**CS 303: Software Engineering Laboratory**

Assignment No: 7

**eMandai - Intelligent Pocket Builder**

**User Story Cards**

***5 Mar 2018***

***Version 1.0***

|  |  |  |  |
| --- | --- | --- | --- |
| Project Group Information | | | |
| Roll. No. | **Gr. No.** | **Name** | **Roles** |
| 35 | **161074** | **Param Ekbote** | **Designer** |
| 42 | **161438** | **Pankaj Umbarkar** | **Developer** |
| 64 | **161166** | **Bharat Karamchandani** | **Analyst** |

**Approved By:Mahesh R. Dube**

**Academic Year: 2018-19 Semester: II**

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# 1. INTRODUCTION

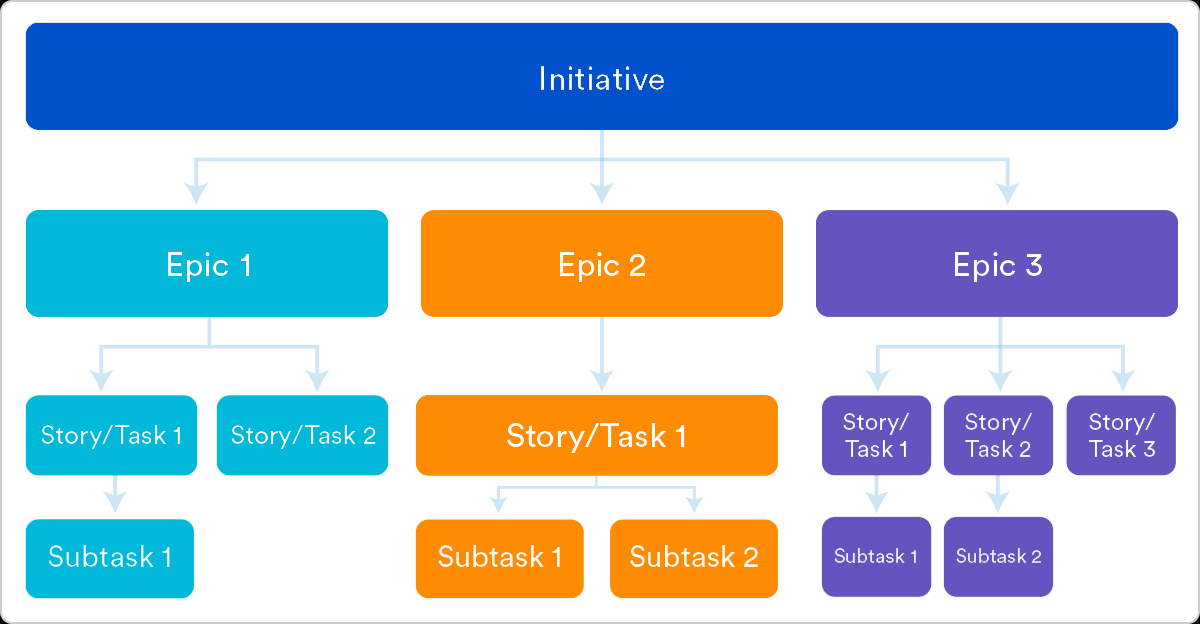
*What does defining customer problems look like in an agile world? The agile manifesto reminds us that we don’t always have to do it the “traditional” way. As product managers, we should be doing whatever is required to tell the story of the customer. Try different things: experiment, explore, then do what works best for you and your team in the context that you might be working in.*

* *If it means you can have several discussions and sketch something on a bit of paper – then do it.*
* *What if you could get everyone (including the customer) in a room and do a user story mapping exercise? If that communicates the problems well, then you don’t need to go much further.*
* *Or what if you can visit the customer and watch them use your product in context? Could you get your engineers and designers to sit next to the customer to listen to and observe their problems?*
* *Instrumenting your product with analytics hooks give you aggregate, concrete data about how customers as a whole are using your product.*
* *Another option would be to grab the product triad (a product manager, engineer and a designer) for a quick stand-up to sketch, discuss and make some quick decisions on the spot.*
* *Need to explore some more? Try running a workshop where you gather key stakeholders and do lots and lots of white-boarding or even paper prototyping to dive deep into understanding the problems you are trying to solve and how you could solve those problems.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Epic** Large body of work, contains stories | **Story** Smallest unit of work, also known as a task | **Version** The release of software to the customer | **Sprint** Iteration where team does the work |

# EPICS AND USER STORIES

*Epics are larger bodies of work that stories roll up into. An epic can span across multiple sprints and versions. Versions are different from epics, because they are a point in time where software is released to the customer. A version might contain multiple epics. Epics help teams create hierarchy and structure. Stories help teams keep track of specific details for the task at hand and can be broken down into sub-tasks.*



* *An* ***epic*** *is a large body of work that can be broken down into a number of smaller stories. For example, performance-related work in a release. An epic can span more than one project, if multiple projects are included in the board to which the epic belongs.*
* *Unlike sprints, epics often change in scope over time as a natural aspect of agile development. Epics are almost always delivered over a set of sprints. As a team learns more about an epic through development and customer feedback, user stories will be added and removed to optimize the team's release time.*
* ***Burndowncharts*** *can also be used to visualize epics, which keep teams motivated and the executive stakeholders informed. A good epic burndown chart shows the agile nature of development. It's clear how the team is progressing as well as where the product owner added and removed user stories. Having these data points clearly visible keeps everyone on the same page and facilitates open conversation about the evolution of the product and completion forecasts. Not to mention that transparency builds trust!*
* *A story or* ***user story*** *is the smallest unit of work in an agile framework. It is a software system requirement that is expressed in a few short sentences, ideally using non-technical language.*
* *The goal of a user story is to deliver a particular value back to the customer. Note that "customers" don't have to be external end users in the traditional sense, they can also be internal customers or colleagues within your organization who depend on your team.*
* ***User stories*** *are a few sentences in simple language that outline the desired outcome. They don't go into detailed requirements.*
* ***Versions*** *are the actual releases of software out to customers. Remember, at the end of each sprint the team should be able to ship the software to customers. Versions are the curated changes the product owner actually ships.*
* ***Versions*** *are often developed over a set of sprints, much like epics. Savvy product owners may choose to deliver an epic over several versions. An epic does not have to be fully contained within a version. By delivering an epic over several versions, the product owner can learn how the market is responding to that epic and make calculated decisions about its future direction rather than doing one giant release.*
* *A* ***sprint*** *is a short period in which the development team implements and delivers a discrete and potentially shippable application increment, e.g. a working milestone version. If you haven't run sprints before, we recommend using a fixed two-week duration for each sprint. It's long enough to get something accomplished, but not so long that the team isn't getting regular feedback.*
* *In* ***scrum****, teams commit to complete a set of user stories during a fixed time period. Generally speaking, sprints are one, two, or four weeks long. It's up to the team to determine the length of a sprint. Once a sprint cadence is determined, the team perpetually operates on that cadence. Fixed length sprints reinforce estimation skills and enable the ability to predict the future* ***velocity*** *for the team once they have the data from several completed sprints.*

*Once a team commits to a set of user stories for the sprint, and the sprint is started, the scrum master is in charge of fending off changes to the user stories. This keeps the team focused and combats "s****cope creep****" (adding work to the sprint after the sprint starts). Adding work mid-sprint compromises the team's ability to forecast and estimate accurately.*

*At the end of each sprint, the team is required to deliver a working piece of software. In scrum, that's called a* ***potentially shippable increment*** *(PSI). The product owner ultimately decides when the PSI gets released to customers, but the work should be complete enough to be suitable for release at the end of the sprint.*

*In agile development,* ***work in progress*** *(WIP) limits set the maximum amount of work that can exist in each status of a workflow. Limiting the amount of work in progress makes it easier to identify inefficiency in a team's workflow. Bottlenecks in a team's delivery pipeline are clearly visible before a situation becomes dire.*

# USER STORIES: GOAL-1

|  |  |  |  |
| --- | --- | --- | --- |
| Objective-1 | Collect Data of Grocery Store | | |
| Purpose | The purpose is to populate the whole database for future analysis.  This shall be achieved by collecting data from the depletion in grocery stores’ database. | | |
| Target Audience | Developer | | |
| Status | On-going/ Completed | | |
| Role: | **As a**developer | | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. List out the items available at the grocery store for sell | Deplete the database on order of the customer |
|  | 2.Populate the database with item name, shop name and price | Analyse which stores items were most sold and provide separate analysis for different shops |
|  | 3.Fill detailed information | Proceed the registration process. |
|  | 4.Submit Centre data | Confirm the registration process |
|  | 5.Verify registered email Id | Receive validated acknowledgement |
|  | 6.Upload Centre Documents | Authenticate From Centre |
|  | 7.Arrange Managers Meeting | Finalize the Field of centre Interest |
|  | 8. Validate Sources | Have genuine data services |
|  | 9. Assign database privileges | Monitor the changes made to the database. |
|  | 10. Launch Stock Profile Page | Fulfil project deliverables. |
|  | |  | | --- | | 11.Enlist Trader Services | | 12.Define Market Centre Privileges | | 13.Review Market Centre Work | | 14.Assign Market Centre Controls | | 15.Inquire Additional Facilities | | 16.Release Market Centre Controls | | Get Trader Stock Options.  Generate Market availability.  Extract market data.  Assign priorities to traders.  Explore additional possibilities.  Employ Database characteristics. |

|  |  |  |
| --- | --- | --- |
| Process-1 | Acquire items’ statistics | |
| Purpose | The aim is to collect grocery sales data. | |
| Target Audience | Internal Stakeholders | |
| Status | Completed | |
| Role: | **As a** developer | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. List out the items available at the grocery store for sell | Show the customers from where they could buy the desired product |
|  | 2.List the prices along with the shop name | The customers can see the prices. |
|  | 3. Set details’ fields in database | Add stock details. |
|  | 4. Accept Stock Inventory inputs | Add new Stocks. |
|  | 5. Resister Stock into database | Store new stocks. |
|  | 6. Set Statistic limits and bounds | Keep the data relative and realistic. |
|  | 7. Populate Stock details | Compare Stocks. |
|  | 8. Decide appropriate sorting for database | Create a relative comparison index. |

|  |  |  |
| --- | --- | --- |
| Objectice-2 | To populate the database with data of grocery stores | |
| Purpose | The aim is to collect grocery sales data. | |
| Target Audience | Internal Stakeholders | |
| Status | Completed | |
| Role: | **As a** developer | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. List out the items available at the grocery store for sell | Show the customers from where they could buy the desired product |
|  | 2.List the prices along with the shop name | The customers can see the prices. |
|  | 3. Conceptualise output parameters | Process of analysing is directed. |
|  | 4. Prioritise the important parameters | Produce accurate results. |
|  | 5. Draw a table for the shortlisted attributes | Formalize the observations. |
|  | 6. Organise the parameters | Simplify analysis process. |
|  | 7. Record formulated observations | Discuss with the analysis team. |
|  | 8. Correspond with Analysis team | Refine the observations |
|  | 9. Consolidate outline of analysis process | Systemize procedure. |
|  | 10. Construct final analysis methodology | Begin development process. |
|  | 11.Organize stock analyser | Begin attribute extraction |
|  | 12.Implement Database extraction | Generate user queries |
|  | 13.Conceptualise Database | Implement stock structure |
|  | 14.Remove Redundancies | Assure indiscrepency |
|  | 15.Get user queries | Analyse user protocols |
|  | 16.Assign trader sells | Generate market price. |

|  |  |  |
| --- | --- | --- |
| Process-1 | Acquire items’ statistics | |
| Purpose | The aim is to collect grocery sales data. | |
| Target Audience | Internal Stakeholders | |
| Status | Completed | |
| Role: | **As a** developer | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. List out the items available at the grocery store for sell | Show the customers from where they could buy the desired product |
|  | 2.List the prices along with the shop name | The customers can see the prices. |
|  | 3. Get a filtered list of stocks | compare the stocks according to my needs. |
|  | 4. Find similar stocks with same value | compare stock quality. |
|  | 5. Prioritize stocks by value | get best deal for the trader. |
|  | 6. Consider all stocks with comparable price | compare Trader price. |
|  | 7. Filter stats indicating market exposure | decide future value of stock. |
|  | 8. Filter stats indicating market characteristics | popularity of stock. |
|  | 9. Share backup with Project Team | Expect team to perform assigned tasks. |
|  | 10. Assign database privileges | Monitor the changes made to the database. |
|  | 11. Launch Trader Profile Page | Fulfil project deliverables. |
|  | 12. Log out after closing of application | Save the transaction changes. |
|  | 13. Store traders profile data in standard formats | Limit the database to the attribute queries |
|  | 14. Limit trader to update same data | Implement trader securities |
|  | 15. Avoid data leak by managing stock profile copies | Avoid data redundancy in database. |
|  | 16. Maintain specifications of the Database | Aggregate database rights |

# USER STORIES: TO MAKE A SET OF RECIPES AND ITS CORRESPONDING SET OF INGREDIENTS

|  |  |  |
| --- | --- | --- |
| Objective-1 | Make a Set of Recipes | |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Find and large number of recipes | Populate the database |
|  | 2. Maintain all the recipes in the database | Easily find the recipe |
|  | 3. extract recipe information | Use it for adding new recipes |
|  | 4. Delete all anomalies | Have clean database |
|  | 5. Make a good structure | Parse data easily |
|  | 6. Make database normalised | Have less redundant data |
|  | 7. Not let unauthorised person access database | Have data Safety |
|  | 8. Decide appropriate sorting for database | Create a relative rating index. |

|  |  |  |
| --- | --- | --- |
| Process-1 | Acquire recipes | |
| Purpose | Indicate purpose of the process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Set up a mandatory field set | maintain consistency of database. |
|  | 2. Accept inputs for new recipes | add new recipes. |
|  | 3. Resister Recipes into database | store new recipes. |
|  | 4. Populate list of recipes | compare recipes. |
|  | 5. Decide appropriate sorting for database | create a relative searching index. |
| I | 6. Update Database structure | accommodate updates. |
|  | 7. Create log file | keep track of changes made. |
|  | 8. Decide appropriate sorting for database | Create a relative rating index. |

|  |  |  |
| --- | --- | --- |
| Process-2 | Clean Data Anamolies | |
| Purpose | Indicate purpose of the Process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Validate format of recipe | verify that database is consistent. |
|  | 2. Decide attribute ranges | compare abnormalities of data |
|  | 3. Plot graph of all values | sieve abnormalities. |
|  | 4. Search for spikes in graph | identify data abnormalities. |
|  | 5. Investigate searched abnormality | verify the legitimacy. |
|  | 6. Produce the correct, improvised data | resolve the abnormality issue. |
|  | 7. Correct the found abnormality | refine the data. |
|  | 8. Commit changes on database | render the changes to the team. |

|  |  |  |
| --- | --- | --- |
| Objective-2 | Make a set of corresponding Recipes | |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Find all the required ingredients | Populate the database |
|  | 2. Maintain all the ingredients in the database | Easily find the ingredients |
|  | 3. extract ingredient’s information | Use it for adding new ingredients |
|  | 4. Delete all anomalies | Have clean database |
|  | 5. Make a good structure | Parse data easily |
|  | 6. Make database normalised | Have less redundant data |
|  | 7. Not let unauthorised person access database | Have data Safety |
|  | 8. Decide appropriate sorting for database | Create a relative rating index. |

|  |  |  |
| --- | --- | --- |
| Process-1 | Acquire ingredients | |
| Purpose | Indicate purpose of the process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Set up a mandatory field set | maintain consistency of database. |
|  | 2. Accept inputs for new ingredients | add new ingredients. |
|  | 3. Resister ingredients into database | store new ingredients. |
|  | 4. Populate list of ingredients | compare ingredients. |
|  | 5. Decide appropriate sorting for database | create a relative searching index. |
| I | 6. Update Database structure | accommodate updates. |
|  | 7. Create log file | keep track of changes made. |
|  | 8. Decide appropriate sorting for database | Create a relative rating index. |

|  |  |  |
| --- | --- | --- |
| Process-2 | Clean Data Anamolies | |
| Purpose | Indicate purpose of the Process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Validate format of ingredients | verify that database is consistent. |
|  | 2. Decide attribute ranges | compare abnormalities of data |
|  | 3. Plot graph of all values | sieve abnormalities. |
|  | 4. Search for spikes in graph | identify data abnormalities. |
|  | 5. Investigate searched abnormality | verify the legitimacy. |
|  | 6. Produce the correct, improvised data | resolve the abnormality issue. |
|  | 7. Correct the found abnormality | refine the data. |
|  | 8. Commit changes on database | render the changes to the team. |

# USER STORIES: PROCESS THE RECIPE DATABASE

|  |  |  |
| --- | --- | --- |
| Objective-1 | Retrieve the Data from Database | |
| Purpose | It is for taking a feedback from the user regarding the system. Helps in determining if there are bugs or if any improvements can be made. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. find and add large number of recipes | Make searching recipes easier. |
|  | 2. maintain all the recipes in database | Easily find the required recipe. |
|  | 3. analyse recipes | Make future decisions. |
|  | 4. survey market demands | Update the existing recipes. |
|  | 5. investigate new recipes | Ascertain my current database. |
|  | 6. administer information extraction | Put system to good use. |
|  | 7. Record formulated observations | Discuss with the analysis team. |
|  | 8. Correspond with Analysis team | Refine the observations |
|  | 9. Consolidate outline of analysis process | Systemize procedure. |
|  | 10. Construct final analysis methodology | Begin development process. |
|  | 11. Avoid data leak by managing stock profile copies | Avoid data redundancy in database. |
|  | 12. Maintain specifications of the Database | Aggregate database rights |
|  | 13. Let user provide valid data and avoid over rights. | Maintain database update integrity. |
|  | 14. Decide appropriate sorting for database | Create a relative rating index. |
|  | 15. Update Database structure | Accommodate details in Trader profiles. |
|  | 16. Create log file | Keep track of changes made. |

|  |  |  |
| --- | --- | --- |
| Process-1 | Extract ingredient list according to their respective categories | |
| Purpose | To know if the feedback given by the user is relevant and if the changes to be made are necessary to the system. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. find and add large number of ingredients | Make searching ingredients easier. |
|  | 2. maintain all the ingredients in database | Easily find the required ingredient. |
|  | 3. analyse ingredients | Make future decisions |
|  | 4. survey market demands | Update the existing ingredients. |
|  | 5. investigate new ingredients | Ascertain my current database. |
|  | 6. administer information extraction | Put system to good use. |
|  | 7. Filter stats indicating on previous transaction | Decide price of stock. |
|  | 8. Filter stats indicating current transactions | Capability of Trader. |

|  |  |  |
| --- | --- | --- |
| Process-2 | Check stock availability | |
| Purpose | Helps to determine whether the feedback is genuine and if the changes are necessary to be made. It helps in keeping the system updated. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. know the availability of an item | Assess the quality of an item |
|  | 2. find shopkeepers with available stock | Follow the shopkeeper’s sales & stocks |
|  | 3. determine shopkeeper’s business | Compile a report on a shopkeeper’s sales |
|  | 4. compare selling prices | Compare prices from different shops. |
|  | 5. Get it approved by the stakeholders | Make necessary changes to the system |
|  | 6. Process the feedback | Keep the system updated |
|  | 7. Filter stats indicating on previous transaction | Decide price of stock. |
|  | 8. Filter stats indicating current transactions | Capability of Trader. |

|  |  |  |
| --- | --- | --- |
| Objective-2 | Classify the ingredients | |
| Purpose | This will help to update the software with the right changes needed. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1.Acquire list of ingredients | Identify the various categories |
|  | 2.Examine data distribution per attribute | View relationships between the data |
|  | 3.Fix inconsistencies in selected attributes | Ensure correct data is used in future processes. |
|  | 4.Prototype groups according to attributes | Select viable grouping attributes |
|  | 5.Establish ingredient groups | Enable grouped data usage in further processes |
|  | 6.Access ingredient groups | View grouped data |
|  | 7.Form a basis/gist for the group | The usage of the group is enabled |
|  | 8.Choose encoding method for the basis | Encode data appropriately |
|  | 9.Establish results of encoding analysis | Forward it to developers |
|  | 10.Integrate results | They can be used in modelling. |
|  | 11. Analysis of Data transactions | Used for table generation. |
|  | 12. Systemize queries of the user | Extract meaningful transactions |
|  | 13. Maintain consistency between databases | Systemize customer. |
|  | 14. Transact with stocks if available | Avoid redundancy |
|  | 15. Control transactions | Maintain databases |
|  | 16. Deal with repeated transactions. | Exploit transaction chaining |

|  |  |  |
| --- | --- | --- |
| Process-1 | Group Ingredients | |
| Purpose | Know what is to be done with the feedback. If feedback is genuine changes are made and if not, a different response is made. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1.Acquire Ingredients Data | Identify Ingredients |
|  | 2.Identify Ingredients Attributes | View Ingredients Attributes from Ingredients database. |
|  | 3.Examine attribute-wise data | Extract attribute-wise player groups. |
|  | 4.Extract attributes for grouping | Extract attribute-wise player groups. |
|  | 5.Detect inconsistencies in selected attributes | Eliminate inconsistencies. |
|  | 6.Normalise and repair inconsistencies | Ensure proper data |
|  | 7.Verify correctness of normalisation | Validate normalisation |
|  | 8.Create Ingredients groups according to attribute | Use the grouped data for better statistical model |

|  |  |  |
| --- | --- | --- |
| Process-2 | Verify Ingredients Group | |
| Purpose | To modify the system. Keep it updated and free from bugs | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1.Access Ingredients groups | Use Ingredients groups for analysis |
|  | 2.Analyse Ingredients groups | Gain insights into the data |
|  | 3.Conceptualise basis of the groups | Verify the insights gained |
|  | 4.Derive basis for grouping | Validate the basis derived |
|  | 5.Decide encoding technique for derived basis | Represent the basis and insights in the database |
|  | 6.Validate encoding technique | Ensure proper representation via encoding |
|  | 7.Analyse encoded data | Verify usability of the encoded data |
|  | 8.Modify encoding technique | Ensure best encoding technique is used |

# USER STORIES: ANALYSE DAY TO DAY SALES

|  |  |  |
| --- | --- | --- |
| Objective-1 | Validate Stock Sales Data | |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Check his basic details | Append in database if its rights |
|  | 2. Scape shopkeeper’s sales data from respected source | Append in database for more info |
|  | 3. Check details filled by End user | Be sure about the data |
|  | 4. Delete all anomalies | Have clean database |
|  | 5. Call database admin for big mistakes | Have solution for those entries |
|  | 6.Append each shopkeeper, location category in their own table | Have faster searching |
|  | 7. Make a good structure | Parse data easily |
|  | 8. Make database normalised | Have less redundant data |
|  | 9. Not let unauthorised person access database | Have data Safety |

|  |  |  |
| --- | --- | --- |
| Process-1 | Fetch Stock Sales Data | |
| Purpose | Indicate purpose of the process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Take data from End User | Have one more source for shopkeeper’s data |
|  | 2. Take data from web scraping | Have reliable data source |
|  | 3. Append data by admin | Have initial database |
|  | 4. Take data from dataset repositories | Have huge database for head start |
|  | 5. Parse data from different API | Have faster data gathering |
|  | 6. Ask rai.net.in for rating | Use those ratings in database |
|  | 7. Use news details for new discoveries | Use them for highlights |
|  | 8. Have a forum | Get data from untrusted sources |

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| --- | --- | --- |
| Process-2 | Feed Data Model | |
| Purpose | Indicate purpose of the Process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Insert basic details in main table | Use it frequently |
|  | 2. Insert Players in different location category | Sort them out easily |
|  | 3. Insert forecasts in another table | Show shopkeeper daily sales forecast |
|  | 4. Update Current details in database | Use the newest numbers |
|  | 5. Use only stats which will affect prediction | Have better prediction |
|  | 6. Have highest R square value for the data model | Have Highest accuracy |
|  | 7. Make confusion matrix for the predicted values | See how close they are to the real value |
|  | 8. Use Dimensional reductionist | Delete irrelevant data from prediction |

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| --- | --- | --- |
| Objective-2 | Generate Predictions | |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Use relevant data only for prediction | Have better prediction |
|  | 2. Calculate R square for each data model | Choose highest R square model |
|  | 3. Scale the data | Have Normalised result |
|  | 4. Take care of categorised data | Have them in the prediction model |
|  | 5. Have only good data in the set | Get good predictions |
|  | 6. Train the model | See how values are generated |
|  | 7. Use different regression models | Choose the best result giving model |
|  | 8. Predict the test values using model | Check for deviation |
|  | 9. Calculate Confusion matrix | See accuracy of model |
|  | 10. Graph the predictions | Visualise predicted values |
|  | 11. Cross-validate against existing ones | Select them based on their quality. |
|  | 12. Validate the output of selected data | Ensure their correctness on traders |
|  | 13.Generatedatasource for transaction validation | Check whether results are correct |
|  | 14.Remove Redundancies | Assure discrepancy removal. |
|  | 15.Get user queries | Analyse user protocols |
|  | 16.Assign trader sells | Generate market price. |

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| --- | --- | --- |
| Process-1 | Communicate Stock Sales Forecast | |
| Purpose | Indicate purpose of the process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *User* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Make a new table only for values | Use them for main purpose of the system |
|  | 2. Show all forecasts of stocks on page | Make shopkeeper take decision |
|  | 3. Tell expected stock sales duration | Make user think about this stock |
|  | 4. Show net profit generated by following market trend. | Make shopkeeper discuss about this |
|  | 5. Show base stock required according to item | Show basic requirement to shopkeeper |
|  | 6. Show current sales of stock | Tell shopkeeper about current sales |
|  | 7. Show predicted sales | Tell shopkeeper about reserved stock to keep |
|  | 8. Show competitive index of shopkeeper among shopkeeper in similar location | Make shopkeeper think on how to increase sales |

|  |  |  |
| --- | --- | --- |
| Process-2 | Display Predicted Sales and Forecast | |
| Purpose | Indicate purpose of the Process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *User* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. See impressive GUI | See everything clearly |
|  | 2. See all sales of shopkeeper for the day | Compare sales of different food items |
|  | 3. See basic variance in sales of a food item | Know all basic things about all food item |
|  | 4. See all the values of sales of a food item | Take a decision of having that food item at shop |
|  | 5. See similar food item sales like the other | Think of choosing stock of food item with better sales |
|  | 6. See market on site and observe the sales | Bid for food item with better sales |
|  | 7.Perform cross-validation on rest transactions | Test their ability to generalize. |
|  | 8. Cross-validate against existing ones | Select them based on their quality. |

# USER STORIES: DETERMINE SYSTEM’S ACCURACY AND IMPROVE IT THROUGH FEEDBACK

|  |  |  |
| --- | --- | --- |
| Objective-1 | Generate feedback mechanism | |
| Purpose | It is for taking a feedback from the user regarding the system. Helps in determining if there are bugs or if any improvements can be made. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Create form for feedback | Get user feedback for the system |
|  | 2. Acquire user feedback | Access the feedback |
|  | 3. Access user feedback | Store the feedback for further use |
|  | 4. Store user feedback | Process the queries |
|  | 5. Process feedback | Determine the next steps |
|  | 6. Determine feedback response | Response apply changes in system |
|  | 7. Apply necessary changes | Fix bugs or make necessary improvements |
|  | 8. Update the system | Make it read for release |
|  | 9. Re-release software | Provide updates system for use |
|  | 10. Generate a feedback mechanism | Receive feedback from users |
|  | 11. Validate stock details | Maintain update characteristics. |
|  | 12. Gain stock characteristics through live databases | Manage the transactions of data |
|  | 13. Manage stock exchanges | View transactions |
|  | 14. Deal with changes of stock values continuously | Update databases |
|  | 15. Generate data from company’s information | View company profiles |
|  | 16. Transact with company efficiently. | Extract trader competency. |

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| --- | --- | --- |
| Process-1 | Assess User feedback | |
| Purpose | To know if the feedback given by the user is relevant and if the changes to be made are necessary to the system. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Generate a feedback mechanism | Take action on the feedback given by the user |
|  | 2. Create a from for feedback | Get user feedback regarding the system |
|  | 3. Acquire User feedback from the form | Store it and have access to it |
|  | 4. Store user feedback | Check it and take necessary steps |
|  | 5. Check if feedback is valid | Know what further steps are to be taken |
|  | 6. Validate feedback | Know if changes suggested are important |
|  | 7. Check if the changes in the given feedback are necessary | Understand if changes are to be made or not |
|  | 8. Assess user feedback | Know what changes are to made |

|  |  |  |
| --- | --- | --- |
| Process-2 | Process User Feedback | |
| Purpose | Helps to determine whether the feedback is genuine and if the changes are necessary to be made. It helps in keeping the system updated. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Generate a feedback mechanism | Take action on the user feedback |
|  | 2. Create a form for feedback | Get user feedback regarding the system |
|  | 3. Acquire User feedback | Store it and have access to it |
|  | 4. Have access to the feedback | Check it and take necessary steps |
|  | 5.Check the feedback | Know what further steps are to be taken |
|  | 6. Validate user feedback | Know if changes suggested are important |
|  | 7. Check if changes are necessary | Understand if changes are to be made |
|  | 8. Finalise the changes | Get it approved by the rest of the team |

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| --- | --- | --- |
| Objective-2 | Apply improvement steps | |
| Purpose | This will help to update the software with the right changes needed. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Create feedback form | Receive feedback from the user |
|  | 2. Get feedback from the user | Access, it and apply relevant changes |
|  | 3. Access the user feedback | Process the feedback |
|  | 4. Process the user feedback | Know what response is to be given to it |
|  | 5. Determine feedback response | Understand what changes are to be made |
|  | 6. Analyse changes required | Check if they are necessary |
|  | 7. Finalise the changes to be made | Get it approved from the rest of the team |
|  | 8. Get it approved from the team | Make necessary changes with everybody’s consent |
|  | 9. Make changes in the system | Apply it to the system and update it |
|  | 10. Apply improvement changes | Keep the software up-to-date |
|  | 11.Feed data to queries | Begin trade analysis |
|  | 12. Inspect stocks by quantity | Decide importance of quantity |
|  | 13.Verify proper output | Validate system |
|  | 14. Extract stock information | Use it for the display to traders |
|  | 15. Survey stock form | Give feedback of stock |
|  | 16. Find information of live stocks | Keep track of stock dependency |

|  |  |  |
| --- | --- | --- |
| Process-1 | Determine Feedback Response | |
| Purpose | Know what is to be done with the feedback. If feedback is genuine changes are made and if not, a different response is made. | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Create a feedback mechanism | Take action on the feedback given by the user |
|  | 2. Create a form for generating feedback | Receive feedback from the user |
|  | 3. Acquire the feedback from the user | Store it and apply relevant changes |
|  | 4. Store the feedback | Access the feedback when required |
|  | 5. Access the feedback | Check the user feedback |
|  | 6. Check the feedback | So that it can be validated |
|  | 7. Validate the feedback | Process it for further changes |
|  | 8. Process the feedback | Determine what response is to made |

|  |  |  |
| --- | --- | --- |
| Process-2 | Apply necessary changes | |
| Purpose | To modify the system. Keep it updated and free from bugs | |
| Target Audience | Customers/ Stakeholders | |
| Status | On-going/ Completed | |
| Role: | **As a** *developer* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. Generate feedback mechanism | Take action on the user feedback |
|  | 2. Acquire user feedback | Store it and apply relevant changes |
|  | 3. Validate the feedback | Process it for further changes |
|  | 4. Process the feedback | Determine what response is to made |
|  | 5. Determine feedback response | Understand what changes are to be made to the system |
|  | 6. Analyse changes to be made | Finalise them |
|  | 7. Finalise the changes | Get it approved by the rest of the team |
|  | 8. Get it approved from the team | Make the necessary changes in the system |

# USER STORIES: Analyse the prediction.

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| --- | --- | --- |
| Objective-1 | Evaluate the prediction | |
| Purpose | Indicate purpose of the Process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *User* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1. See prediction | See everything clearly |
|  | 2. See the input data | Compare sales of different food items |
|  | 3. See relations. | Know all basic things about all food item |
|  | 4. Store user feedback | Process the queries |
|  | 5. Process feedback | Determine the next steps |
|  | 6. Determine feedback response | Apply changes in system |
|  | 7. Apply necessary changes | Fix bugs or make necessary improvements |
|  | 8.Update the system | Make it read for release |
|  | 9.Re-release software | Provide updates system for use |
|  | 10. Generate a feedback mechanism | Receive feedback from users |
|  | 11. Get it approved from the team | Make the necessary changes in the system |
|  | 12.Apply the necessary changes in the software | Keep the software ready for re-release |
|  | 13.Re-release software | Keep the software updated for use |
|  | 14. Decide appropriate sorting for database | Create a relative rating index. |
|  | 15. Update Database structure | Accommodate details in Trader profiles. |
|  | 16. Create log file | Keep track of changes made. |

|  |  |  |
| --- | --- | --- |
| Process-1 | Study prediction | |
| Purpose | Indicate purpose of the Process here in 3/4/ statements. | |
| Target Audience | Stakeholders | |
| Status | On-going | |
| Role: | **As a** *User* | |
|  | **I want to** *<perform some task>* | **so that I can** *<achieve some goal>* |
| Task Description | 1.Generate a feedback mechanism | Take action on the feedback given by the user |
|  | 2.Create a from for feedback | Get user feedback regarding the system |
|  | 3.Acquire User feedback from the form | Store it and have access to it |
|  | 4.Store user feedback | Check it and take necessary steps |
|  | 5. Check if feedback is valid | Know what further steps are to be taken |
|  | 6.Validate feedback | Know if changes suggested are important |
|  | 7.Check if the changes in the given feedback are necessary | Understand if changes are to be made or not |
|  | 8. Assess user feedback | Know what changes are to made |

**Iteration Backlog User Stories Goal 1-** ACQUIRE STOCKS LIVE DATA

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| --- | --- | --- | --- | --- |
| **Objective-1** | **Register Transact Stock** | **SP** | **IC** | **IP** |
|  | 13.Review Market Stock Work Extract market data. | 13 | I1=20 | 1 |
|  | 3. As a Market Analyzer I want to register traders stock so that I can build Stock profile. | 5 |
|  | 9.As a Market Analyzer I want to Upload Stock Documents so that I can Authenticate From Stock | 2 |
|  | 1.As a Market Analyzer I want to find online transact so that I can provide Services to trader stocks. | 3 | I2=20 | 2 |
|  | 2.As a Market Analyzer I want to Select Registration Option so that I can register Transact Stock | 8 |
|  | 4.As a Market Analyzer I want to Read terms and conditions so that I can Decide further Actions. | 3 |
|  | 5.As a Market Analyzer I want to Accept Terms and condition so that I can Move to next step. | 1 |
|  | 7.As a Market Analyzer I want to Submit Stock data  Confirm the registration process | 5 |
|  | 12.As a Market Analyzer I want to Choose Trader type so that I can Make entry of broker | 8 | I3=19 | 3 |
|  | 14.As a Market Analyzer I want to Upload Trader Qualification Details so that I can Authenticate Broker | 8 |
|  | 6.As a Market Analyzer I want to Fill detailed information so that I can Proceed the registration process. | 3 |
|  | 15.As a Market Analyzer I want to Assign Trader Controls so that I can Avail assigned services to broker | 13 | I4=18 | 4 |
|  | 16.As a Market Analyzer I want to Verify registered email Id so that I can Receive validated acknowledgement | 5 |
|  | 10.As a Market Analyzer I want to Arrange Managers so that I can Finalize the Field of stock Interest | 5 | I5=18 | 5 |
|  | 11As a Market Analyzer I want to Validate that I can Access stock services | 5 |
|  | 16.As a Market Analyzer I want to Maintain Service Log so that I can Track stock activities | 8 |

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| --- | --- | --- | --- | --- |
| **Process-1** | **Acquire Stock Details** | **SP** | **IC** | **IP** |
|  | 8.As a Market Analyzer I want to take a tour so that I can verify facility details | 18 | I1=20 | 1 |
|  | 3..As a Market Analyzer I want to fetch government database so that I can cross check entered stocks data | 13 | I2=20 | 2 |
|  | 1.As a Market Analyzer I want to Access Transact Stocks Profiles so that I can Avail stocks basic information. | 5 |
|  | 4.As a Market Analyzer I want to run offline survey  so that I can compare with online data | 8 | I3=20 | 3 |
|  | 5.As a Market Analyzer I want to access stocks location so that I can locate transact stocks | 5 |
|  | 6.As a Market Analyzer I want to plot marker so that I can find exact location of the stocks | 5 |
|  | 7.As a Market Analyzer I want to enquire about more facilities so that I can add details to the profile. | 8 | I4=19 | 4 |
|  | 3.As a Market Analyzer I want to filter specific trader stocks so that I can scrutinize the data | 3 |

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| --- | --- | --- | --- | --- |
| **Process-2** | **Clean Data Abnormalities** | **SP** | **IC** | **IP** |
|  | 1.As a Market Analyzer I want to run offline check so that i can authenticate online details. | 5 | I1=20 | 1 |
|  | 2.As a Market Analyzer I want to ask stock phototable  so that I can certify stock details | 2 |
|  | 5.As a Market Analyzer I want to investigate provided documents  so that I can verify the legitimacy. | 13 |
|  | 4.As a Market Analyzer I want to access user review so that I can  check authenticity of service availability | 5 | I2=20 | 2 |
|  | 7.As a Market Analyzer I want to enquire service execution  so that I can trust the system. | 13 |
|  | 8.As a Market Analyzer I want to identify fake services  so that I can notify transact stock. | 5 | I3=20 | 3 |
|  | 3. As a Market Analyzer I want to stock registration number so that I can crosscheck with government details. | 8 | I4=19 | 4 |
|  | 6.As a Market Analyzer I want to corroborate data accuracy so that I can  evaluate efficiency. | 8 |

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| --- | --- | --- | --- | --- |
| **Objective-2** | **Analyse Stock Previous Data** | **SP** | **IC** | **IP** |
| **Task Description** | 1.As a Market Expert I want to Access transact Stock database so that I can Avail all the details | 5 | I1=20 | 1 |
|  | 3.As a Market Expert I want to Assign broker controls  so that I can Restrict stock controls. | 13 |
|  | 4.As a Market Expert I want to Manage user privileges  so that I can Limit user controls. | 2 |
|  | 2. As a Market Expert I want to Define stock controls  so that I can Assign stock controls. | 8 | I2=20 | 2 |
|  | 7.As a Market Expert I want to Provide privacy policy  so that I can Assure client security. | 8 |
|  | 9.As a Market Expert I want to Maintain group profile  so that I can Announce notifications, privacy and permissions | 2 |
|  | 6.As a Market Expert I want to Present work timeline  so that I can View work list. | 2 |
|  | 5.As a Market Expert I want to Enable Administrator privileges  so that I can Have full control over stock account. | 8 | I3=20 | 3 |
|  | 8.As a Market Expert I want to Display dashboard  so that I can Access avail services. | 3 |
|  | 10.Attach support inbox As a Market Expert I want to  so that I can Save the messages. | 2 |
|  | 11.As a Market Expert I want to Define setting parameters  so that I can Create account settings. | 3 |
|  | 12.As a Market Expert I want to Enlist language support so that I can Provide language list | 2 |
|  | 13.As a Market Expert I want to Provide notification  so that I can Notify transact stocks | 2 |
|  | 14.As a Market Expert I want to Render tracking service  so that I can Track the services. | 5 | I4=18 | 4 |
|  | 15.As a Market Expert I want to Enable migration service  so that I can Allow stock migration. | 5 |
|  | 16.As a Market Expert I want to Permit limited database access  so that I can Be assured that information is transferred. | 8 |

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| --- | --- | --- | --- | --- |
| **Process-1** | **Assign Stock Privileges** | **SP** | **IC** | **IP** |
|  | 1.As a Stock Expert Iwant to Create Transaction Stock Role so that I can Assign privileges to each role differently | 5 | I1=20 | 1 |
|  | 2.As a Stock Expert Iwant to Export account data  Backup emails data from entire accounts | 13 |
|  | 8.As a Stock Expert Iwant to Manage User Accounts  so that I can Control all user accounts from control panel. | 2 |
|  | 2.As a Stock Expert Iwant to Define Access restriction so that I can Limit Transaction stock privileges | 8 | I2=20 | 2 |
|  | 3.As a Stock Expert Iwant to Enable Expert Privileges  so that I can Empower Experts with full control over stock account | 5 |
|  | 5.As a Stock Expert Iwant to Set Roles and privileges  so that I can Allot varying levels of privileges to each user. | 5 |
|  | 6.As a Stock Expert Iwant toMonitor Audit logsso that I can  Track trader Transaction stock activities | 8 | I3=20 | 3 |
|  | 7.As a Stock Expert Iwant to Provide Email Policies so that I can  Setup restriction on mailbox. | 5 |

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| --- | --- | --- | --- | --- |
| **Process-2** | **Release Stock Controls** | **SP** | **IC** | **IP** |
| **Task Description** | 1. As a system Data Manager I want to Fetch Stocks Database so that I can Prepare the data using the details | 5 | I1=20 | 1 |
|  | 6. As a system Data Manager I want to check stocks table  so that I can cross-validate the table of | 13 |
|  | 2. As a system Data Manager I want to Detect Stock Facilities so that I can Manage stock facilities | 2 |
|  | 3. As a system Data Manager I want to review stock work so that I can  rank them in order | 8 | I2=20 | 2 |
|  | 5. As a system Data Manager I want to record stocks’ statistic  so that I can gather this record and inform the unselected stocks about it | 5 |
|  | 7. As a system Data Manager I want to generate stock template  so that I can maintain uniformity regarding the format of the message | 5 |
|  | 4. As a system Data Manager I want to formulate information table so that I can  provide precise information | 2 |
|  | 8. As a system Data Manager I want to notify stock report  so that I can approach the stocks for the vacan cies created | 5 | I3=20 | 3 |

**User Stories Goal 2-** Build Trader Data Profiles

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Objective-1** | **Catalogue Traders** | **SP** | **IC** | **IP** |
| **Task Description** | 4. As a Trader Manager I want to Record intake location so that I can Save location details. | 13 | I1=20 | 1 |
|  | 6. As a Trader Manager I want to Set Catalogue Parameter so that I can Organize Trader details | 5 |
|  | 2. As a Trader Manager I want to Ascertain Trader so that I can Categorize the Traders. | 2 |
|  | 8. As a Trader Manager I want to Browse Trader feature so that I can Match with existing data | 13 | I2=20 | 2 |
|  | 10. As a Trader Manager I want to Decide attribute ranges so that I can Compare abnormalities of data | 5 |
|  | 15. As a Trader Manager I want to Catalogue Traders so that I can Use while reporting Trader | 2 |
|  | 13. As a Trader Manager I want to Produce the correct data so that I can Resolve the abnormality issue | 13 | I3=18 | 5 |
|  | 14. As a Trader Manager I want to Correct found abnormality so that I can Refine the data | 5 |
|  | 11. As a Trader Manager I want to Inspect catalogue database so that I can Sieve abnormalities | 8 | I4=19 | 3 |
|  | 5. As a Trader Manager I want to Record Trader Details so that I can Store into database | 8 |
|  | 1. As a Trader Manager I want to Observe Trader living condition so that I can Determine whether Trader is existing. | 3 |
|  | 12. As a Trader Manager I want to Search for inadequate data so that I can Identify missing and null data | 8 | I5=19 | 4 |
|  | 16. As a Trader Manager I want to Commit database changes so that I can Render the changes to the team | 8 |
|  | 3. As a Trader Manager I want to Determine type so that I can Find characteristics. | 3 |
|  | 7. As a Trader Manager I want to Take Trader phototable so that I can Identify Trader | 5 | I6=8 | 6 |
|  | 9. As a Trader Manager I want to Assert Trader so that I can Mention in the Trader catalogues | 3 |

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| **Process-1** | **Create Trader portfolio** | **SP** | **IC** | **IP** |
| **Task Description** | 4. As a Database Administrator I want to List characteristics so that I can Use for further actions. | 13 | I1=20 | 1 |
|  | 1. As a Database Administrator I want to Observe Trader living condition so that I can Determine whether Trader is missing, pet or roadside. | 5 |
|  | 3. As a Database Administrator I want to Determine type so that I can Find characteristics | 8 | I2=20 | 2 |
|  | 2. As a Database Administrator I want to Ascertain Trader so that I can Categorize the Traders. | 5 |
|  | 5. As a Database Administrator I want to Identify body marks so that I can Identify Trader uniqueness. | 3 |
|  | 8. As a Database Administrator I want to Pre-process Traders attribute details so that I can Analyse Trader behavioural changes | 8 | I3=20 | 3 |
|  | 7. As a Database Administrator I want to Identify all other attributes so that I can Use it for pre-processing | 3 |
|  | 6. As a Database Administrator I want to Recognize coat type so that I can Specify Trader precisely | 8 | I5=13 | 5 |

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| **Process-2** | **Register Trader Feature** | **SP** | **IC** | **IP** |
| **Task Description** | 7. As a Database Administrator I want to Record formulated observations so that I can discuss with the analysis team | 13 | I1=20 | 1 |
|  | 2. As a Database Administrator I want to Design patterns for attributes so that I can study the data | 5 |
|  | 3. As a Database Administrator I want to Conceptualise output parameters so that I can process of analysing is directed | 2 |
|  | 4. As a Database Administrator I want to Group and compare attributes so that I can examine data distribution | 13 | I2=20 | 2 |
|  | 4. As a Database Administrator I want to Prioritise the important parameters so that I can produce accurate results | 5 |
|  | 6. As a Database Administrator I want to Organise the parameters so that I can simplify analysis process | 2 |
|  | 1. As a Database Administrator I want to Organise Trader database attributes so that I can easily analyse the data | 8 | I3=20 | 3 |
|  | 8. As a Database Administrator I want to Correspond with Analysis team so that I can refine the observations | 5 |
|  | 5. As a Database Administrator I want to Map shortlisted attributes so that I can formalize the observations | 8 | I4=19 | 4 |
|  | 6. As a Database Administrator I want to Consolidate outline analysis process so that I can systemize procedure | 8 |

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| **Objective-2** | **Prepare Trader Transaction Chart** | **SP** | **IC** | **IP** |
| **Task Description** | 8. As anTrader Manager I want to Know Trader Welfare Assessment so that I can Understand physiologically, behaviourally growing needs | 13 | I1=20 | 1 |
|  | 2. As anTrader Manager I want to Filter Trader wise information so that I can Create Count of Trader | 5 |
|  | 6. As anTrader Manager I want to Measure housing environment so that I can Arrange services | 2 |
|  | 1. As anTrader Manager I want toRetrieve Trader data source so that I can Have Trader information | 8 | I2=20 | 2 |
|  | 14. As anTrader Manager I want to Inform the Authorities so that I can Make further process | 5 |
|  | 16. As anTrader Manager I want to Store details into database so that I can Use it in future | 5 |
|  | 10. As anTrader Manager I want to Give emotional support so that I can Assure Sustainability of Trader | 2 |
|  | 3. As anTrader Manager I want to Sort test results according to criteria so that I can Understand the Transaction zone of Trader | 8 | I3=19 | 3 |
|  | 4. As anTrader Manager I want to Know Trader type so that I can Make filter based on this | 8 |
|  | 5. As anTrader Manager I want to Know food available so that I can Maintain type of food | 3 |
|  | 7. As anTrader Manager I want to Score body condition & lameness so that I can Prepare health report | 8 | I4=19 | 4 |
|  | 9. As anTrader Manager I want to Identify Nutritional changes so that I can Analysis the behaviour. | 8 |
|  | 11. As anTrader Manager I want to Find Behavioural expectation so that I can Expect the reaction. | 3 |
|  | 12. As anTrader Manager I want to Ascertain so that I can Add data to the chart | 3 | I5=19 | 5 |
|  | 13. As anTrader Manager I want to Secure Location Access so that I can Keep Trader safe. | 8 |
|  | 15. As anTrader Manager I want to Confirm Trader data so that I can Store into database | 8 |

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| **Process-1** | **Gather Living Conditions** | **SP** | **IC** | **IP** |
| **Task Description** | 4. As a taker I want to Assess Trader welfare conditions so that I can Add data to the chart | 13 | I1=20 | 1 |
|  | 1. As a taker I want to Know the type of Trader so that I can Make filter based on this | 5 |
|  | 6. As a taker I want to Find Behavioural expectation so that I can Expect behavioural changes. | 2 |
|  | 8. As a taker I want to Corroborate selected attributes consistency so that I can prevent problems affecting further process | 5 |
|  | 7. As a taker I want to List available Traders attributes so that I can choose attributes to be considered | 2 |
|  | 3. As a taker I want to Gather environmental body effects so that I can Avoid that exposure | 8 | I3=20 | 3 |
|  | 2. As a taker I want to Assess surrounding environment so that I can Know Environmental differences | 3 |
|  | 5. As a taker I want to Detect emotional characteristics so that I can Give emotional support | 1 |

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| **Process-2** | **Register Details** | **SP** | **IC** | **IP** |
| **Task Description** | 8. As a Trader Manager I want to Register details so that I can Use into Trader registration | 13 | I1=20 | 1 |
|  | 1. As a Trader Manager I want to Set mandatory field so that I can maintain consistency of database | 5 |
|  | 7. As a Trader Manager I want to Discuss Trader Analysis so that I can Ensure system correctness | 2 |
|  | 5. As a Trader Manager I want to Register details into database so that I can store new details | 8 | I2=20 | 2 |
|  | 2. As a Trader Manager I want to Ascertain details so that I can make system as accurate as possible | 3 |
|  | 3. As a Trader Manager I want to Set fields detail so that I can add details | 1 |
|  | 4. As a Trader Manager I want to Accept details inputs so that I can Store new details | 5 | I4=20 | 3 |
|  | 8. As a Trader Manager I want to Decide appropriate sorting for database so that I can create a relative rating index | 5 |
|  | 6. As a Trader Manager I want to Set limits and bounds in database so that I can keep the data relative and realistic | 3 | I5=9 | 5 |
|  | 7. As a Trader Manager I want to Evoke details so that I can compare continents | 3 |

**3. USER STORIES: GOAL 3– Capture Trader Status**

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| **Objective-1** | **Classify Trader status** | **SP** | **IC** | **IP** |
|  | 1.As a Trader Administrator I want to Organize Trader Portfolio so that I can Study and Observe Trader status and behaviour. | 5 | I1=20 | 1 |
|  | 4.As a Trader Administrator I want to Validate Trader Information  So that I can Provide reliable information to the Trader Administrator team | 13 |
|  | 2.As a Trader Administrator I want to Access transact Trader database  So that I can Retrieve Trader Information about various aspects. | 2 |
|  | 3.As a Trader Administrator I want to Access Trader Transaction Chart so that I can  Use the relative information for further analysis. | 5 | I2=20 | 2 |
|  | 5.As a Trader Administrator I want to Maintain Record Changes so that I can  Keep track of every action done by the system | 8 |
|  | 6.As a Trader Administrator I want to Create status categories  So that I can Categorize the status. | 2 |
|  | 7.As a Trader Administrator I want to Study Trader status fully  So that I can Classify the Trader status | 5 | I3=20 | 3 |
|  | 9.As a Trader Administrator I want to Feed the database  So that I can Access it in future. | 8 |
|  | 10.As a Trader Administrator I want to Observe Trader Behaviour  So that I can Note down the characteristics. | 5 |
|  | 11.As a Trader Administrator I want to Note down behavioural changes  So that I can Expect the Trader behaviour. | 2 |
|  | 8.As a Trader Administrator I want to Create Trader status chart  So that I can Use it for further process. | 5 | I4=18 | 4 |
|  | 12.As a Trader Administrator I want to Categorize Trader status  So that I can Classify Traders | 8 |
|  | 13.As a Trader Administrator I want to Communicate the users  So that I can Convey them the Trader status | 5 |
|  | 14.As a Trader Administrator I want to Arrange Trader meeting  So that I can Discuss further process. | 8 | I5=18 | 5 |
|  | 15.As a Trader Administrator I want to Derive status report  So that I can Provide to the users. | 5 |
|  | 16.As a Trader Administrator I want to Correspond with analysis team  So that I can Convey the changes. | 5 |

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| **Process-1** | **Certify Trader status** |  |  |  |
|  | 1.As a Transaction Analyzer I want to Access Trader database so that I can Get Trader status information | 5 | I1=20 |  |
|  | 4.As a Transaction Analyzer I want to Identify the changes so that I can  Make changes in the database. | 2 |  |
|  | 2.As a Transaction Analyzer I want to Get Trader status chart so that I can Study Trader status | 5 | I2=20 | 2 |
|  | 3.As a Transaction Analyzer I want to Reorganize Trader portfolio  So that I can Update the data | 8 |
|  | 5.As a Transaction Analyzer I want to Register status features  So that I can Use it for further actions. | 8 | I3=20 | 3 |
|  | 7.As a Transaction Analyzer I want to Remove inconsistent data  So that I can Make consistent database. | 8 |
|  | 6.As a Transaction Analyzer I want to Study status characteristics  So that I can Observe the changes. | 5 | I4=18 | 4 |
|  | 8.As a Transaction Analyzer I want to Create log File  So that I can Record saved data. | 5 |

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| **Process-2** | **Register Trader status** | **SP** | **IC** | **IP** |
|  | 1.As an System administrator I want to Retrieve Trader Trader database so that I can  Access Trader information | 5 | I1=20 | 1 |
|  | 2.As an System administrator I want to Get Trader Trader Profiles  So that I can Utilize more information | 13 |
|  | 3.As an System administrator I want to Study Trader status chart  So that I can observe the characteristics | 2 |
|  | 4.As an System administrator I want to Get categorized status  So that I can Determine status registration options | 8 | I2=20 | 2 |
|  | 7.As an System administrator I want to Draw a map for the shortlisted attributes  So that I can formalize the observations | 2 |
|  | 5.As an System administrator I want to Contact system analyst  So that I can Get analysed data | 5 | I3=20 | 3 |
|  | 6.As an System administrator I want to Study analysed data  So that I can Compare the status | 5 |
|  | 8.As an System administrator I want to Pre-process Traders attribute details  So that I can Analyse Trader behavioural changes | 5 | I4=18 | 4 |

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| **Objective-2** | **Diagnose Trader Health** | **SP** | **IC** | **IP** |
|  | 1.As a Transaction Analyzer I want to Fetch Trader data so that I can  Study Trader data. | 5 | I1=20 | 1 |
|  | 6.As a Transaction Analyzer I want to Give inspection allotments  So that I can Prioterize the work easily | 13 |
|  | 2.As a Transaction Analyzer I want to Access Trader status chart  So that I can Study fully Trader status | 2 |
|  | 3.As a Transaction Analyzer I want to Build Queries template  So that I can Prepare sequence chart. | 8 | I2=20 | 2 |
|  | 5.As a Transaction Analyzer I want to Access Trader transaction chart  So that I can Study their weak points. | 8 |
|  | 12.As a Transaction Analyzer I want to Maintain Record Changes  So that I can Keep track of every action done by the system | 2 |
|  | 13.As a Transaction Analyzer I want to Present Trader data  So that I can Make arrangement of required treatment | 2 |
|  | 4.As a Transaction Analyzer I want to Categorize Trader health severity so that I can Prioritize the Trader inspection sequence | 5 | I3=18 | 3 |
|  | 10.As a Transaction Analyzer I want to Suggest necessary treatment  So that I can Diagnose next Trader. | 13 |
|  | 7.As a Transaction Analyzer I want to Diagnose Trader fully  So that I can Give treatment successfully. | 13 | I4=18 | 4 |
|  | 8.As a Transaction Analyzer I want to Make note of points  So that I can Use it for further actions. | 5 |
|  | 9.As a Transaction Analyzer I want to Discuss with other veterinaries So that I can Confirm the treatment. | 5 | I5=18 | 5 |
|  | 11.As a Transaction Analyzer I want to Inspect Trader injury severity  So that I can Suggest surgery treatment. | 8 |
|  | 14.As a Transaction Analyzer I want to Find root cause of disease  So that I can Avoid future happening. | 5 |
|  | 15.As a Transaction Analyzer I want to Schedule the work  So that I can Complete in time. | 8 | I6=16 | 6 |
|  | 16.As a Transaction Analyzer I want to Diagnose all the Traders  So that I can Prepare a data chart. | 8 |

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| **Process-1** | **Identify Trader Symptoms** | **SP** | **IC** | **IP** |
| **Task Description** | 1.As a Transaction Analyzer Trader I want toDiagnose Trader health so that I can  Identify Trader symptoms. | 5 | I1=20 | 1 |
|  | 3.As a Transaction Analyzer Trader I want toValidate Trader Information  So that I can Take Further Actions. | 13 |
|  | 2.As a Transaction Analyzer Trader I want toAccess Trader database so that I can  Study relevant information. | 8 | I2=19 | 2 |
|  | 4.As a Transaction Analyzer Trader I want toEliminate Irrelevant Information  So that I can Avoid confusion | 8 |
|  | 5.As a Transaction Analyzer Trader I want toStudy Trader Injuries  So that I can Note down Trader symptoms. | 5 | I3=20 | 3 |
|  | 6.As a Transaction Analyzer Trader I want toObserve Trader Symptoms  So that I can Derive the injury type. | 13 |
|  | 7.As a Transaction Analyzer Trader I want toDetermine injury or symptoms severity  So that I can Take some more test | 8 | I4=18 | 4 |
|  | 8.As a Transaction Analyzer Trader I want toTake some medical test  So that I can Clear the assumptions. | 13 | I5=18 | 5 |

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| **Process-2** | **Generate Health Report** | **SP** | **IC** | **IP** |
| **Task Description** | 1As an Broker I want to Access Trader database so that I can  Extract important information. | 5 | I1=20 | 1 |
|  | 3.As an Broker I want to Communicate with Transaction Analyzer so that I can  Get help in report making. | 13 |
|  | 9.As an Broker I want to Categorize the Trader details  So that I can Make proper format. | 2 |
|  | 2.As an Broker I want to Retrieve Trader Status chart so that I can Use it for report making. | 8 | I2=20 | 2 |
|  | 4.As an Broker I want to Extract all the Trader files so that I can Get all the relevant information. | 5 |
|  | 7.As an Broker I want to Communicate with taker so that I can  Discuss Trader behaviour. | 5 |
|  | 6.As an Broker I want to Verify data in the database so that I can  Authenticate the data. | 13 | I3=20 | 3 |
|  | 5.As an Broker I want to Study Previously generated reports so that I can  Use the data in final report | 8 | I3=19 | 4 |
|  | 8.As an Broker I want to Contact with Trader so that I can  Know the report well. | 8 |

# 4.USER STORIES: GOAL 4- Extract Stock Characteristics

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| **Objective-1** | Recognise Stock Existing Data | **SP** | **IC** | **IP** |
| **Task Description** | 7.As an Administrator I want to Record user Queries so that I can Each queries must be recorded in database | 13 | I1=20 | 1 |
|  | 9.As an Administrator I want to Build Queries template so that I can Make a template for sending the information to Transaction Analyzer | 5 |
|  | 3.As an Administrator I want to Request facilitator so that I can develop feedback. | 2 |
|  | 1.As an Administrator I want to Retrieve stock Database so that I can Accumulate all the information regarding stocks. | 8 | I2=20 | 2 |
|  | 6.As an Administrator I want to Provide Precise information so that I can Give Information about the user queries | 8 |
|  | 2.As an Administrator I want to Take company’s stock data so that I can observe stock fluctuations. | 3 |
|  | 4.As an Administrator I want to Examine stock facilities so that I can Understand the quantity of the stock. | 1 |
|  | 8.As an Administrator I want to Inform Queries Result so that I can Provide information about the user queries to Transaction Analyzer | 8 | I3=20 | 3 |
|  | 10.As an Administrator I want to Notify unselected Queries so that I can Discard the unnecessary problems | 8 |
|  | 5.As an Administrator I want to ensure machine availability so that I can identify available treatments. | 3 |
|  | 15.As a Administrator I want to Avoid Space Wastage so that I can Remove the unnecessary information | 1 |
|  | 12.As an Administrator I want to Make Future availability so that I can Make it available for future use | 8 | I4=20 | 4 |
|  | 11.As an Administrator I want to Finalize Queries Content so that I can Provide the Transaction Analyzer with the queries details | 5 |
|  | 16.As an Administrator I want to Promote Query Table so that I can Update the query form according to feedback | 5 |
|  | 14.As an Administrator I want to Evaluate Feature Selection so that I can Choose appropriate strategy for queries | 2 |
|  | 13.As an Administrator I want to Provide Cross-validation so that I can Provide a correct required details | 3 | I5=3 | 5 |

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| **Process-1** | Inspect Current Stock Registers | **SP** | **IC** | **IP** |
| **Task Description** | 1.As a Stock Register Manager I want to Trace User Location so that I can Identify where user is | 13 | I1=20 | 1 |
|  | 3.As a Stock Register Manager I want to Validate User Location so that I can Identify the authenticity of user location | 5 |
|  | 7.As a Stock Register Manager I want to Inspect User Location so that I can Analyse its importance | 2 |
|  |  |  |  |  |
|  | 5.As a Stock Register Manager I want to Promote User Location so that I can Keep my database update regarding user location | 5 |
|  | 2.As a Stock Register Manager I want to Corroborate User Location so that I can See that user location is correct | 8 | I3=19 | 4 |
|  | 4.As a Stock Register Manager I want to Identify Nearby Places so that I can Locate the user easily | 8 |
|  | 6.As a Stock Register Manager I want to Hoard User Location so that I can Use it for future use | 3 |
|  | 8.As a Stock Register Manager I want to Determine User Location so that I can Send emergency alerts whenever user is trapped in dangerous situations | 5 | I4=20 | 3 |

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| **Process-2** | Inspect Relevant Characteristics | **SP** | **IC** | **IP** |
| **Task Description** | 3.As Administrator I want to Ensure data correctness so that I can Check broker data | 13 | I1=20 | 1 |
|  | 2.As Administrator I want to Accumulate Broker Data so that I can Extract the data | 5 |
|  | 4.As Administrator I want to Extract Useful Information so that I can Process it for further changes | 2 |
|  | 7.As Administrator I want to Display Broker Experience so that I can Assure user about brokers growth | 5 |
|  | 1.As Administrator I want to Obtain Trader Trader Details so that I can Obtain broker information | 8 | I3=19 | 3 |
|  | 8.As Administrator I want to Access Feedback about Broker so that I can check the users feedback | 8 |
|  | 5.As Administrator I want to Arrange Meeting Schedules so that I can Report broker activities to users | 3 |
|  | 6.As Administrator I want to Extract Broker Data so that I can Achieve the speed of retrieval | 3 | I6=9 | 6 |

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| **Objective-2** | Inspect Changes on Transactions | **SP** | **IC** | **IP** |
| **Task Description** | 3.As a Transaction Analyzer I want to Extract Administrator information so that I can Use it for the assigning of Administrator | 13 | I1=20 | 1 |
|  | 1.As a Transaction Analyzer I want to Add large number of broker so that I can Make broker assignment easier | 5 |
|  | 12.As a Transaction Analyzer I want to Make a precise database so that I can Use it to display to users | 2 |
|  | 10.As a Transaction Analyzer I want to find services provided by Administrator so that I can Assign Administrator. | 13 | I2=20 | 2 |
|  | 4.As a Transaction Analyzer I want to Investigate searched abnormality so that I can Verify the legitimacy | 5 |
|  | 16.As a Transaction Analyzer I want to Know the data sources so that I can Trust the system | 2 |
|  | 2.As a Transaction Analyzer I want to Conserve Administrator in database so that I can Easily find the Administrator as per Trader | 8 | I3=20 | 3 |
|  | 6.As a Transaction Analyzer I want to Correct the found abnormality so that I can Refine the data | 8 |
|  | 8.As a Transaction Analyzer I want to Check already used data so that I can Rollback the incorrect data operations | 3 |
|  | 13.As a Transaction Analyzer I want to Track validation process so that I can Verify data | 1 |
|  | 7.As a Transaction Analyzer I want to Commit changes on database so that I can Render the changes to the team | 8 | I4=19 | 4 |
|  | 9.As a Transaction Analyzer I want to Notify team about changes so that I can Ensure consistency in the system | 8 |
|  | 14.As a Transaction Analyzer I want to Run background checks so that I can Ascertain data correctness. | 3 |
|  | 5.As a Transaction Analyzer I want to Produce the correct, improvised data so that I can Resolve the abnormality issue | 5 | I6=18 | 6 |
|  | 11.As a Transaction Analyzer I want to Get correct Administrator transaction so that I can To recommend Administrator to user | 5 |
|  | 15.As a Transaction Analyzer I want to Ensure Administrator Information so that I can Protect Administrator data that I represent | 3 |

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| **Process-1** | Pre-Process User Input Data | **SP** | **IC** | **IP** |
| **Task Description** | 1.As a Administrator I want to Access Current Trader status so that I can Make plan accordingly | 13 | I1=20 | 1 |
|  | 4.As a Administrator I want to Eliminate Irrelevant Information so that I can Avoid confusion | 5 |
|  | 6.As a Administrator I want to Conserve Record Changes so that I can Keep track of every action done by the system | 2 |
|  | 2.As a Administrator I want to Check ambulance service required so that I can Arrangement of ambulance | 8 | I2=20 | 2 |
|  | 3.As a Administrator I want to Validate Trader Information so that I can Provide reliable information to the Administrator team | 3 |
|  | 8.As a Administrator I want to Present Trader data so that I can Make arrangement of required treatment | 1 |
|  | 7.As a Administrator I want to Create log file so that I can Store the changes made in the system | 3 |
|  | 5.As a Administrator I want to Inform ambulance so that I can Call ambulance to user location | 1 |

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| **Process-2** | Append Relevant Updates | **SP** | **IC** | **IP** |
| **Task Description** | 8.As a Transaction Analyzer I want to Assign experienced Administrator so that I can Provide best possible service | 13 | I1=20 | 1 |
|  | 1.As a Transaction Analyzer I want to Request Report Creation so that I can So that it can be used for analysis of Trader | 5 |
|  | 5.As a Transaction Analyzer I want to Inspect Trader as per status report so that I can Detect disease | 2 |
|  | 6.As a Transaction Analyzer I want to Detect values so that I can Alert facilitator about amrket | 5 |
|  | 3.As a Transaction Analyzer I want to Store Trader Details so that I can Use for further analysis | 2 |
|  | 2.As a Transaction Analyzer I want to Find Trader Status Report so that I can Build a Trader status Report | 8 | I3=20 | 3 |
|  | 4.As a Transaction Analyzer I want to Request facilitators permission so that I can Start treatment | 8 |
|  | 7.As a Transaction Analyzer I want to Access treatment data source so that I can Filter previous treatments | 8 | I4=16 | 4 |

**5. USER STORIES: GOAL 5- Process User Requests/Queries**

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| **Objective-1** | Recognise User Queries | **SP** | **IC** | **IP** |
|  | 1.As an Database administrator I want to Log in into the Trader Transact value so that I can  Get Information about Transact Traders | 5 | I1=20 | 1 |
|  | 4.As an Database administrator I want to Define Trader database attributes so that I can easily analyse the data | 13 |
|  | 13.As an Database administrator I want to Enter Database Details so that I can use for further process. | 2 |
|  | 2.As an Database administrator I want to Access Main Database so that I can Study the database. | 8 | I2=20 | 2 |
|  | 3.As an Database administrator I want to Identify database parameters so that I can Organize parameters data | 5 |
|  | 14.As an Database administrator I want to Create log file  So that I can Maintain record changes | 2 |
|  | 5. As an Database administrator I want to Retrieve Trader Data so that I can Observe main features. | 5 |
|  | 7. As an Database administrator I want to Check Trader database so that I can See facility details | 8 | I3=19 | 3 |
|  | 8. As an Database administrator I want to Examine Trader Profile so that I can Crosscheck the Data | 8 |
|  | 15. As an Database administrator I want to Do some data operations so that I can Ensure system Working | 3 |
|  | 6. As an Database administrator I want to Get User Queries  So that I can Solve User Queries | 13 | I4=18 | 4 |
|  | 9. As an Database administrator I want to Organize Trader Profiles so that I can Arrange data in order | 5 |
|  | 10. As an Database administrator I want to Avail trader Services so that I can Create Service File. | 5 | I5=18 | 5 |
|  | 11. As an Database administrator I want to Manage database security so that I can Ensure data protection. | 13 |
|  | 12. As an Database administrator I want to Manage resources allocation so that I can Allocate resources to the users. | 13 | I6=18 | 6 |
|  | 16. As an Database administrator I want to Detect data anomaly so that I can Remove the anomaly. | 5 |
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| **Process-1** | Standardize Query Format | **SP** | **IC** | **IP** |
|  | 1.As a System Administrator I want to Retrieve Trader Database so that I can  Collect all the information regarding Trader | 5 | I1=20 | 1 |
|  | 5. As a System Administrator I want to Ensure the availability of machines so that I can Identify available treatments. | 13 |
|  | 3.As a System Administrator I want to Request the facilitator  So that I can tour the Transact Trader | 2 |
|  | 2.As a System Administrator I want to Take a tour of the Trader so that I can Observe the Trader facilities | 5 | I2=20 | 2 |
|  | 4.As a System Administrator I want to Examine the Trader facilities so that I can Understand the quality of the Trader | 8 |
|  | 6.As a System Administrator I want to Search availability Of resources so that I can Allocate the resources. | 5 |
|  | 8.As a System Administrator I want to Check Trader Spacing so that I can Confirm the details | 2 | I3=20 | 3 |
|  | 7.As a System Administrator I want to Inquire About Trader shelter so that I can Verify the shelter existence | 8 | I4=18 | 4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Process-2** | **Execute Transaction** | **SP** | **IC** | **IP** |
|  | 1.As System admin I want to Fetch Trader Transact database. So that I can get Trader details. | 5 | I1=20 | 1 |
|  | 3.As System admin I want to Take a tour of Trader  So that I can Observe the Trader facilities. | 13 |
|  | 2.As System admin I want to Verify data sources  So that I can Authenticate Trader details | 8 | I2=20 | 2 |
|  | 5.As System admin I want to Enlist Trader facilities  So that I can Categorize the facilities. | 5 |
|  | 8.As System admin I want to Acquire Stock Details  So that I can Study the details | 5 |
|  | 4As System admin I want to Evaluate machine Efficiency  So that I can Confirm machine correctness | 18 | I3=20 | 3 |
|  | 7.As System admin I want to Search Additional facilities  So that I can Add facility details | 13 | I4=18 | 4 |
|  | 6.As System admin I want to Enter facility details  So that I can Promote the database. | 8 | I5=16 | 5 |

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| --- | --- | --- | --- | --- |
| **Objective-2** | **Handle User Input Data** | **SP** | **IC** | **IP** |
|  | 1.As an broker I want to Fetch Trader Data  So that I can Collect all the information regarding queries | 8 | I1=20 | 1 |
|  | 2.As an broker I want to Access Final Report so that I can Study the report | 5 |
|  | 5.As an broker I want to Organise a meeting so that I can Present the data | 5 |
|  | 7.As an broker I want to Observe treatment flow  So that I can Determine needed resources | 2 |
|  | 11.As an broker I want to Check Trader availability  So that I can Enlist available Traders | 5 | I2=20 | 2 |
|  | 12.As an broker I want to Inquire Trader vacan cy  So that I can Allocate Trader to the Trader | 8 |
|  | 13.As an broker I want to Inform the authorities  So that I can Take Further Actions. | 2 |
|  | 16.As an broker I want to Record analysed data  So that I can Use it in Future | 5 |
|  | 3.As an broker I want to Study Trader Report so that I can See Trader Characteristics | 8 | I3=18 | 3 |
|  | 8.As an broker I want to Check Trader resources  So that I can Find Traders with required resources | 5 |
|  | 10.As an broker I want to Confirm Trader report study  So that I can Decide further actions | 5 |
|  | 4.As an broker I want to Contact with Transaction Analyzer Trader so that I can Understand the report well | 13 | I4=18 | 4 |
|  | 14.As an broker I want to Analyse Trader health report  So that I can Suggest transact Trader | 5 |
|  | 6.As an broker I want to Study Required treatment  So that I can Decide further actions | 8 | I5=18 | 5 |
|  | 9.As an broker I want to Study Trader behaviour  So that I can Observe behavioural changes | 5 |
|  | 15.As an broker I want to Communicate with User  So that I can Get User Requirements | 5 |

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| --- | --- | --- | --- | --- |
| **Process-1** | **Pre-Process User Input Data** | **SP** | **IC** | **IP** |
| **Task Description** | 1.As an Administrator I want to Access Trader Report  So that I can Study Trader Report. | 5 | I1=20 | 1 |
|  | 5.As an Administrator I want to Verify data in the database  So that I can Ensure data Authenticity. | 13 |
|  | 2.As an Administrator I want to Get all the details of Trader so that I can Observe fully the characteristics. | 5 | I2=20 | 2 |
|  | 3.As an Administrator I want to Retrieve Trader Status chart so that I can Study Trader status | 8 |
|  | 5.As an Administrator I want to Fetch Trader Database  So that I can Get all the details. | 5 |
|  | 8.As an Administrator I want to Enlist All the Transact Traders.  So that I can Compare their characteristics. | 2 |
|  | 7.As an Administrator I want to Consider Trader health issues  So that I can Relate to the transact Traders. | 5 | I3=20 | 3 |
|  | 6.As an Administrator I want to Analyse Facility Details  So that I can Compare with Trader report. | 8 | I4=18 | 4 |

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| **Process-2** | **Append Relevant Dataset** | **SP** | **IC** | **IP** |
| **Task Description** | 1.As an broker I want to Acquire user interest  So that I can Provide Transact Trader List. | 5 | I1=20 | 1 |
|  | 3.As an broker I want to Procure Facility details so that I can Show to the User | 13 |
|  | 6.As an broker I want to Study Trader transaction chart  So that I can Check available related Traders. | 2 |
|  | 2.As an broker I want to Fetch transact Trader data so that I can Provide Whenever Necessary. | 8 | I2=20 | 2 |
|  | 5.As an broker I want to Read the user queries so that I can Answer to them | 5 |
|  | 7.As an broker I want to Ask user requirements  So that I can Suggest Trader | 5 |
|  | 4.As an broker I want to Create Query Template  So that I can Ask user to fill the template | 8 | I3=19 | 3 |
|  | 8.As an broker I want to Get Trader Treatment details  So that I can Match with transact Trader facilities. | 8 |

# 

# 6. USER STORIES: GOAL 6 – Process Feedback System

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Objective-1** | **Generate feedback mechanism** | **SP** | **IC** | **IP** |
| **Task Description** | 7.As a Transaction Analyzer Optimize Trader status so that I can Controlled experimentation to improve Trader | 13 | I1=20 | 1 |
|  | 3.As a Transaction Analyzer Extract Trader Information so that I can Know whether what efforts need to be taken for further improvement | 5 |
|  | 2.As a Transaction Analyzer Keep Trader Activity so that I can Report it to User | 2 |
|  | 4.As a Transaction Analyzer Validate Trader Status so that I can Have current Trader status | 8 | I2=20 | 2 |
|  | 8.As a Transaction Analyzer Extract Trader Data so that I can Achieve the speed of retrieval | 8 |
|  | 1.As a Transaction Analyzer Accumulate Trader Data so that I can Keep a record of it | 3 |
|  | 15.As a Transaction Analyzer Inform Trader Status Progress so that I can Assure user about Traders growth | 1 |
|  | 6.As a Transaction Analyzer Ensure Data Correctness so that I can Check whether the Trader data is correct or not | 5 | I3=20 | 3 |
|  | 9.As a Transaction Analyzer Display Trader Progress Status so that I can Assure user about Trader growth | 5 |
|  | 10.As a Transaction Analyzer Process the Feedback’s Details so that I can Ensure the Trader performance | 5 |
|  | 16.As a Transaction Analyzer Rectify Trader Needs so that I can Demonstrate the results | 5 |
|  | 11.As a Transaction Analyzer Provide Status Report so that I can Ensure whether user are satisfied with Administrator activities | 8 | I4=20 | 4 |
|  | 14.As a Transaction Analyzer Create Financial Report so that I can Provide it to user | 8 |
|  | 12.As a Transaction Analyzer Access the Status so that I can Feed it to the processes | 3 |
|  | 5.As a Transaction Analyzer Arrange Meeting Schedules so that I can Report Trader activities to user | 1 |
|  | 13.As a Transaction Analyzer Provide Detailed Guidance so that I can Obtain Trader status feedback | 2 |

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| --- | --- | --- | --- | --- |
| **Process-1** | **Assess User feedback** | **SP** | **IC** | **IP** |
| **Task Description** | 8.As an Administrator I want to Know the user’s priorities so that I can Decide on providing good content | 13 | I1=20 | 1 |
|  | 1.As an Administrator I want to Render Trader Status so that I can Keep a track of status | 5 |
|  | 3.As an Administrator I want to Extract status data source so that I can Refine Trader status | 2 |
|  | 4.As an Administrator I want to Permit status pre-fetching so that I can Process it for further changes | 8 | I2=20 | 2 |
|  | 6.As an Administrator I want to Establish pre-fetching of status details so that I can Enable faster searching | 8 |
|  | 2.As an Administrator I want to Accumulate Trader Data so that I can Extract the useful information | 3 |
|  | 5.As an Administrator I want to Execute search query entered by user so that I can Process it as per requirement | 5 |
|  | 7.As an Administrator I want to Conserve status Promotes order so that I can Track status changes | 5 |

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| --- | --- | --- | --- | --- |
| **Process-2** | **Process User Feedback** | **SP** | **IC** | **IP** |
| **Task Description** | 5.As a Transaction Analyzer I want to Generate Auto Notify System so that I can Minimize user involvement | 13 | I1=20 | 1 |
|  | 1.As a Transaction Analyzer I want to Retrieve Trader Status so that I can Notify status of Trader to user | 5 |
|  | 3.As a Transaction Analyzer I want to Choose media so that I can Send Notification via GCM,SMS or email | 8 | I2=20 | 2 |
|  | 2.As a Transaction Analyzer I want to Generate Notification so that I can Specify purpose of notification | 5 |
|  | 7.As a Transaction Analyzer I want to Retrieve Treatment Details so that I can Generate Bill | 5 |
|  | 6.As a Transaction Analyzer I want to Remind user via Email/SMS so that I can Guarantee that user got notification | 8 | I3=20 | 3 |
|  | 8.As a Transaction Analyzer I want to Notify Bill amount so that I can Reduce overhead of change at Trader cash counter | 3 |
|  | 4.As a Transaction Analyzer I want to Create Efficient notification System so that I can Send notification | 3 |

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| --- | --- | --- | --- | --- |
| **Objective-2** | **Apply improvement steps** | **SP** | **IC** | **IP** |
| **Task Description** | 10.As an Administrator I want to Process the feedback’s details so that I can Ensure the Trader performance | 13 | I1=20 | 1 |
|  | 2.As an Administrator I want to Retrieve user Rating so that I can Sort Trader list as per ratings | 5 |
|  | 3.As an Administrator I want to Extract useful review so that I can Extract the user details from database | 2 |
|  | 1.As an Administrator I want to Obtain User Review so that I can Identify user satisfaction | 8 | I2=20 | 2 |
|  | 7.As an Administrator I want to Extract Trader Data so that I can Achieve the speed of retrieval | 5 |
|  | 12.As an Administrator I want to Conserve User record so that I can Find the exact interested area | 5 |
|  | 15.As an Administrator I want to Create financial Report so that I can Provide it to users | 2 |
|  | 6.As an Administrator I want to Permit Feedback Reminder so that I can Ensure the message gets delivered | 8 | I3=20 | 3 |
|  | 16.As an Administrator I want to Inform Traders Progress so that I can Assure user about Trader growth | 5 |
|  | 4.As an Administrator I want to Arrange Meeting Schedules so that I can Report Traders activities to users | 1 |
|  | 13.As an Administrator I want to Retrieve Trader Table so that I can Inform Trader details to user | 1 |
|  | 9.As an Administrator I want to Analyse the table so that I can Gather the posts which are vacan t and occupied | 8 | I4=19 | 4 |
|  | 11.As an Administrator I want to Provide feedback form so that I can Ensure whether users are satisfied with day activities | 8 |
|  | 5.As an Administrator I want to Evoke table details so that I can Gather information and make a complete table | 3 |
|  | 8.As an Administrator I want to Display Trader progress so that I can Assure user about Trader growth | 3 |

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| --- | --- | --- | --- | --- |
| **Process-1** | **Determine Feedback Response** | **SP** | **IC** | **IP** |
| **Task Description** | 8.As a Transaction Analyzer I want to Apply prioritization technique so that I can Prioritize users feedback | 13 | I1=20 | 1 |
|  | 2.As a Transaction Analyzer I want to Decide Channel so that I can Best to accomplish our goals | 5 |
|  | 1.As a Transaction Analyzer I want to Define gather feedback process so that I can Understand why we are seeking feedback | 2 |
|  | 6.As a Transaction Analyzer I want to Gather feedback so that I can Keep record of it | 8 | I2=20 | 2 |
|  | 4.As a Transaction Analyzer I want to Conduct customer visits so that I can Gather feedback tends to cost a lot more time and resource | 5 |
|  | 5.As a Transaction Analyzer I want to Encourage customer so that I can Submit feature request | 3 |
|  | 3.As a Transaction Analyzer I want to In-person meetings so that I can Get a straight answers from customer | 1 |
|  | 7.As a Transaction Analyzer I want to Put all into one place so that I can Make it simple to reference later | 5 |

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| --- | --- | --- | --- | --- |
| **Process-2** | **Apply necessary changes** | **SP** | **IC** | **IP** |
| **Task Description** | 3.As a User I want to Extract Transact Traders Information so that I can Know whether what efforts need to be taken for further improvement | 13 | I1=20 | 1 |
|  | 1.As a User I want to Accumulate Data so that I can Keep a record of it | 5 |
|  | 6.As a User I want to Ensure data correctness so that I can Check whether the user data is correct or not | 2 |
|  | 7.As a User I want to Permit Feedback Reminder so that I can Ensure the message gets delivered | 8 | I2=20 | 2 |
|  | 8.As a User I want to Extract Trader Data so that I can Achieve the speed of retrieval | 5 |
|  | 4.As a User I want to Extract useful information so that I can | 5 |
|  | 2.As a User I want to Keep Trader Activity so that I can Report it to Trader | 3 |
|  | 5.As a User I want to Arrange Meeting Schedules so that I can Report user activities to Trader |  |

**T.Y. B. Tech.**

**CS 3001: Software Engineering Laboratory**

Assignment No: 8

**eMandai – Intelligent Pocket Builder**

**System Construction**

**19-04-2019**

**Version 1.0**

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| --- | --- | --- | --- |
| Project Group Information | | | |
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**Approved By: Dr M. R. Dube**

**Academic Year: 2018-19 Semester: II**

# INTRODUCTION

# *The software engineering community realized that software architecture is not only about structures (components and interfaces), but also about system behavior (interaction between components, protocols). Furthermore, this community introduced an architectural design phase in the system life cycle, in which requirements should be satisfied and which should serve as a basis for detailed design activities. Researchers and engineers in software engineering have adopted the term 'architecture' as well. Nevertheless, there is no consensus about the subject; no universally-accepted definition of the term 'architecture' is agreed upon.*

# *Perry and Wolf (1992) consider a software architecture as a set of architectural elements that have a particular form. Similar to Zachman and Van Waes, they distinguish three different classes of architectural elements: processing, data, and connecting elements. Perry and Wolf consider an architecture as a necessary framework in which requirements are satisfied and which serves as a basis for the design.*

# *Garlan et al. (1995) stated that a system's architectural design is concerned with describing its decomposition into computational elements and their interactions. Design tasks at this level include organizing the system as a composition of components; developing global control structures; selecting protocols for communication, synchronization, and data access; assigning functionality to design elements; physically distributing the components; scaling the system and estimating performance; defining the expected evolutionary paths; and selecting among design alternatives.*

# *Soni et al. (1995) stated that software architecture is concerned with capturing the structures of a system and the relationships among the elements both within and between structures. Software architectures describe how a system is decomposed into components, how these components are interconnected, and how they communicate and interact with each other. Based on a survey on the role of architecture in the design and development of large systems within Siemens, Soni et al. notice that different structures are used at different stages of the development process. Each structure describes the system from a different perspective.*

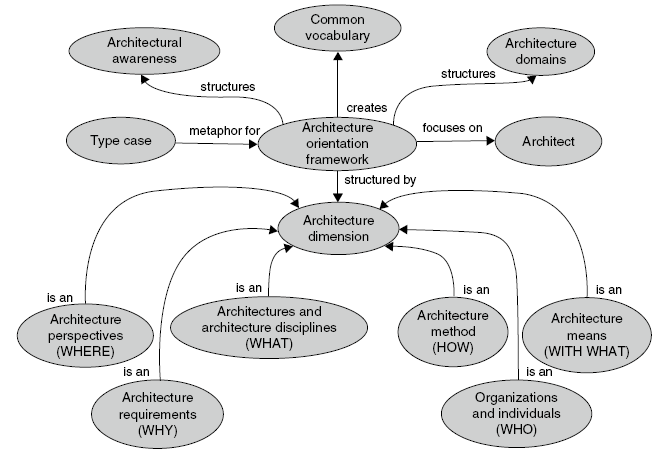
# *Soni et al. argue that the four different architectures they distinguished are needed because of the growing complexity of software throughout history (see Figure 1.3). Initially, only the code architecture was required. The module and execution architecture became necessary when systems became larger and distributed. Now, software engineers would like to use communicating objects and assemblies of reused components. Therefore, a high-level structure is described in the form of a conceptual architecture. On the other hand, Zachman and especially Van Waes reason that their various architectures are wanted as representation for each of the involved actors.*

# *Garlan and Perry (1995) found that the term 'architecture' is used in a number of ways in software engineering. Among the various uses are a) the architecture of a particular system, as in 'the architecture of this system consists of the following three components,' b) an architectural style, as in 'this system adopts a client-server architecture,' and c) the general study of architecture, as in 'the papers in that issue are about architecture.'*

# *A discussion group at Carnegie Mellon University's Software Engineering Institute developed a typical definition: the structure of the components of a program/system, their interrelationships, and principles and guidelines governing their design and evolution over time. They represent a spectrum in the software architecture community about the emphasis that should be placed on architecture - its constituent parts, the whole entity, the way it behaves once built, or the process of building it. Taken together, they reflect the various aspects of software architecture.*

# *Software architecture is concerned with the design and implementation of IT systems. From the viewpoint of architectural activity, software architecture covers the steps necessary to design and implement architecture. With regard to the structural aspect of architecture, software architecture describes the structures of IT systems. From this point on, the terms “IT system” and “system” are used synonymously provided no explicit differentiation is necessary. A system is a unit that consists of integrated software and hardware building blocks and exists for the purpose of fulfilling a functional objective. To achieve this objective, it communicates with its environment and must take account of the conditions defined by the environment.*

# *http://www.home.zonnet.nl/azwegers/thesis/figures/2_2.gif*



# ARCHITECTURE OBJECTIVES

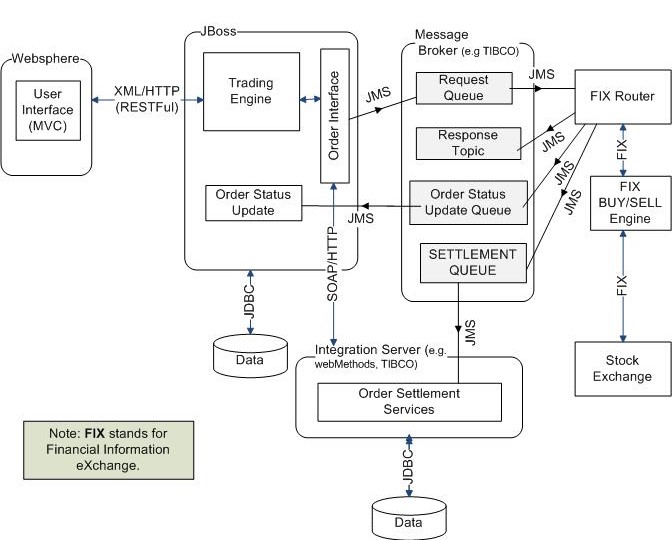
* ***To manage complexity****: An architectural model allows one to present the essence of a complex system in a (simple) model. An architectural model supports the ability to comprehend complex systems; it presents them at a level of abstraction at which a system's high-level design can be understood. It supports the analysis of relationships as an aid to understand complexities in a design environment. In particular, an architecture is needed in complex, dynamic environments (Van Waes, 1991). Zachman states that the increased scope of design and levels of complexity of system implementations are forcing the use of architectural models for defining and controlling the interfaces and the integration of the system components (Zachman, 1987). Architectural models abstract away from details instead of from the essential complexity. Brooks claims that 'the complexity of software is an essential property, not an accidental one' (Brooks, 1995; p. 183). Descriptions of a software entity that abstract away its complexity often abstract away its essence.*
* ***To serve as a set of specifications****: An architecture may be seen as a result of the design process. It is laid down in specifications, which are derived from the requirements, and from which the desired system can be built. Specifying an architecture is concerned with the specification of components, their interactions, and the constraints on these entities and their interactions. These unambiguous specifications define the scope of future development activities, and serve as a basis for further design and implementation activities.*
* ***Means of communication****: Furthermore, an architectural model may play the role of a means of communication during a system (re-)design process. The architect can use it to visualise various aspects of the system to be designed, thus providing the various parties concerned with a basis for discussion and decision-making. By producing order in chaos, architectural models help each party to clarify its perception of the problem. Visualisation and explanation of the relevant aspects of the problem area, and the possible relationships between them, supports the various actors to focus their attention on the essential elements, thus providing a basis for discussion of the problems.*
* ***To indicate the most vital system elements****: Furthermore, the architecture determines the nature and quality of a system. As such, an architectural model indicates the invariant or most vital system elements, which must be treated carefully during system re-design. Systems evolve and are adapted to new uses, just as buildings change over time and are adapted to new uses. One frequently accompanying property of evolution is an increasing brittleness of the system, caused by violations of the architecture. Violations of the architecture frequently lead to an increase in problems in the system and contribute to an increasing resistance to change, or at least to changing gracefully.*
* ***Means to reduce the impact of changes****: Another role of an architecture involves its contribution to the effective re-design of a system. The architecture should reduce the impact of changes to the lower component levels, and to as few components as possible. Both for shop floor control systems and for products, it is advantageous to use as many parts of the existing system or product design as possible. In a re-engineering trajectory, an architectural model of the system allows one to pinpoint and discuss the areas requiring major change, and to integrate the new specifications into the existing model. Furthermore, architectural change is not so much determined by the system components, as well by the interfaces between these components; the ease with which components can be modified, replaced, or with which the system can be extended by new components is dependent on the extent to which the interfaces of the new components match those of the old ones.*
* ***Means to gain strategic benefits****: Finally,(product) architecture may have certain strategic importance for a company. The development of a new product brings together a wide range of technologies. Only a few of these technologies contribute to ultimate competitive advantage. Successful companies do not compete on (and even give away) the enabling technologies on which their core utility is based. By the architectural design of functions that can be filled in by cheap, standard components, companies profit from the strong competition in the markets for these components, and are free to focus on their true sources of competitive value. In addition, a company might extend the value of its product by publishing the product's interfaces to the outside world. Other enterprises might use this product as an indispensable part for their own products*

# SYSTEM DESIGN SPECIFICATION

*A modular architecture may naturally result in a layered architecture; modules are assigned to specific layers. Layers reflect design decisions based on allowable relations and interfacing constraints. The layers in an architecture represent allowable interfaces among modules. Modules within a layer can communicate with each other. Modules in different layers can communicate with each other only if their respective layers are adjacent (Soni et al., 1995). A layer builds on its underlying layer, which at its turn builds on its underlying layer as well. Consequently, a layer explicitly uses the functionality of its underlying layer, and implicitly uses the functionality of all layers underneath its underlying layer.*

*Layers are used mainly to solve mapping problems. The mapping task is decomposed in layers: each layer performs a specific part of the mapping. In this sense, the division in layers is part of an architecture. The advantage of layers is the flexibility: changes can be made inside a layer without affecting other layers. A disadvantage of a layered architecture is its rigidity: new layers are hard to be shoved in between existing layers, since this requires a (major) change of interfaces. Examples of the application of layers in mappings are:*

* *the targets of an enterprise must be mapped on its physical processes; therefore, a strategical, tactical, and operational layer are distinguished;*



|  |  |
| --- | --- |
| Layer-1 | User Interfaces |
| Purpose | This the layer that the users will use to interact with the system. |
| Related Components | User Interfaces and goal 6. |
| Software Interfaces | Layer 3 and Layer 4 Interfaces |
| Composition Style | **Generalization** |
| Communication Pattern | **Vertical** |
| Implementation Steps | 1. Create Website  2. Host Server  3. Access database to present statistics to trader  4. Present trader market uptake information  5. Present trader market downfall information  6. Generate required statistical tables  7. Generate forms for input filling  8. Generate navigation elements  9.Separate Stocks And Trader Tables.  10.Generate Reset GUI. |

|  |  |
| --- | --- |
| Layer-2 | Trader Queries Processing |
| Purpose | The User Query Processing is done in this layer of components. |
| Related Components | Goal 4 and Goal 5 components |
| Software Interfaces | Layer 1 and Layer 4 Interfaces |
| Composition Style | **Composition** |
| Communication Pattern | **Horizontal** |
| Implementation Steps | 1.Accept Query  2. Extract the transaction transactions required by the query  3. Gain Database access to market admin  4. Verify Database access to trader  5. Query the required values from database  6. Validate values from the response  7. Send appropriate tables to the interface  8. Make sure the transaction set is complete  9. Verify Transaction set completeness.  10.Make stocks validity available in database. |

|  |  |
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| Layer-3 | Trader Balance Sheet Generation |
| Purpose | The Data Generation and Acquiring is done in this layer. |
| Related Components | Goal 2 and Goal 3 components |
| Software Interfaces | Layer 3 and Layer 4 Interfaces |
| Composition Style | **Aggregation** |
| Communication Pattern | **Vertical** |
| Implementation Steps | 1. Fetch data from Trader Database.  2. Verify provided Data.  3. Maximize Database inputs  4. Populate Market transactions database  5. Generate Balance Sheet Database  6. Populate Balance Sheet Database.  7. Group traders on various transactions  8. Classify Traders based on balance values  9. Validate Traders Balance sheets.  10.Generalize Balance Sheet Database updates. |

**T.Y. B. Tech.**

**CS 3001: Software Engineering Laboratory**

Assignment No: 9

**eMandai – Online Grocery Stores**

**System Review and Acceptance**

**10-04-2019**

**Version 1.0**

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| --- | --- | --- | --- |
| Project Group Information | | | |
| Roll. No. | **Gr. No.** | **Name** | **Roles** |
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| 08 | **161181** | **Aditya Kukade** | **UI Developer** |
| 33 | **161308** | **Kunal Porwal** | **Content** |

**Approved By: Dr M. R. Dube**

**Academic Year: 2018-19 Semester: II**

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| 4 | Verification Matrix | **155** |

# 1. INTRODUCTION

*At the time of the scheduled peer review, ensure proper representation and preparation by the reviewers. Provide clarifications on the work products. Present comments and listen to the comments of the other reviewers. Comments can be presented either by page or by reviewer. Keep the comment discussions short with a focus on detection, not correction. Editorial comments are provided separately and are not discussed at the scheduled review.*

*Participate in categorizing comments. The comments will be categorized and documented as errors, defects, and action items. Refer to the definitions for the categorization rules, which are summarized as follows:*

* *Errors (i.e., problems in the material currently under peer review).*

*Optionally, errors are subcategorized as major (affects functionality and/or performance) and minor (does not affect functional- ity and/or performance).*

* *Defects (i.e., problems in materials previously peer reviewed).*

*Optionally, defects are also subcategorized as major and minor.*

*Note: Defects will further be categorized as delivered or undelivered in the program’s change request system.*

* *Action items (i.e., unresolved comments requiring further investigation)*
* *A comment can remain categorized as a comment if the reviewers and presenters agree that there is no error, defect, or action item required.*

*To complete the peer review you must identify errors, defects, and action items to be resolved and documented. If needed, follow the program’s or project’s defined decision-making processes to elevate and reconcile any issues encountered in resolving peer review errors, defects, or action items with appropriate stakeholders. To ensure completion, per- form the following:*

* *Correct all errors and update the peer review information to indicate that the error is resolved.*
* *Submit change request paperwork for all defects. The status and tracking of the defect corrections are then handled through the change request system. The defects associated with the peer review should indicate this transfer and are categorized as resolved, allowing the peer review to be closed.*
* *Resolve and complete all action items. If any action items cannot be completed within the two-week period, these action items should be moved to the program- or project-level action item tracking system. The action items associated with the peer review should indicate this transfer and are categorized as resolved, allowing the peer review to be closed.*

# 2. REVIEW TYPES

*Design and code reviews promise to improve software quality, ensure compliance with standards, and serve as a valuable teaching tool for developers. As with most practices, there are subtle nuances surrounding how they're performed that can dramatically affect their value. In some organizations, reviews are a valuable aspect of the software lifecycle. In others, they are a necessary evil tainted with political bureaucracy and big egos. Suboptimal reviews conducted late in the lifecycle are often misguided due to few objective guidelines that help guide the review process. When used throughout the development lifecycle, code and design quality metrics are valuable inputs to the review process.*

* 1. *Reviews Increase Agility Continuous Integration.*

*Agile practices are abundant, and for many stocks interested in increasing their agility, valuable energy and resources have been devoted to improving these practices. Because of this, many stocks have abandoned reviews while emphasizing other aspects of agility. But, reviews are an important tool in the agile toolkit.*

*A driving principle of the Agile Manifesto is continuous attention to technical excellence. Another is embracing and harnessing change as an opportunity to increase customer advantage. For developers, change often begins and ends with modifications to the source code. A poorly designed application with smelly code is a breeding ground for risk that makes change incredibly difficult, and is the greatest technical inhibitor to increased agility. Effective reviews that emphasize design quality and code cleanliness are an important aspect of increased agility. Reviews done right help ensure continuous attention to technical excellence. Unfortunately, not all reviews are done right.*

*1.2 Review Worst Practices*

*Some development stocks find reviews a healthy and valuable asset to developers and the project stock. Other stocks realize little value from their review process. There are numerous causes for painful and ineffective reviews. Some symptoms of ineffective reviews include:*

* *Witch hunt reviews - Many reviews degrade quickly into attack and defend mode. This often occurs because the developer who wrote the code feels attacked and threatened when reviewers make direct and opinionated statements about the code. Nothing could be less productive.*
* *Curly brace reviews - Some reviews emphasize formatting and comments instead of more serious problems. Is placement of curly braces and misspelled comments really that important? Curly brace reviews are feeding ground for the anal retentive, and provide no real value.*
* *Blind reviews - Often times, reviewers walk into the review meeting having never laid eyes on the code they are about to review. Most of the review time is spent trying to figure out what the code does. Spending time in the review meeting attempting to understand the code instead of reviewing it for more serious ailments is a waste of time.*
* *Exclusionary reviews - Many times, the code provided for the review is only a sampling of the code written. For example, unit tests might be excluded from the review. In an unhealthy review environment, providing impartial and incomplete code listings will leave the reviewers wondering how the code actually works.*
* *Tree killer review - If you can't baffle them by providing half of what they need to understand the code, then maybe overwhelming them by providing thousands of lines of code might work. Waiting until codebase is incredibly large to host the first review is entirely ineffective. Not only is it to difficult to provide effective feedback on a large codebase, these reviews are often held late in the lifecycle and do not allow the developer to improve her code based on the feedback received.*
* *Token review - It's not uncommon for management to dictate that reviews be held. Token reviews are typically held for political reasons. Management wants to ensure that all code is reviewed for auditing purposes. Unfortunately, developers realize very little value surrounding these reviews. Any problems found are not fixed unless they are absolutely critical. Since the primary motivation is an audit trail for management, the stock has little motivation to improve the code.*
* *World review- The reviews conducted with great number of people in attendance. This can be incredibly intimidating for the developers whose code is being reviewed, and it is not sure what value it provides to invite so many people. A few developers, up to five, should serve all the needs required of the review process. If more people want to provide input, there are better ways.*

*The Design checklist is as follows:*

* *Deficiencies and conflicts in requirements, architecture, or program/project plans will be reported.*
* *Design decisions and the decision rationales will be recorded according to plans and defined processes.*
* *Top-level software components of the software end item will be identified and described.*
* *Static relationships between top-level software components will be defined.*
* *Dynamic relationships between top-level software components will be defined.*
* *The concepts of execution of the software end item and its components will be defined.*
* *External interfaces of the software end item and its components will be identified and described.*
* *Top-level software components will be decomposed into lower-level software units.*
* *Internal interfaces between software units will be identified and described according to the standards identified by the project.*
* *Design traceability data will be documented according to plans, processes, and product standards.*
* *Design definitions will be documented according to plans, defined processes, and standards.*
* *Measurement and estimated data will be collected.*
* *Applicable work products will be submitted for peer reviews in accordance with project plans.*
* *Applicable work products will be submitted for control in accordance with program or project plans.*

# 3. VERIFICATION SUMMARY

*Note: The verification summary is required to be written for all the objectives and processes as they were detailed as User Stories. Replicate the standard template for objectives and process for the goals.*

# VERIFICATION STEPS: GOAL-1

|  |  |
| --- | --- |
| Objective-1 | Acquire Trader Data |
| Purpose | This will ensure the reliability and correctness of system. |
| Target Audience | Customers |
| Status | Completed |
| Role: | **As an**Trader Manager |
| Verification Steps | 1. Verify that trader profiles creation request is registered. |
|  | 2. Verify that trader profiles are built. |
|  | 3. Verify created database and schema. |
|  | 4. Verify that trader data has been fetched. |
|  | 5. Verify Database structure. |
|  | 6. Verify that trader database has been populated. |
|  | 7. Verify that trader database backup is available. |
|  | 8. Verify that the backup accessible. |
|  | 9. Verify proper database privileges and security. |
|  | 10. Verify Trader page content. |

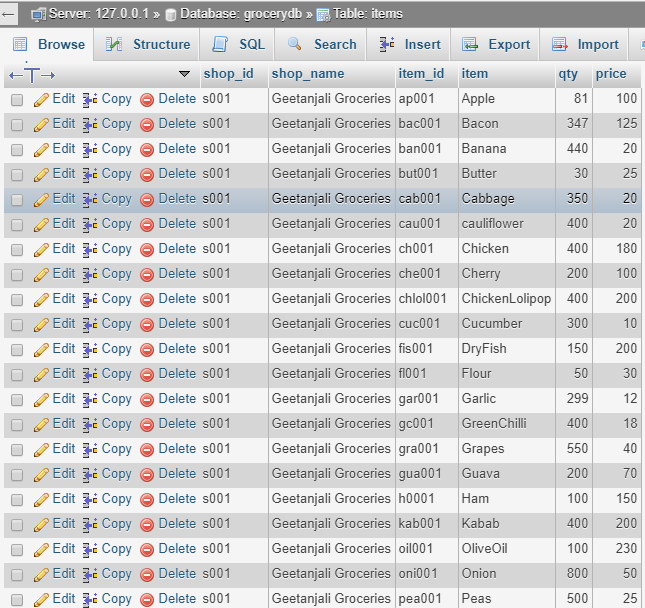
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| --- | --- |
| Process-1 | Acquire Trader Details |
| Purpose | Collect Trader Details for creating trader ranking index used to find transfer values. |
| Target Audience | Internal Stakeholders |
| Status | Completed |
| Role: | **As a** Trader Manager |
| Verification Steps | 1. Verify that required fields are correctly decided. |
|  | 2. Validate the trader details |
|  | 3. Verify that the fields in database are created |
|  | 4. Validate trader profile inputs |
|  | 5. Verify that the trader details are added |
|  | 6. Validate the data limits and bounds |
|  | 7. Verify population of the trader database |
|  | 8.Verify proper indexing of the database |
|  | 9.Verify database structure |
|  | 10. Verify that changes to original database are kept track of. |

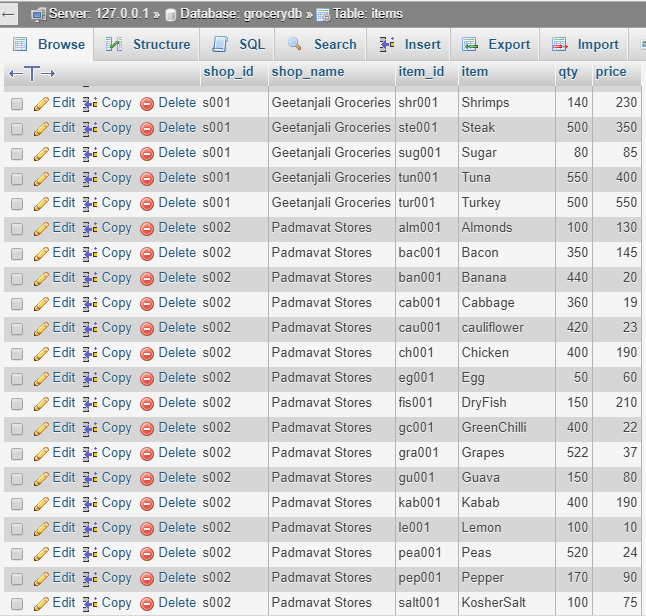
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| --- | --- |
| Process-2 | Clean Data Abnormalities |
| Purpose | To keep the data relative and precise. |
| Target Audience | Developer |
| Status | On-going |
| Role: | **As a** Trader Manager |
| Verification Steps | 1.Validate Trader profile format |
|  | 2.Validate trader attribute ranges |
|  | 3.Verify table plotting of values is complete |
|  | 4.Verify that abnormalities, if any are detected |
|  | 5.Verify that the abnormality can be found and accessed |
|  | 6.Verify the method of generating improvised data |
|  | 7.Validate corrected abnormality |
|  | 8.Verify that the changes have been committed on the database |
|  | 9.Verify that the data that was corrected wasn’t in use. |
|  | 10.Verify that the changes are logged |

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| --- | --- |
| Objective-2 | Analyse Trader Data |
| Purpose | To decide the Trader analysis process of the system and the methodology to follow. |
| Target Audience | Internal Stakeholders |
| Status | Completed |
| Role: | **As a**Trader Manager |
| Verification Steps | 1. Verify Organisation of database transactions |
|  | 2. Verify the Design patterns for transactions |
|  | 3. Verify the output stocks |
|  | 4. Verify the important stocks priority |
|  | 5. Verify the short-listed transactions |
|  | 6. Verify Organisation of the stocks |
|  | 7. Verify the formulated observations |
|  | 8. Verify correspondence with Analysis stock |
|  | 9. Verify the consolidation of analysis process |
|  | 10. Verify the final analysis methodology |

|  |  |
| --- | --- |
| Process-1 | Filter Relevant Data |
| Purpose | The purpose is to get detailed, relevant data about trader which is filtered and curated. |
| Target Audience | Customers |
| Status | On-going |
| Role: | **As an**Trader Manager |
| Verification Steps | 1. Verify that a certain trader can be found |
|  | 2. Verify that the transfer value of trader can be accessed |
|  | 3. Verify that a curated list of traders can be generated |
|  | 4. Verify that similar traders trading in same position can be found |
|  | 5. Verify that traders can be ordered by rating |
|  | 6. Verify that all traders with comparable price can be seen |
|  | 7. Verify that details indicating on field behaviour can be accessed |
|  | 8. Verify that the details indicating off field characteristics can be accessed |
|  | 9. Verify that trader’s current stock can be seen |
|  | 10. Verify that trader’s current trader’s stock can be seen |

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| --- | --- |
| Process-2 | Ascertain Data Correctness |
| Purpose | This will ensure the reliability and correctness of system. |
| Target Audience | Customers |
| Status | Completed |
| Role: | **As an**Trader Manager |
| Verification Steps | 1. Validate correct trader data |
|  | 2. Validate exact information reception |
|  | 3. Verify appropriate info of the trader |
|  | 4. Validate Trader Data accessibility |
|  | 5. Verify that transfer value is accessible |
|  | 6. Verify trader value transaction feasibility |
|  | 7. Verify precise database |
|  | 8. Verify data validation process |
|  | 9. Verify background checks |
|  | 10. Verify the data sources |

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# VERIFICATION STEPS: GOAL-2

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| --- | --- |
| Objective-1 | Extract Trader Information |
| Purpose | Make groups in the database according to trader’s transactions to help distinguish them. |
| Target Audience | External Stakeholders |
| Status | On-going |
| Role: | **As a**trader |
| Verification Steps | 1. Verify that more than 1 stock can be added. |
|  | 2. Validate saved data. |
|  | 3. Validate Stock Data Extraction. |
|  | 4. Validate Current Stock |
|  | 5. Verify that other stocks can be accessed. |
|  | 6. Verify a trader’s form can be assessed. |
|  | 7. Verify that market values can be found. |
|  | 8. Verify that other traders can be searched. |
|  | 9. Verify that trader background information is available. |
|  | 10. Verify that all parts of system are accessible to user. |

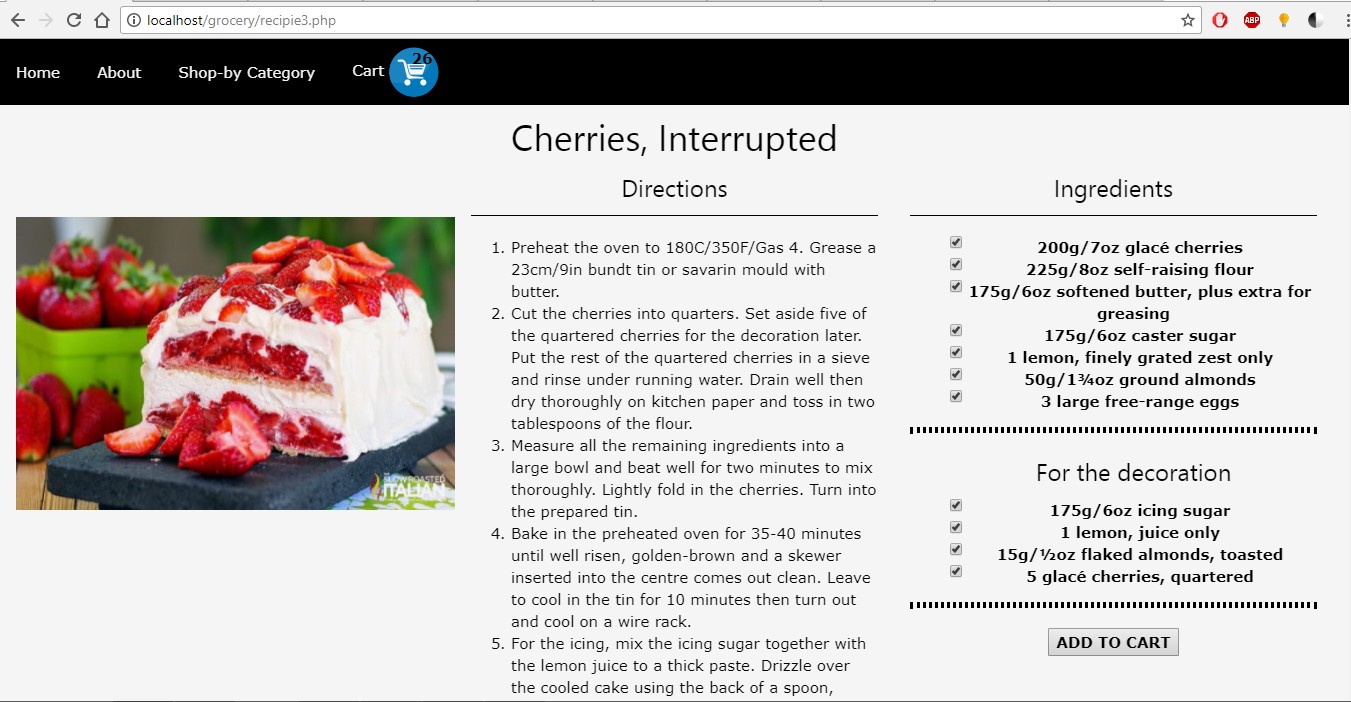
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| --- | --- |
| Process-1 | Extract Trader Position |
| Purpose | It will make it easier to search traders. |
| Target Audience | External Stakeholders |
| Status | On-going |
| Role: | **As a** *market influencer* |
| Verification Steps | 1. Verify that trader positions are listed. |
|  | 2. Verify that the trader position can be searched. |
|  | 3. Verify traders can be filtered according to positions. |
|  | 4. Verify that list contains traders with same position. |
|  | 5. Verify trader’s other positions are listed to find out trading style. |
|  | 6. Verify trader’s other positions are listed to find out trader’s adaptability. |
|  | 7. Verify that trader rating is listed. |
|  | 8. Verify that trader value is listed. |
|  | 9. Validate value based on other similar traders. |
|  | 10. Verify that trader’s potential is listed. |

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| --- | --- |
| Process-2 | Extract Trader Ability |
| Purpose | It will help obtain a better transaction. |
| Target Audience | Customers |
| Status | Completed |
| Role: | **As a market analyzer** |
| Verification Steps | 1. Verify that trader transactions are displayed. |
|  | 2. Verify that current Stock is displayed. |
|  | 3. Verify that stock fixtures are shown. |
|  | 4. Verify Stock from the news. |
|  | 5. Verify that transfer prices can be compared. |
|  | 6. Verify that trader skills are displayed. |
|  | 7. Verify that trader weaknesses can be checked. |
|  | 8. Verify the trader’s chances of getting injured. |
|  | 9. Validate the trader details comparison. |
|  | 10. Validate the trader profile pictures. |

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| --- | --- |
| Objective-2 | Classify Traders |
| Purpose | To make classes of traders as per categories. |
| Target Audience | Internal Stakeholders |
| Status | Completed |
| Role: | **As a market analyzer** |
| Verification Steps | 1. Verify correct data is acquired. |
|  | 2. Verify data distribution is performed. |
|  | 3. Verify inconsistencies are fixed. |
|  | 4. Verify that groups are prototyped. |
|  | 5. Verify trader groups are established. |
|  | 6. Verify the trader groups are accessible. |
|  | 7. Validate the basis of grouping. |
|  | 8. Validate encoding method is chosen. |
|  | 9. Validate encoding analysis is established. |
|  | 10. Verify results are integrated. |

|  |  |
| --- | --- |
| Process-1 | Group Traders |
| Purpose | Decide transactions that can decide classes and groups. |
| Target Audience | Customers/ Stakeholders |
| Status | On-going/ Completed |
| Role: | **As a**Extraction Analyst |
| Verification Steps | 1. Verify trader data is acquired. |
|  | 2. Validate correct transactions are identified. |
|  | 3. Validate attribute wise data is examined. |
|  | 4. Verify transactions are extracted for grouping. |
|  | 5. Verify inconsistencies are detected. |
|  | 6. Validate inconsistencies are repaired and normalised. |
|  | 7. Validate correctness of data is verified. |
|  | 8. Validate trader groups creation. |
|  | 9. Verify the groups are demonstrated. |
|  | 10. Validate trader groups are delivered. |

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| --- | --- |
| Process-2 | Verify Trader Groups |
| Purpose | Verify trader groups formed. |
| Target Audience | Customers/ Stakeholders |
| Status | On-going/ Completed |
| Role: | **As a market analyzer** |
| Verification Steps | 1. Verify trader groups are accessible. |
|  | 2. Verify trader groups are analysed. |
|  | 3. Validate conceptualisation of trader groups is done. |
|  | 4. Verify the basis derived is validated. |
|  | 5. Verify encoding technique is selected. |
|  | 6. Verify technique is valid. |
|  | 7. Validate encoding analysis. |
|  | 8. Verify modified encoding technique. |
|  | 9. Validate results of analysis. |
|  | 10. Verify integrated results. |



# VERIFICATION STEPS: GOAL-3

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| --- | --- |
| Objective-1 | Pre-process Trader Data |
| Purpose | Get the database  Standardize it’s format and data type  Make it useful for financial transactionling |
| Target Audience | Customers/ Stakeholders |
| Status | On-going |
| Role: | **As a** *Shareholder* |
| Verification Steps | 1.Verify raw trader data |
|  | 2.Validate trader data |
|  | 3.Verify that irrelevant transactions are disposed |
|  | 4.Verify the grouping and comparison transactions |
|  | 5.Verify the domain knowledge gained |
|  | 6.Verify that the domain knowledge gets represented in features |
|  | 7.Verify trader features standardization |
|  | 8.Verify the data dimensionality |
|  | 9.Verify different feature selection has been accomplished |
|  | 10.Verify final data with selected features |

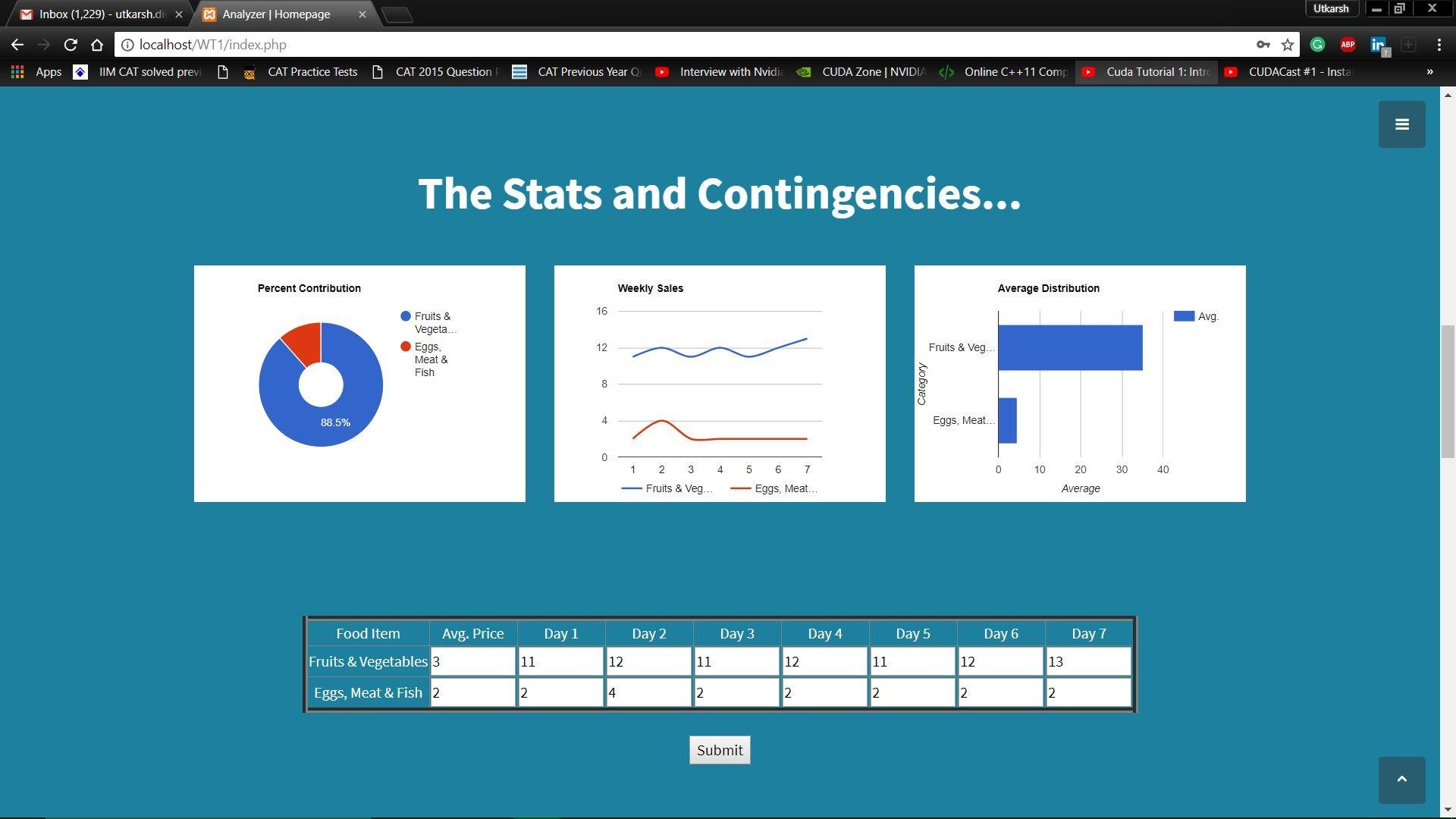
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| --- | --- |
| Process-1 | Associate Trader Profiles |
| Purpose | Capture the relation between the trader and transactions  Discard irrelevant information |
| Target Audience | Customers/ Stakeholders |
| Status | Completed |
| Role: | **As a** *Extraction Analyst* |
| Verification Steps | 1.Validate formatted trader data |
|  | 2.Verify available raw trader transactions |
|  | 3.Verify only relevant transactions are present |
|  | 4.Verify consistency of selected transactions |
|  | 5.Validate transactions transformation |
|  | 6.Verify the comparison transactions between traders |
|  | 7.Validate transactions by trader positions |
|  | 8.Validate transactions by age |
|  | 9.Validate transactions by nationality |
|  | 10.Verify insights gained with data |

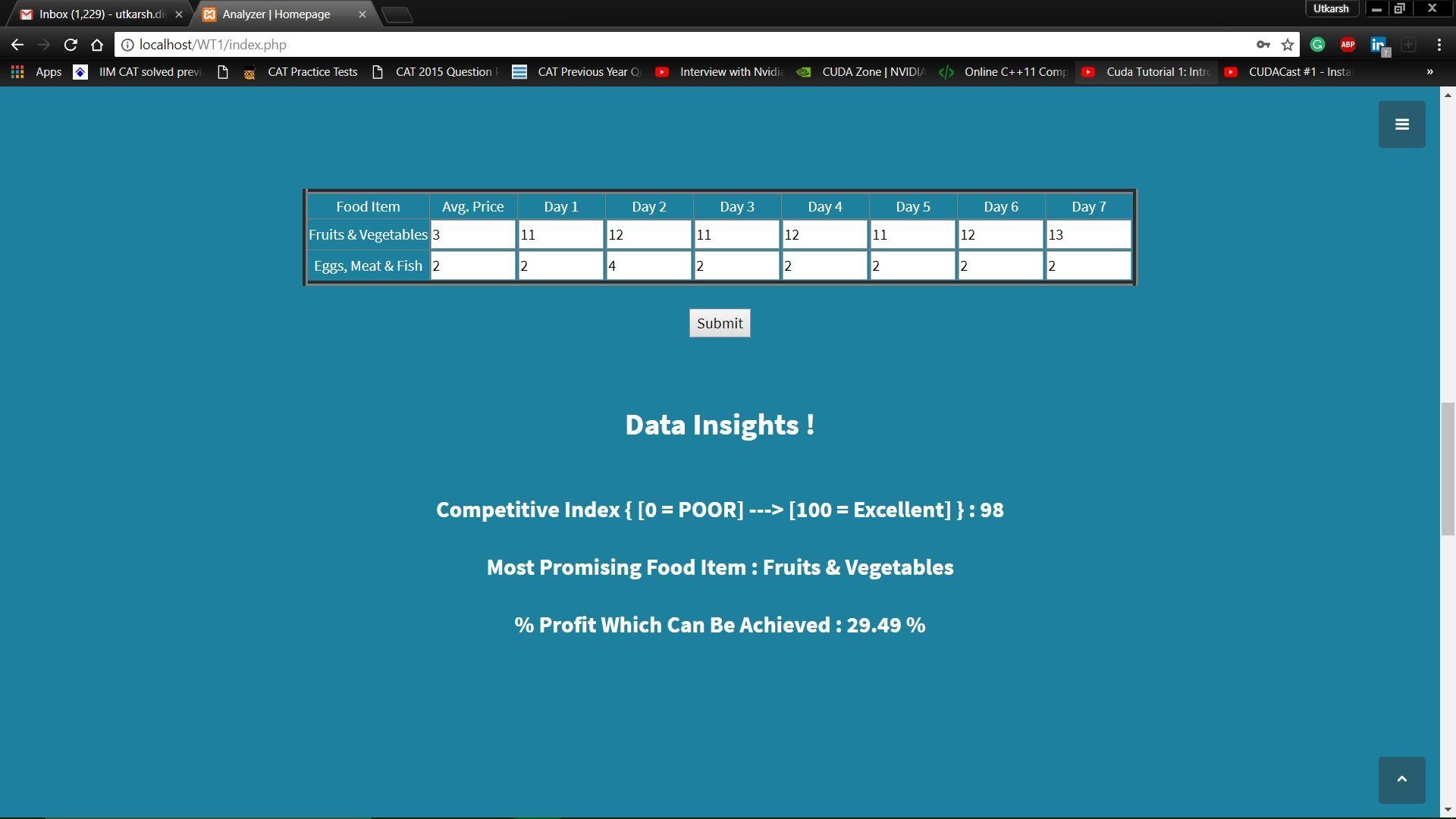
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| --- | --- |
| Process-2 | Generate Trader Features |
| Purpose | Generate the actual features that will be used in the transactionling  Verify that no values are categorical  If categorical values exist, encode them in numerical format |
| Target Audience | Customers/ Stakeholders |
| Status | On-going |
| Role: | **As a** *Shareholder* |
| Verification Steps | 1.Verify tabulation of trader data |
|  | 2.Verify the list of features that are valuable |
|  | 3.Validate transformations on the features |
|  | 4.Validate transformed features by visualization |
|  | 5.Verify scaled features |
|  | 6.Verify the scales of the features |
|  | 7.Validate the features in dataset as a whole |
|  | 8.Verify different feature selection strategies |
|  | 9.Validate the application of feature selection strategy to the data |
|  | 10.Verify integration of generated features and methods |

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| --- | --- |
| Objective-2 | Decide Financial Transaction |
| Purpose | Choose a financial transaction  Verify its results  Optimise the stocks and store the transaction for further usage |
| Target Audience | Customers/ Stakeholders |
| Status | On-going/ Completed |
| Role: | **As a** *financial advisor* |
| Verification Steps | 1.Verify that accessed data is in proper format |
|  | 2.Verify the different financial transactions |
|  | 3.Verify the application of a transaction and its results |
|  | 4.Verify the cross-validation and analysis of transactions |
|  | 5.Verify and overview analysis |
|  | 6.Verify selected optimal transaction stocks |
|  | 7.Verify the modified stocks |
|  | 8.Verify the cross-validation of changed parameter results |
|  | 9.Verify the use different scoring methods |
|  | 10.Verify the finalization on the transaction and stocks |

|  |  |
| --- | --- |
| Process-1 | Choose Financial Transaction |
| Purpose | Try different financial transactions  Use and cross-validate them  Store the transaction that performed the best with the default stocks |
| Target Audience | Customers/ Stakeholders |
| Status | On-going/ Completed |
| Role: | **As a** *Financial Advisor* |
| Verification Steps | 1.Verify the financial transactions |
|  | 2.Verify the input data to transactions is in proper format |
|  | 3.Verify the use test split |
|  | 4.Verify different financial transactions |
|  | 5.Verify the results |
|  | 6.Verify results of different transactions |
|  | 7.Verify cross-validation on transactions |
|  | 8.Verify the analysis of cross-validation results for transactions |
|  | 9.Validate the output of selected transactions |
|  | 10.Verify the analysis |

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| --- | --- |
| Process-2 | Optimise Choices |
| Purpose | Get the transaction stored from earlier process  Tune its stocks and cross-validate the changes  Store the tuned transaction for use in making transactions |
| Target Audience | Customers/ Stakeholders |
| Status | On-going/ Completed |
| Role: | **As a** *transaction set Expert* |
| Verification Steps | 1.Verify the optimal transaction access |
|  | 2.Validate the stocks of the transaction |
|  | 3.Verify the changed the stocks and the results |
|  | 4.Verify the storage of the results with changed stocks |
|  | 5.Verify the cross-validation of changed parameter results |
|  | 6.Verify the Analysis of the cross-validation result |
|  | 7.Verify the useing of the transaction with optimal stocks |
|  | 8.Verify the testing process of the transaction |
|  | 9.Verify the different scoring methods used in testing |
|  | 10.Verify the final transaction and stocks |

**



# VERIFICATION STEPS: GOAL-4

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| --- | --- |
| Objective-1 | Recognise User Queries |
| Purpose | To recognise user input. |
| Target Audience | Customers |
| Status | Completed |
| Role: | **As a** *Database Analyst* |
| Verification Steps | 1. Verify large numbers of traders can be added. |
|  | 2. Verify squads can be found easily. |
|  | 3. Validate trader data in profile page. |
|  | 4. Verify other stocks are visible to user. |
|  | 5. Validate squad trader data. |
|  | 6. Verify news related to trader is displayed. |
|  | 7. Validate market values from reliable sources. |
|  | 8. Verify trader age is displayed |
|  | 9. Verify that nationality is listed. |
|  | 10. Validate the insights were used. |

|  |  |
| --- | --- |
| Process-1 | Standardize Query Format |
| Purpose | Indicate purpose of the process here in 3/4/ statements. |
| Target Audience | Customers/ Stakeholders |
| Status | On-going/ Completed |
| Role: | **As a**database manager |
| Verification Steps | 1. Verify large numbers of traders can be added. |
|  | 2. Verify squads can be found easily. |
|  | 3. Validate trader data in profile page. |
|  | 4. Verify other stocks are visible to user. |
|  | 5. Validate squad trader data. |
|  | 6. Verify news related to trader is displayed. |
|  | 7. Validate market values from reliable sources. |
|  | 8. Verify trader age is displayed |
|  | 9. Verify that nationality is listed. |
|  | 10. Validate the insights were used. |

|  |  |
| --- | --- |
| Process-2 | Execute Transaction |
| Purpose | This will enable the output of the system. |
| Target Audience | Internal Stakeholders |
| Status | Completed |
| Role: | **As a** *Database Analyst* |
| Verification Steps | 1. Verify formatted user queries accessed. |
|  | 2. Verify trader data is used for transaction |
|  | 3. Validate used trader data. |
|  | 4. Verify input error is found. |
|  | 5. Validate data is normalised. |
|  | 6. Verify transactions process is initiated. |
|  | 7. Validate query data is included. |
|  | 8. Verify transaction extracts output. |
|  | 9. Verify session is valid after output. |
|  | 10. Verify that the objective is met. |

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| --- | --- |
| Objective-2 | Handle User Input Data |
| Purpose | To handle user input data. |
| Target Audience | Customers |
| Status | Completed |
| Role: | **As an** *Transaction Generator* |
| Verification Steps | 1. Verify all traders are accessible. |
|  | 2. Verify anomalies are removed. |
|  | 3. Verify errors are found. |
|  | 4. Verify errors are suggested for correction. |
|  | 5. Validate trader transactions in GUI. |
|  | 6. Verify data is provided to the system. |
|  | 7. Verify data is used in formula. |
|  | 8. Validate transaction to generate transacted value. |
|  | 9. Validate transacted value. |
|  | 10. Verify correct value is displayed for trader.. |

|  |  |
| --- | --- |
| Process-1 | Pre-Process User Input Data |
| Purpose | This will pre-process user input data. |
| Target Audience | Internal Stakeholders |
| Status | Completed |
| Role: | As a *Database Analyst* |
| Verification Steps | 1.Verify raw trader data |
|  | 2.Validate processed trader data |
|  | 3.Verify unnecessary transactions are eliminated |
|  | 4. Verify grouping |
|  | 5.Verify domain knowledge gained |
|  | 6.Validate the domain knowledge features representation |
|  | 7.Verify trader features standardization |
|  | 8.Validate data dimensionality |
|  | 9.Verify usage of different feature selection strategies |
|  | 10.Validate final data with features |

|  |  |
| --- | --- |
| Process-2 | Append Relevant Dataset |
| Purpose | To append these values in the database. |
| Target Audience | Customers |
| Status | Completed |
| Role: | **As a** *Transaction Generator* |
| Verification Steps | 1. Verify trader profiles can be viewed. |
|  | 2. Verify trader profiles can be accessed. |
|  | 3. Validate removal of anomalies. |
|  | 4. Validate trader data output. |
|  | 5. Validate data is fed to transaction. |
|  | 6. Verify errors are compared. |
|  | 7. Validate all transactions are viewable. |
|  | 8. Verify important transactions are segregated. |
|  | 9. Verify estimated value is calculated. |
|  | 10. Validate the trader profiles are consistent. |

# VERIFICATION STEPS: GOAL-5

|  |  |
| --- | --- |
| Objective-1 | Generate Trader Details |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *market Analyst* |
| Verification Steps | 1.Validate the generated performance score |
|  | 2.Validate the generated chemistry score with other traders |
|  | 3.Validate the number of goals scored |
|  | 4.Verify the skills the trader has |
|  | 5.Verify the popularity of the trader |
|  | 6.Verify the told details |
|  | 7.Verify the Traders past achievements |
|  | 8.Validate the traders previous rating |
|  | 9.Validate the net worth of the trader |
|  | 10.Validate the collected miscellaneous data |

|  |  |
| --- | --- |
| Process-1 | Find Trader Details |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *extraction expert* |
| Verification Steps | 1.Validate the collected trader data |
|  | 2.Validate the found-out performance score |
|  | 3.Verify the best friends of the trader |
|  | 4.Verify the trader’s skills |
|  | 5.Verify all the non-basic trader details |
|  | 6.Verify the extra details added |
|  | 7.Verify the best details |
|  | 8.Verify the use of social network |
|  | 9.Validate the downloaded photos and videos |
|  | 10.Veify the trader’s fan following |

|  |  |
| --- | --- |
| Process-2 | Communicate Relevant Details |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Customers |
| Status | On-going |
| Role: | **As a** *market Analyst* |
| Verification Steps | 1.Verify the trader’s basic details |
|  | 2.Validate the trader’s details |
|  | 3.Verify the trader’s social life |
|  | 4.Validate the miscellaneous details |
|  | 5.Verify the trader’s behaviour |
|  | 6.Verify the trader’s past |
|  | 7.Verify the trader’s friends |
|  | 8.Verify the trader’s controversies |
|  | 9. Verify the trader’s crime record |
|  | 10.Validate the trader’s relevant data |

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| Objective-2 | Display Trader Details |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Customers |
| Status | On-going |
| Role: | **As a** *extraction expert* |
| Verification Steps | 1.Validate the created bar table |
|  | 2. Validate the created pie table |
|  | 3. Validate the created scatter table |
|  | 4. Validate the created deviation table |
|  | 5. Validate the created growth chart |
|  | 6.Verify the trader’s downfalls |
|  | 7. Validate the trader rankings |
|  | 8.Verify the trader’s milestones |
|  | 9. Verify the trader’s achievements |
|  | 10.Validate the miscellaneous data |

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| Process-1 | Generate Financial Tables |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *market Analyst* |
| Verification Steps | 1.Validate the sorted trader data |
|  | 2.Validate the appropriate library for table plotting |
|  | 3.Validate the retrieved trader data |
|  | 4.Validate the labelled trader’s tables |
|  | 5.Verify whether appropriate scale has been chosen |
|  | 6.Verify the use of correct colours |
|  | 7.Validate the plotted tables |
|  | 8.Validate the trader’s ranking |
|  | 9.Verify the variation in performance of the trader |
|  | 10.Verify the trader’s net worth table |

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| Process-2 | Choose Relevant Details |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *extraction expert* |
| Verification Steps | 1. Validate the sorted trader data |
|  | 2. Verify that data segments ae prioritized |
|  | 3. Verify if it is shown in tabular form |
|  | 4. Verify if different categories of data are being made |
|  | 5. Verify whether data with anomalies is hidden |
|  | 6. Verify the links of traders |
|  | 7. Verify that his friend’s profiles are shown |
|  | 8. Validate the updated details |
|  | 9. Verify that the highlights are shown |
|  | 10. Verify Details can be viewed |
|  |  |

# VERIFICATION STEPS: GOAL-6

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| --- | --- |
| Objective-1 | Validate Trader Data |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *database analyst* |
| Verification Steps | 1.Validate the basic trader details |
|  | 2.Verify if the trader data has been scaled from respected source |
|  | 3.Validate the details entered by the end user |
|  | 4.Verify whether all anomalies have been deleted |
|  | 5.Verify that data admin has been called to delete big mistakes |
|  | 6.Verify that each trader category has been appended |
|  | 7.Verify that all traders who are not trading are archived |
|  | 8.Verify that a good structure has been made |
|  | 9.Verify that database has been normalized |
|  | 10.Verify that unauthorized users are not able to access the database |

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| Process-1 | Fetch Trader Data |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *developer* |
| Verification Steps | 1. Verify that data has been taken from end user |
|  | 2. Verify that data has been taken web scraping |
|  | 3. Validate data appended by admin |
|  | 4. Validate data from dataset repositories |
|  | 5. Validate the parsed data from different API |
|  | 6. Verify that ranking has been taken from FIFA officials |
|  | 7. Validate miscellaneous data from social networks |
|  | 8. Validate data from news |
|  | 9. Validate FIFA records |
|  | 10. Verify that a forum has been created |

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| Process-2 | Feed Data Transaction |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *database analyst* |
| Verification Steps | 1. Validate basic data in the main table |
|  | 2. Validate trader data in different categories |
|  | 3. Validate the rankings inserted in the other table |
|  | 4. Validate the inserted links about the trader |
|  | 5. Validate the photos and videos in the database |
|  | 6. Validate the updated data in database |
|  | 7. Validate details that affect transaction |
|  | 8. Verify the R square value for data transaction |
|  | 9. Validate confusion matrix for transacted values |
|  | 10. Verify the use of dimensional reductionist |

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| Objective-2 | Generate Transacted Value |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *logical query expert* |
| Verification Steps | 1. Validate data used for transaction |
|  | 2. Validate the calculated R square data |
|  | 3. Validate the scaled data |
|  | 4. Validate the categorised data |
|  | 5. Verify that only good data has been used |
|  | 6. Validate the useed transaction |
|  | 7. Verify the use of different regression transactions |
|  | 8. Validate the transacted test values |
|  | 9. Validate the calculated confusion matrix |
|  | 10. Validate the table with transacted values |

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| Process 1 | Communicate Trader Value |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *database analyst* |
| Verification Steps | 1. Verify that a new table has been created for values |
|  | 2. Validate the trader details on the page |
|  | 3. Verify all terms asked by the trader |
|  | 4. Verify the contract duration |
|  | 5. Validate all contract details of the trader |
|  | 6. Validate the net worth of trader |
|  | 7. Validate the base price of the trader |
|  | 8. Validate the current price of the trader |
|  | 9. Validate the transacted price of the trader till the transfer window |
|  | 10. Validate other trader data that is similar |

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| Process 2 | Display Transacted Value |
| Purpose | Indicate purpose of the objective here in 3/4/ statements. |
| Target Audience | Stakeholders |
| Status | On-going |
| Role: | **As a** *Analzer* |
| Verification Steps | 1. Verify the GUI |
|  | 2. Validate all the trader details |
|  | 3. Validate all the basic data of the trader |
|  | 4. Validate all the trader videos |
|  | 5. Validate all the values of the trader |
|  | 6. Validate the trader contract details |
|  | 7. Validate the similar trader details |
|  | 8. Verify whether bidding market Is visible on the site |
|  | 9. Validate the transfer window dates |
|  | 10. Verify the transfer of trader from one stock to another |

# VERIFICATION MATRIX

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| User Story | Step-1 | Step-2 | Step-3 | Step-4 | Step-5 | Step-6 | Step-7 | Step-8 | Step-9 | Step-10 |
| G1:O1 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G1:P1 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G1:P2 | √ | √ | √ | X | x | x | √ | √ | √ | √ |
| G1:O2 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G1:P1 | √ | √ | x | X | √ | x | √ | √ | √ | √ |
| G1:P2 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G2:O1 | √ | √ | √ | √ | x | x | x | x | x | x |
| G2:P1 | X | √ | √ | X | x | x | x | x | √ | √ |
| G2:P2 | √ | √ | √ | √ | √ | √ | √ | √ | x | x |
| G2:O2 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G2:P1 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G2:P2 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G3:O1 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G3:P1 | √ | √ | √ | X | x | x | √ | √ | √ | √ |
| G3:P2 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G3:O2 | √ | √ | x | X | √ | x | √ | √ | √ | √ |
| G3:P1 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G3:P2 | √ | √ | √ | √ | x | x | x | x | x | x |
| G4:O1 | X | √ | √ | X | x | x | x | x | √ | √ |
| G4:P1 | √ | √ | √ | √ | √ | x | √ | √ | √ | √ |
| G4:P2 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G4:O2 | √ | √ | √ | √ | √ | x | √ | √ | √ | √ |
| G4:P1 | √ | √ | √ | √ | √ | √ | √ | x | √ | √ |
| G4:P2 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G5:O1 | X | x | x | √ | √ | √ | x | x | √ | √ |
| G5:P1 | √ | √ | x | X | x | √ | √ | √ | x | x |
| G5:P2 | √ | √ | √ | √ | x | x | x | x | x | x |
| G5:O2 | X | √ | √ | X | x | x | x | x | √ | √ |
| G5:P1 | √ | √ | √ | √ | √ | √ | √ | √ | x | x |
| G5:P2 | √ | √ | √ | √ | √ | √ | x | √ | √ | √ |
| G6:O1 | √ | √ | x | √ | √ | √ | √ | √ | √ | √ |
| G6:P1 | √ | √ | √ | √ | √ | √ | x | x | √ | √ |
| G6:P2 | √ | √ | √ | X | x | x | √ | √ | √ | √ |
| G6:O2 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| G6:P1 | √ | √ | √ | √ | √ | x | √ | √ | √ | x |
| G6:P2 | √ | √ | √ | X | √ | √ | √ | x | x | X |