
Food For Good

Requirements Definition Template

Version: 5.0

Table of Contents

1. INTRODUCTION.....	3
1.1. PURPOSE OF THIS DOCUMENT.....	3
1.2. REFERENCE MATERIALS.....	3
1.3. SPECIFIC TERMS AND ACRONYMS	3
1.4. USER ROLES.....	4
1.5. ASSUMPTIONS.....	4
1.6. CONSTRAINTS	5
1.7. DEPENDENCIES	5
2. REQUIREMENTS	6
2.1. BUSINESS REQUIREMENTS	6
2.2. USER AND FUNCTIONAL REQUIREMENTS	6
2.3. NONFUNCTIONAL REQUIREMENTS	10
2.4. COMMON INFORMATION	13
3. APPENDICES.....	14
3.1. REVISION HISTORY	14
3.2. VALIDATION HISTORY	14
3.3. REQUIREMENTS ISSUES	14
3.4. ATTACHMENTS	ERROR! BOOKMARK NOT DEFINED.



1. Introduction

1.1. Purpose of this document

This document contains all User-level and System-level requirements for this project.

1.2. Reference Materials

There are many other documents that together describe the complete set of requirements for this project.

Reference Document Name	Brief Description	Location of Definitive Source
ProjectProposal_FoodForGood.pdf	Project Proposal –includes scope ,problem statement	https://drive.google.com/drive/u/0/folders/0B7b5RzAFiOs wLXhvUktObmdqQ2c
Business Case _FoodForGood.doc	Includes details of the assumption, dependencies, cost benefit analysis .	https://drive.google.com/drive/u/0/folders/0B7b5RzAFiOs wLXhvUktObmdqQ2c
FoodForGood-UseCase Version1.3.doc	Includes use case details for every actor .	https://drive.google.com/drive/u/0/folders/0B7b5RzAFiOs wLXhvUktObmdqQ2c
FoodForGood_Use Case and Activity Diagram.pptx	Use case diagrams for all actors and activity diagrams	https://drive.google.com/drive/u/0/folders/0B7b5RzAFiOs wLXhvUktObmdqQ2c

1.3. Specific Terms and Acronyms

Terms here are specific to this document. Refer to “Project Glossary” for a more comprehensive list of terms used in this project.

Term or Acronym	Description
Food Supplier	Restaurant owners
Customer	NGO, Food Banks
FFG	Food For Good
Order Request	Customer food orders
Pick up Request	Pick up request are placed by Food Supplier
Order Status	Status of the food request which is updated b the customer
Pick-up Status and Delivery Status	Updated by the driver when he picks up the food from the supplier and delivers it to the customer respectively.
Ticket Priority Status	The tech staff assigns a priority to the ticket according to its severity.



Term or Acronym	Description
Task Completion Status	Depending whether the issue is resolved or forwarded, the completion status is updated.

1.4. User Roles

Roles played by various users that interact with the business process or system are described here.

Role	Description of Role and Activities Performed	Performed By Job Title (Optional)
Food Supplier	Primary actor, updates ad provides left-over food to consumer	Store Manager/Owner
Customer	Primary consumer of the food. Initiator of a food order request.	Consumer
Driver	Driver checks deliveries assigned to him, picks up food from the food supplier's location, delivers food to the customer and updates the status on the application.	Driver
Tech Support Staff	Handles and resolves all the complaints a customer, supplier or the driver may have.	Tech Support Staff

1.5. Assumptions

Identify anything that adds clarification to or provides background information about the requirement statement, or other related item.

ID	Assumption Statement	Related To
A1	Food is checked whether it is not expired and will be edible when donated.	Customer and Food Suppliers
A2	Food Suppliers, from where food is collected, are well in proximity and accessible to the delivery trucks.	Food Suppliers
A3	Suitable number of efficient developers/engineers to develop the application and resolve the app issues raised by users.	Technical/ Engineering Department
A4	The system is functioning smoothly and it accessible to all authorized users.	All users
A5	Adequate resources such as internet connectivity, servers and database/cloud storage are available.	All users



1.6. Constraints

Identify anything that puts limits on implementing the requirements.

ID	Constraint Statement	Related To
C1	The supplier will only have an estimate of the remaining food towards the end of the day	Supplier
C2	Consumer cannot keep the food in the cart for a later checkout.	Consumer
C3	There is a vehicle breakdown and the driver is unable to deliver the items.	Driver
C4	There is a system breakdown which inhibits the driver from making any updates.	Driver
C5	The logged complaint is not in his/her jurisdiction to solve.	Tech Support Staff

1.7. Dependencies

Detail any external event, condition, or system that must be in place for a requirement to be valid.

ID	Dependency Statement	Related To
D1	The supplier gets to donate food only if accepted by a consumer and driver for delivery	Supplier
D2	"Food Request" can be placed only if the "Catalogue" triggered for that day.	Consumer order
D3	For the user to login, there should be a database which manages the user credentials so that he is given authorized access.	All users
D4	The driver should have internet connectivity and a functioning smartphone on which the application can be downloaded and used smoothly.	Driver
D5	The tech support staff is dependent on other departments in order to work efficiently and forward the tickets to respective departments when needed.	Tech Support Staff



2. Requirements

2.1. Business Requirements

Business-level requirements are written from the sponsor's perspective. The business requirements identify the reason why the project is being done or what business objective it supports, as well as the benefits to the business. Business requirements are typically documented early in the project life cycle or the planning phase of the project, and are frequently documented in the project management deliverables.

ID	Business Requirement Statement
B1	The purpose of the Food For Good project is to have delivery truck pick up and deliver quality food to a consumer from a source which would otherwise dispose it so that the resources do not go waste and eventually make a difference to world hunger problems.

2.2. User and Functional Requirements

User-level requirements are written from the user role's perspective. Named information is shown quoted in these requirement statements. Information used in the user-level requirements is described in the "Common Information" section below.

Functional requirements are written from the system's (features or functions) perspective. What must the system do to support the user role? Information referenced in the functional requirements is described in the "Common Information" section below.

Column Header Key: BR = Business Rules Identifier, CI = Common Information Identifier, ST = Status.

Status Column Key: A = Accepted, C = Changed since last review, N (or Blank) = New since last review.

ID	User and Functional Requirement Statements	BR	CI	ST
User Role	Food Supplier			
Goal U1	Log the availability of food for the day			
U1.1	Log in to the system and provide a list of food he is willing to donate and places food into storage units.	A		
U1.1F1	The system shall let the supplier log in to the application.		A	
U1.1F2	The system shall have an interface where the supplier can provide a list of food he is willing to donate.	A		
U1.1F3	The system shall have an interface where all the food will be categorized into various categories naming Prepared Food, Milk Products, Raw Materials, Meat, No-Meat.	A		
Goal U2	Register for advertisement plan			
U2.1	The supplier chooses different marketing plans provided by FFG and pay accordingly		C	



ID	User and Functional Requirement Statements	BR	CI	ST
U2.1F1	The system shall let the supplier choose a marketing plan from all the provided ones and display all the necessary details about those plans.		C	
U2.1F2	The system shall have a secured platform to handle money transactions for the marketing plans.			A
User Role	Consumer			
Goal U1	View the food that is available for donation			
U1.1	Log in to the system and view the food that is available and can be requested.	A		
U1.1F1	The system shall let the consumer login to the application.	A		
U1.1F2	The system shall have an interface that lets the consumer browse through food products that are available.		C	
Goal U2	Customer places a food request			
U2.1	Depending on the customers' requirement, they can add a food request for the category and amount of food that they want to consume.	A		
U2.1F1	The system shall provide an interface to the customer so that he can add the amount and category of the food that he requires.	A		
U2.1F2	The system shall send a confirmatory email to the customer upon placing of the order.		A	
U3.1F3	The system shall auto-update the food items in list of available products.		C	
Goal U3	Customer receives the requested food			
U3.1	The customer checks the food delivered by the driver and updates the order status whether the order is correct or incorrect.		C	
U3.1F1	The system shall let the customer update the order status to "Complete" if the order is correct and give a confirmation of the delivery.	A		
U3.1F2	The system shall let the customer update the order details about any incorrect order items.			N
User Role	Driver			
Goal U1	View all the food delivery tasks assigned to him			
U1.1	Log in to the system and view all the delivery tasks assigned to him.	A		



ID	User and Functional Requirement Statements	BR	CI	ST
U1.1F1	The system shall let the driver log in and view the delivery tasks assigned to him.	A		
U1.2	Pick up all the packets from the destinations (suppliers) in a predefined route which is set up by the system and confirms the list of products that have been picked from the storage units.	A		
U1.2F1	The system shall create a check list of all the products the supplier has entered into the system.		C	
U1.2F2	The system shall generate the destinations using an algorithm to optimize the route.			N
Goal U2	Update the pick-up status			
U2.1	The driver will update the pick-up status as "Complete"	A		
U2.1F1	The system shall let the driver change the pick-up status to "Complete" before leaving for his next destination.		C	
Goal U3	Deliver the food to the customer			
U3.1	Driver will deliver the food to customers using a pre-defined route generated by the system	A		
U3.1F1	The system shall generate the customer destination using an algorithm to optimize the route.			N
Goal U4	Get the signature from customer as proof of delivery and create a list of all the incorrect deliveries.			
U4.1	Driver will get an e-signature from the customer.			N
U4.1F1	The system shall generate the customer destination using an algorithm to optimize the route.	A		
U4.2	Driver will add the incorrect products in a list provided by the system.	A		
U4.2F1	The system shall let the driver enter the list of all the incorrect deliveries and notify the driver at the end of all deliveries.		C	
Goal U5	Update the delivery status to "Complete" and check the incorrect delivery list			
U4.1	Driver will update the delivery status as "Complete" and will check the incorrect delivery list to deliver back to the main FFG center.	A		
U4.1F1	The system shall pop up the list of all the incorrect deliveries once the driver updates the delivery completion status as "Complete" and provide a route back to FFG	A		
User Role	Tech Support Staff			



ID	User and Functional Requirement Statements	BR	CI	ST
Goal U1	To generate service tickets			
U1.1	View logged customer complaints and generate service tickets accordingly.	A		
U1.1F1	The system shall grant access to the tech support staff to view the logged complaints.	A		
U1.1F2	The system shall let the tech staff generate service tickets according to the logged complaints.		C	
Goal U2	Set priority for service tickets			
U2.1	Give priority to the ticket according to the pre-defined standard and update priority status – high, med, low.	A		
U2.1F1	The system shall let the staff set and update the priority status.		C	
Goal U3	Resolve the issue			
U3.1	Based on the set priority, staff will try to the resolve the issue.	A		
U3.1F1	The system shall wait for further instruction from the tech staff.		C	
Goal U4	Update the completion status and take respective action			
U4.1	On successful completion of the task, update the completion status as complete and notify the customer.	A		
U4.1F1	The system shall let the tech staff update the completion status to “Complete”.	A		
U4.1F2	The system shall automatically notify the customer through email or any other point of contact specified.	A		
U4.2	On unsuccessful completion of the task, update the completion status as “pending” and forward to the respective department.		C	
U4.2F1	The system shall let the tech staff update the completion status to “Pending”.			N
U4.2F2	The system shall let the tech staff forward the issue to the respective department.	A		



2.3. Nonfunctional Requirements

Nonfunctional requirements focus on the qualities that must be applied to design and implement the system. These are specific standards and attributes in support of the other requirements.

ID	Nonfunctional Requirement Statements	BR	CI	ST
OPERATION Requirements: How well does the system perform for daily use?				
Access Security How well is the system guarded against unauthorized access? The extent to which the system is safeguarded against deliberate and intrusive faults from internal and external sources.				
N-ACS1	The system will automatically lock the account for more than 3 attempts and reset password with phone verification /email-id	A		
N-ACS2	The system will secure transactions using third party – PayPal for payment	A		
Availability How dependable is the system during normal operating times? The degree to which users can depend on the system to be up (able to function) during "normal operating times."				
N-AVL1	System is operational for updates 8am -7pm		C	
N-AVL2	The system will accept pick-up request up to 7pm, remaining orders are scheduled orders		C	
Efficiency How fast can it process? How many can be processed? How well does the system respond? The extent to which the software system handles capacity, throughput, and response time.				
N-EFC1	Database will be updated instantly in less than 15 secs	C		
N-EFC2	Notifications to be sent as soon as database is updated with order requests , leftover food	A		
Integrity How accurate and authentic are the data? The degree to which the data maintained by the software system are accurate, authentic, and without corruption.				
N-INT1	Incorrect updates can be corrected by the food supplier	A		
N-INT2	Technical problems can be routed to the tech team via the help option on the app	A		
Reliability How immune is the system to failure? The extent to which the software system consistently performs the specified functions without failure.				
N-REL1	Server crashes and recovery may lead to a delay	A		
N-REL2	Users to be notified of system shutdown	A		
Survivability How resilient is the system from failure? The extent to which the software system continues to function and recovers in the presence of a system failure.				
N-SRV1	The system will run a recovery from backup servers to take place once the main server shutdown		C	
N-SRV2	Scheduled updates to take back up from the main server	A		
Usability How easy is it to learn and operate the system? The ease with which the user is able to learn, operate, prepare inputs, and interpret outputs through interaction with a system.				
N-USE1	Ease of use with very simple UI for insert, update ,delete, view functionality	A		



ID	Nonfunctional Requirement Statements	BR	CI	ST
N-USE2	Application usage needs no training can be used by all types of customers	A		
REVISION Requirements: How easy is it to correct errors and add functions?				
Flexibility How easy is it to modify to work in different environments? The ease with which the software can be modified to adapt to different environments, configurations, and user expectations.				
N-FLX1	It shall be fairly easy to modify the work in different environments. Our developers shall write the code for Android and IOS users. Hence covering almost all smart phone users.	A		
N-FLX2	Using it as a desktop application shall be easy. If needed, the developers shall rewrite the same code in .Net/MVC or Spring MVC.			N
Maintainability How easy is it to upkeep and repair the system? The ease with which faults in a software system can be found and fixed.				
N-MNT1	The upgrades shall be easy to install unless there's a change in the operating system itself.	A		
N-MNT2	The repairs/bugs shall be very easy to fix since it would mean, modifications of a line or two of the code most of the time.	A		
Scalability How easy is it to expand or upgrade the system's capabilities? The degree in which the system is able to expand its processing capabilities upward and outward to support business growth.				
N-SCL1	The load and bandwidth for data information should be scalable to meet the long-term growing of the business.		C	
N-SCL2				
Verifiability How easy is it to show the system performs its functions? The extent to which tests, analysis, and demonstrations are needed to prove that the system will function as intended.				
N-VER1	The application shall have a development test environment which will be used for all medication testing, analysis, and demonstration.		C	
N-VER2	Other environments like pre-production will be used until it finally reaches the prod environment for the Go-live		C	
TRANSITION Requirements: How easy is it to adapt to changes in the technical environment?				
Interoperability How easy is it to interface with another system? The extent to which the software system is able to couple or facilitate the interface with other systems.				
N-IOP1	The system shall be compatible with both Android and IOS operating systems.	A		
N-IOP2	If web application is required, Cross-browser shall be supported – Chrome, Firefox, IE, and Safari.	A		
Portability How easy is it to transport? The ease with which a software system can be transferred from its current hardware or software environment to another.				
N-POR1	The business logic shall be separated from the UI design so that the code can be easily portable.			N



ID	Nonfunctional Requirement Statements	BR	CI	ST
N-POR2	The code shall use wrappers to make portability much simpler.			N
Reusability How easy is it to convert for use in another system? The extent to which a portion of the software system can be converted for use in another.				
N-REU1	The business logic and the UI design shall be carefully separated so that most of the JAVA code can be reused in a web application.			N
N-REU2	OpenGL ES is supported on both platforms making reuse fairly simple			N



Common Information

In the other Requirements subsections, specific information that is referenced multiple times may be described once here. This “named information” may then be referenced by its name with quotes around it in the rest of the document.

ID	Named Information	Related Req. ID	Definition or Business Usage / Business Elements	Definitive Source
CI1	Order Request	1.11	When a consumer places an order through the application.	
CI2	Delivery Request	1.21	When the delivery truck accepts the request to deliver a food from the source to the consumer	
CI3	Catalogue	1.31	List of food items added the catalogue by the end of each day along with capacity	
CI4	Food Update	1.41	When supplier updates the excess food by the end of the day	



3. Appendices

3.1. Revision History

Change Date	Changed by	Description of Change	Version
11/10/2016	Letitia Dsouza	Updated section 1.2, 1.3,2.3,3.2,3.4	V1.0
11/16/2016	Noopur Kamble	Updated sections 1.3, 1.4, 1.5, 1.6, 2.2.	V2.0
11/17/2016	Shruti Singhal	Updated section 1.4,1.6,1.7, 2.0, 2.4,3.3	V3.0
11/18/2016	Taj Pooviah	Updated section 1.4,1.6,1.7, 2.0, 2.4 ,2.3	V4.0
11/19/2016	Preet Parmar	Updated sections 1.3, 1.4, 1.5, 1.6, 2.2	V5.0

3.2. Validation History

Participant Index

ID	Stakeholder Name	Specific Role or Area of Expertise
Supplier 1	Dunkin Donuts	Specializes in Bakery & Dairy Products
Supplier 2	Subway	Provides Bread, Vegetables and Meat Products
Supplier 3	StarMarket	All groceries and canned food supplier
Supplier 4	WholeFoods	All groceries and canned food supplier
Receiver 1	Friends of Boston's Homeless	Non-Profit Organization
Receiver 2	New England Center for Homeless Veterans	Homeless Shelter
Receiver 3	St.Francis House	Homeless Shelter
Receiver 4	Boston Health Care for the Homeless Program	Homeless Shelter

Outcomes: A = Accept, C = Accept with Conditions, R = Reject

Review Date	Overall Outcome	Supplier Outcome(s)				Receiver Outcome(s)				Identified Issues
		S1	S2	S3	S4	R1	R2	R3	R4	
11/15/2016	A	C				A				Expiry needs to be checked for dairy products
11/16/2016	R		R				A			No space for storage units
11/18/2016	A			A				A		Accepts canned food
11/20/2016	A				A				A	No issues

3.3. Requirements Issues

ID	Description	Assigned to	Status
IS1	Will the customer agree to spend time in formal requirements gathering meetings to identify project scope?	Shruti	In Progress
IS2	Costs associated with a defective/wrong/late food delivery?	Preet	In Progress
IS3	Number of users of the product?	Letitia	In Progress
IS4	Are the storage units/delivery persons suiting our needs available?	Noopur	In Progress
IS5	How to ensure the quality of food is maintained?	Taj	In Progress



3.4.3. BPMN Diagram