Software Requirement Specification

1. Introduction:

1.1 Purpose:

AGRO-BASED DIGITAL MANAGEMENT SYSTEM is a web application that provides business purposes to villagers, farmers, wholesalers or other site users at their doorstep. Remote or rural areas farmers can directly sell their products to a wholesaler according to his needs. This helps farmers to improve their financial condition so they may interact with vast internet world and this improves their knowledge.

1.2 Scope:

- There are four basic users as:
  - Director(admin)
  - Users-farmers and wholesalers/customers
  - Computer Professionals
  - Any other users
- All users have their own profiles in ABDM system.
- If it essential to video chat between users then they may use web cam interaction on website.
- Wholesaler can search for all products which are currently available for sell. He can buy also as per his requirements.
- Farmers can place their products for sell with all required information like products, price, quantity.
- Admin has authority to add/delete users, he arranges overall management of website, he can hold new attractive schemes to create an impact on their users.

1.3 Definitions, Acronyms and Abbreviations:

- **Admin:** Administrator: he has authority to add/delete users and manage all arrangements.
- **Apache:** It is an application server that runs and supports PHP and web service application.
- **MySQL:** A database management system that provides a flexible and efficient database to maintain records of students, teachers, admin and dm.
- **Unified modelling language**: UML is a standard language for writing software blueprints. UML may be used to visualize construct, specify and document.
- **Hypertext transfer protocol:** it's a service protocol.

1.4 References:

- IBM RED BOOKS
- Wikipedia: www.wikipedia.com
- www.efarmingdia.com

1.5 Overview:

- **Existing system:**
  - Registration for users
  - Discussion forum
- **Drawbacks:**
  - The farmers are not familiar from internet and computer
  - Users of this system should be computer literate.
  - There is poor speed of internet due to network coverage in remote areas do no web cam interaction.

- **Proposed system:**
  - Registration for users
  - Computer professional-help the farmers who doesn't know the use of computer and internet
- **Our plan:**
  - Registration for users, farmers
  - Online maintenance of all accounts and profiles
  - User reviews, ratings and feedbacks
  - Online dealing facility.

2. Overall description:

2.1 Product perspectives:

The product is supposed to be an open source. It is a web-based system implementing client-server model. The agri-based digital management system provides simple mechanism for farmers from Indian villages to sell their products to different cities and customers from different cities to buy fresh products directly from the farm.
A distributed agri-based database system stores the following information.

- **Product details:**
  It includes the production details of the product and the deliver details of the product, along with the tracking, the number of product sold/left, the quality maintenance of the product, etc.
- **Customer description:**
  It includes customer's username, name, address, email id, phone number and payment options. This information may be used for keeping records of the customer for deliver/return orders etc.
- **Seller description:**
  It includes the seller's username, name, address, email id, phone number and bank details. This also includes the list of products offered by the seller.
- **Order description:**
  It includes customer details, tracking id, estimated delivery date, date of ordering/receiving the order.

2.2 Product Functions:

- The buyer/seller will be able to register online with the username and password. This information will be verified with the information in the database and the buyer/seller is appended.
- The buyer will be able to modify the list of products available in his/her cart.
- The seller will be able to modify the products sell by them on the basis of availability.
- The buyer can search, sort and filter their preferences and then buy it.
- Depending on the order, tracking id, delivery details and payment details will be given.

2.3 User Characteristics:

Basic knowledge of using computers is adequate to use this application. Knowledge of how to use a mouse or keyboard and internet browser is necessary. The user interface will be friendly enough to guide the user. The administrator is expected to be familiar with the interface of the tech support system.

2.4 Constraints:

- Access to the web is required.
- GUI is only in English.
- Login and password are used for the identification of users.
- Only registered patients and doctors will be authorized to use the services.
- Limited to HTTP/HTTPS.
- This system is working for single server.

2.5 Assumptions and Dependencies:

It is assumed that the user is familiar with an internet browser and also familiar with handling the keyboard and mouse.

Since the application is a web-based application there is a need for the internet browser. It will be assumed that the users will possess decent internet connectivity.

2.6Apportioning of Requirement:

May be later.

3. Specific Requirements:

3.1 External Interface Requirements:

- The seller/buyer has to register using the sign-up form provided on the website.
- The seller can now input the details of product and insert images with the help of the keyboard or the mouse wherever necessary.
- The buyer can view, select, buy and add items in the cart.
- The package provides us a list of products based on our sorting/filtering, once he/she search something.

3.2 User Interfaces:

- Front-end software: PHP/Java
- Back-end software: MySQL, DB2

3.3 Hardware Interfaces:

CLIENT END			
	Processor	RAM	Disk Space
Internet Explorer – 7	All Intel or AMD - 1 GHZ	256 MB	100 MB (excluding data size)

SERVER END			
	Processor	**RAM**	**Disk Space**
Internet Explorer 7	All Intel or AMD - 1 GHZ	2 GB	3.5 GB
DB2-9.5	All Intel or AMD - 2 GHZ	512 MB	512 MB (Excluding data size)
Web camera	5 mega pixels		

3.4 Software Interfaces:

- **Client on internet:**
  Web browser, operating system(any)
- **Web server:**
  Apache, operating system(any)
- **Data base server:**
  DB2, operating system(any)
- **Data base end:**
  RAD (J2EE, java, HTML, XML), DB2, OS (windows), wesphere(web server)

3.5 Communications Interfaces:

- Client (customer) on Internet will be using HTTP/HTTPS protocol.
- Client (system user) on Internet will be using HTTP/HTTPS protocol.

3.6 Performance Requirements:

- The application should be portable and possible to users of Netscape Navigator as well as Internet Explorer.
- The database should be scalable; it must have the capacity to hold large number of users in future.
- Error handling should be implemented and the application should be able to handle all run time errors.
- The application should be flexible for future enhancements.
- The package is web based and performs statistical analysis.

3.7 Logical Database Requirement:

There will be two basic tables as:

- **Master table:**
  This table will consist of all the data regarding the buyer, seller and the products.
- **Transaction table:**
  This table will mainly focus on the relation between payment and orders.

3.8 Design Constraints:

- The global schema, fragmentation schema, and allocation schema.
- SQL commands for above queries/applications.
- Implement the database at least using a centralized database management system.

3.9 Software System Quality Attributes:

- **AVAILABILITY:** The product should be available on the date and availability of the product should be updated as some customers place prepaid order.
- **CORRECTNESS:** The product should be checked before dispatch in order for customers to get their ordered product.
- **MAINTAINABILITY:** The farmers and management should maintain regarding the dispatch and payment options.
- **USABILITY:** The availability of the products should satisfy a maximum number of customer's needs.

4. Other requirements:

- **Safety Requirements:**
  If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed-up log, up to the time of failure.
- **Security Requirements:**

Security systems need database storage just like many other applications. However, the special requirements of the security market mean that vendors must choose their database partner carefully.