

User Manual Digitization System

Blue Star India

Software Requirement Specification (SRS)

The document details the summary of solution architecture and approach for the development of User Manual Digitization System for Blue Star India. The document is based on the inputs, system study, discussions and meeting held between BCI & Blue Star India Teams.

REVISION HISTORY

REVISION NO.	DATE	PREPARED BY	REVIEWED BY	COMMENT
1.0	16-11-2022	Omkar Gaonkar	Chandrakant	SRS Document for User Manual Digitization
1.1	18-11-2022	Omkar Gaonkar	Chandrakant	Changes in the User login screens, User Manual download and View Customer details screen.
1.2	28-11-2022	Omkar Gaonkar	Chandrakant	Changes in the Master screen, Validation points added, View Customer and User manual download screen. Added Solution architecture.
1.3	29-11-2022	Omkar Gaonkar	Chandrakant	Data added and rectified in QR Code Printing, User Manual Download. Screen added in User Manual Download
1.4	06-12-2022	Omkar Gaonkar	Chandrakant	Changes from Client in View Customer detail Screen, User Manual download
1.5	07-12-2022	Omkar Gaonkar	Chandrakant	Changes in View Customer detail Screen, and User manual download popup Screen

Abbreviations:

Name	Abbreviation
Work in Progress	WIP
API	Application Programming Interface
QR Code	Quick Response Code
AD	Active Directory
BSL	Blue Star Limited

Client: Blue Star India.

Vendor: Bar Code India

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1 SPECIFICATION ORGANIZATION

The objective of the application is to create User Manual Digitization that will help in digitizing the Products User Manuals and provide complete Customer Visibility to Blue Star.

The document lays down the specifications of the application, its architecture and infrastructure requirements.

Section 1: Introduction

This section provides hardware requirements and documentation conventions.

Section 2: User Interface

This section depicts screen design and logic flow, and is categorized into two groups:

- Application Master Module
- Common Routine

Section 3: System Architecture

This section provides information of system architecture.

2 INTRODUCTION

2.1 INTENDED AUDIENCE AND READING SUGGESTIONS

The scope of the software would require the development of the front end application, to transfer data from application to server. The document lays down the specifications of the middleware application, its architecture and infrastructure requirements.

The entire solution consists of followings:

1. Web Application (BSL to maintain the master data and Reporting)(Angular)
2. Web Application (Consumer Portal)(Angular)
3. REST/API (.Net Core)
4. Barcode Application (Existing used in MFG Plants)
5. Barcode Hardware (Printers & Scanners)
6. Mongo DB (Database)

2.2 PROJECT SCOPE

The scope of the software would require the development of the web application, and services for transferring data from application to Server. The document lays down the specifications of the application, its architecture and infrastructure requirements.

The proposed solution would require development of web based application. QR Code will be printed for each Product Unit and its Box having model code and serial number. On scanning QR Code, customers can download the user manual for their product from a web page after filling up the request form.

Using the application, Blue Star can also able to view and export Customers details who has downloaded the user manual and has visibility of their customers.

The entire solution consists of followings:

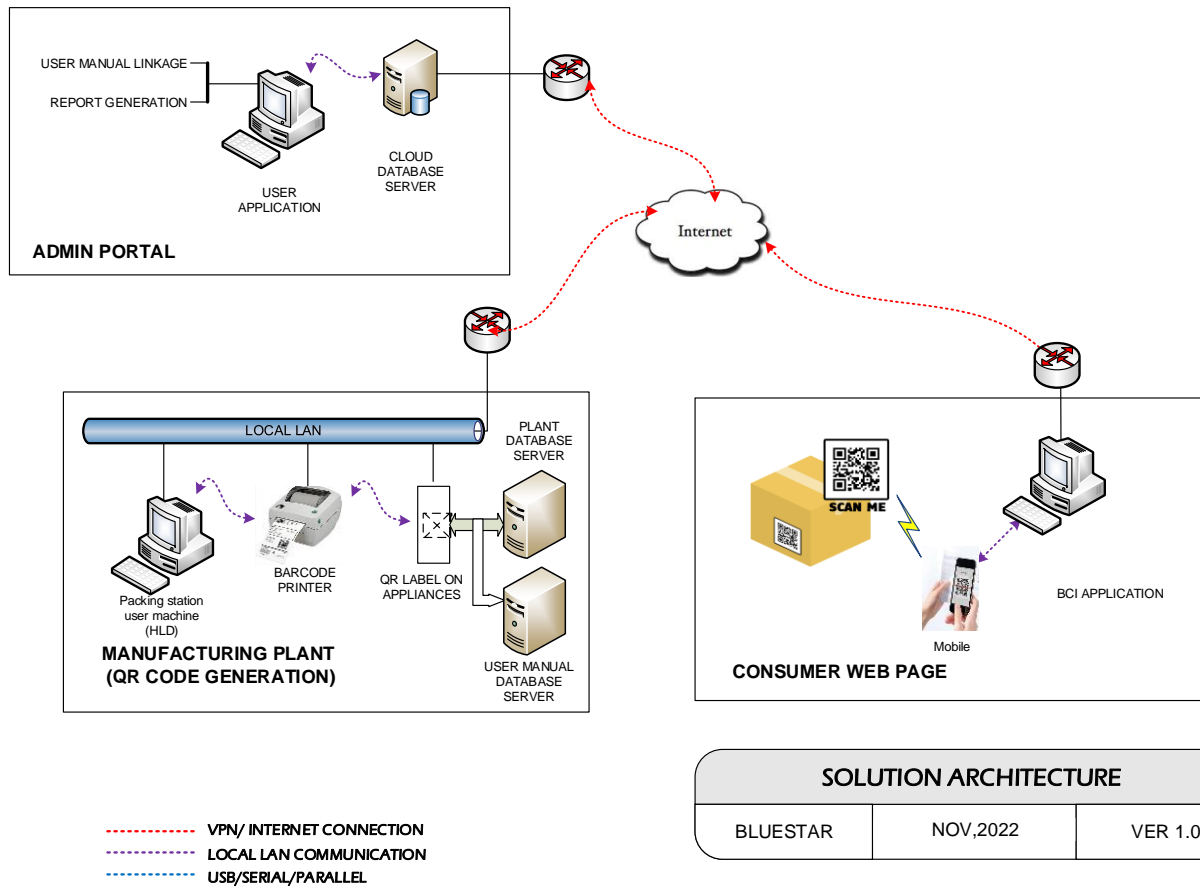
1. QR Code Generation (User printing QR Code label)
2. Consumer Web Page (Costumer downloading User Manual)
3. Admin Portal (Bluestar user check manual linkage and Reports)

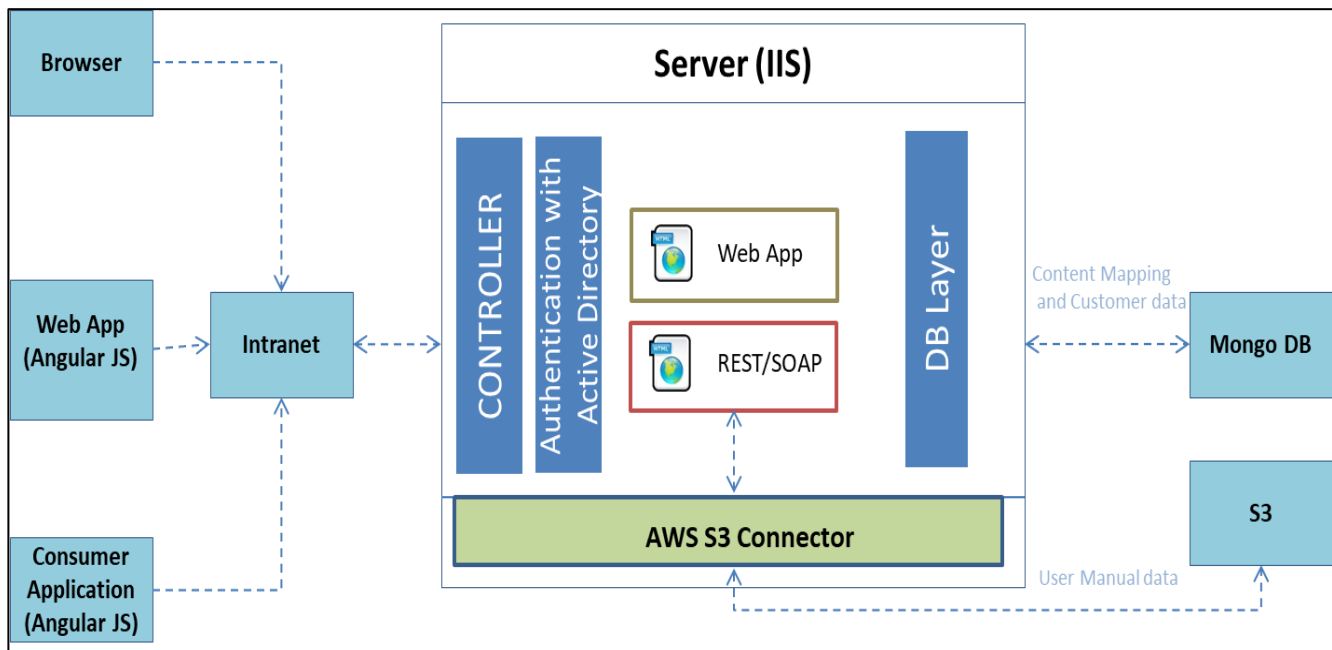
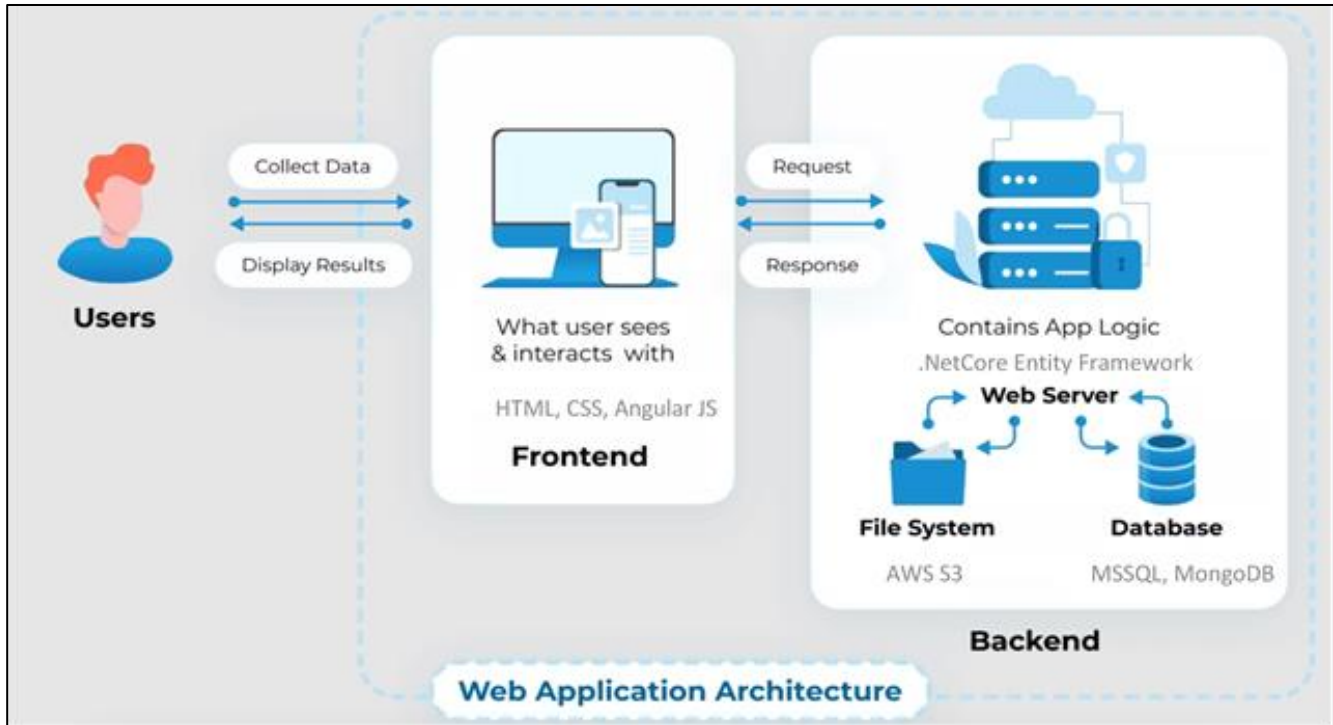
3 SOFTWARE/HARDWARE REQUIREMENTS

Desktop would require following specifications:-

- Server/Desktop with minimum 16GB RAM and 50GB space (accessible to all users who will access the application)
- MongoDB access with sufficient space.
- Cloud storage details where files will be stored.
- Public IP for the customer to download the Document.
- MongoDB should be accessible from this IP.

4 SOLUTION ARCHITECTURE





5 USER INTERFACE SPECIFICATION CONVENTIONS

This section specifies the user interface portion of the application.

Section Organization

The User Interface Specification presents screen displays or “**Dialogs**”.

Documentation Conventions

This section incorporates illustrations of the application user interface. Each screen display “Dialog” consists of the screen display image, a process name, a paragraph documenting the processing required for the dialog, a paragraph listing the navigation options, and a table listing for each variable field on the dialog, its database source or destination, format, and any instructions required to process the field.

The following section contains a sample dialog with each area identified.

6 SYSTEM LOG

System shall maintain internal logs for application.

6.1 ERROR LOGS

These logs will contain any errors encountered during runtime for faster resolution of any problem post deployment.

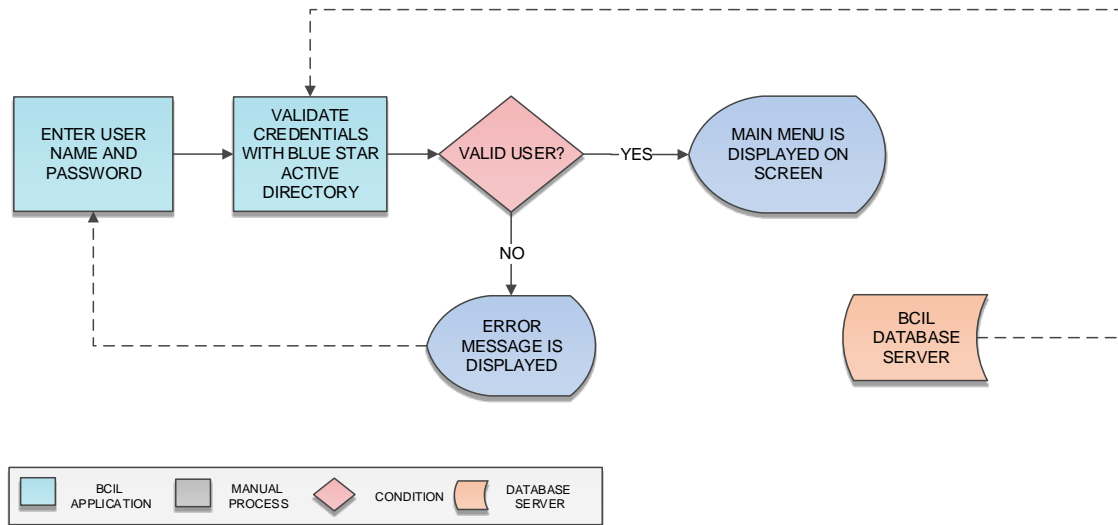
6.2 AUDIT LOGS

These logs will monitor the activities of user who accessed the application, made changes to File/ Document and the time stamp of these activities.

7 APPLICATION MODULES

7.1 APPLICATION LOGIN- WEB APPLICATION

This login module will provide access to the application modules. Here the admin/user needs to enter the login detail to enter in the application and to perform the desired actions.



Process: User needs to enter the User Name/ID and Password in display fields and press the Login button.

Application will validate the credentials with Blue Star Active Directory.

User will be able to view only those screens/ modules.

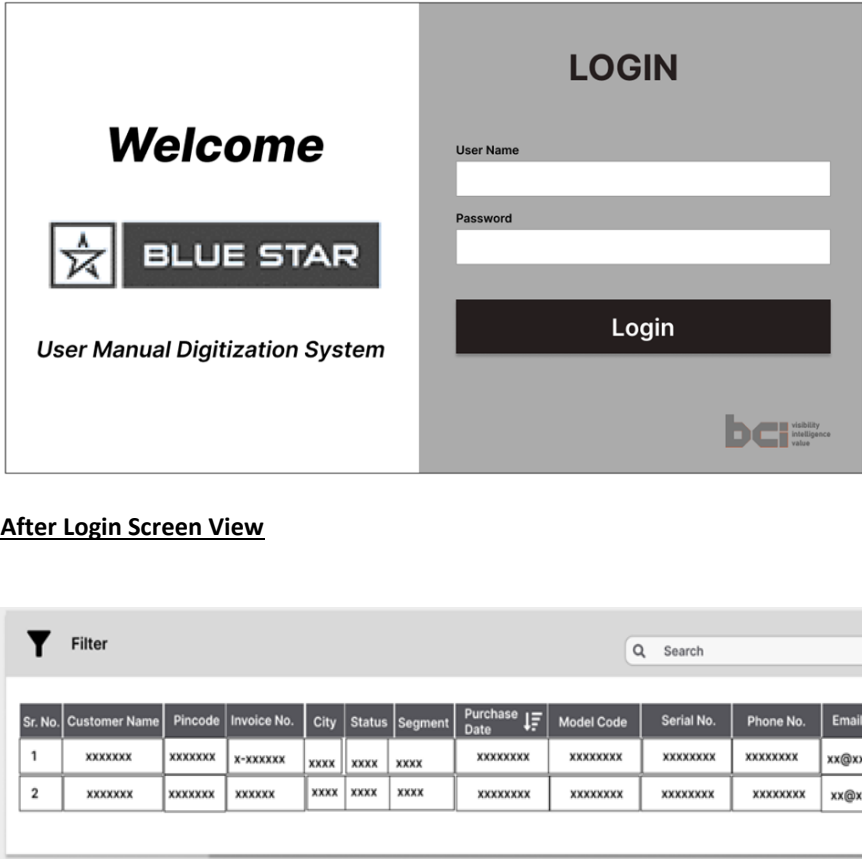
Validation

- User Name/ ID will be unique for all users.
- User Name/ ID and Password length will be set.

After successful login application menu screen will appear; this screen will have the Master and report options etc.

7.2 USER LOGIN

This module will let users to login in to the application.

Data Fields	<ol style="list-style-type: none"> 1. User Name 2. Password
Process Steps	<ol style="list-style-type: none"> 1. User will enter User Name/ID. 2. Enter the Password as per active directory login. 3. System will check the entered user credentials with BSL active directory. <i>*Activate directory will validate the User Id and password.</i> 4. Click on Login button to enter the application. 5. If the credentials are verified in AD, application access will be granted. 6. The View Customer Details screen appears once the user logs in. <i>*Refer section 7.4.3 for the View Customer details screen.</i>
Functions	Login into the application
Sample Screen	 <p>The sample screen section contains two screenshots. The first screenshot shows a 'Welcome' message with the 'BLUE STAR' logo and the text 'User Manual Digitization System'. To the right is a 'LOGIN' form with fields for 'User Name' and 'Password', a 'Login' button, and the 'bci' logo at the bottom. The second screenshot, titled 'After Login Screen View', shows a data table with columns: Sr. No., Customer Name, Pincode, Invoice No., City, Status, Segment, Purchase Date, Model Code, Serial No., Phone No., Email, and Date. The table contains two rows of data. Above the table is a 'Filter' button and a 'Search' bar. To the right of the search bar is a 'Download' button.</p>

7.3 MASTERS


7.3.1 USER MANUAL LINKAGE MASTER


The module will be used to link the user manual against the model number of the product.



Data Fields	<ol style="list-style-type: none"> 1. Model code 2. File upload 3. File Download
Process Steps	<p><u>Process 1:- To add the User manual :-</u></p> <ol style="list-style-type: none"> 1. Click on Add button. 2. Enter the Model Code 3. User upload the file (PDF) as against the model code. 4. Save the details in database. <p><u>Process 2:- To update the User manual :-</u></p> <ol style="list-style-type: none"> 1. Click on Model number for which manual to be updated. 2. The Model Code gets displayed on screen. 3. Upload the new file against the model code. 4. Details get updated in database. <p><u>Process 3:- To filter the User manual :-</u></p> <ol style="list-style-type: none"> 1. Click on filter button. 2. Enter the Model number. 3. Click on Apply button. 4. Data gets displayed on the screen as per filter. <p><u>Process 4:- View User Manual files :-</u></p> <ol style="list-style-type: none"> 1. Click on User Manual link option. 2. The model no against the file details are displayed. 3. User can download the existing user manual file. 4. Details are displayed as per database.
Functions	Model Number gets linked to User manual file

Sample Screen

View User Manual files against Model No

 Filter

 Add

Sr. No.	Model No.	File Link	Action
1	XXXXXXXXXXXXXX	XXXX-XXX-XXX-XXXXXXXXXXXXXXXXXXXX-XXXXXXX	
2	XXXXXXXXXXXXXX	XXXX-XXX-XXXXXXXXXXXXXXXXXXXXXXXXXXXX	

Add User Manual files

User Manual Linkage

Model Code

Upload File

Browse

Save

Cancel

Edit User Manual files

User Manual Linkage Details Edit

Model Code


Upload File


Browse


Update

Cancel

Filter User Manual in Master

User Manual Linkage 





 Filter

 Add

Model Code

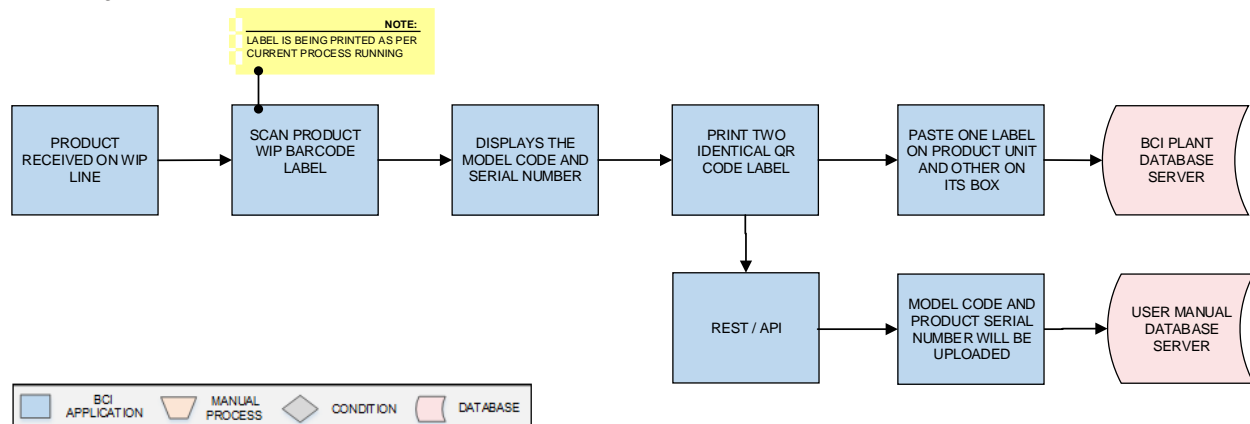
Apply

Clear

File Link	Action
XXXX-XXX-XXX-XXXXXXXXXXXXXXXXXXXX-XXXXXXX	 
XXXX-XXX-XXXXXXXXXXXXXXXXXXXXXXXXXXXX	 

7.4 USER MANUAL DIGITIZATION PROCESS

7.4.1 QR CODE PRINTING



Activities

Module Description	<p>This module will be used for Product barcode printing. User will scan that WIP Product Barcode and generate two identical QR Code labels. One Label is printed on Product Unit and other is on its Box. QR Code label will have Model Code and Serial Number and Website Link of the Product.</p> <p><i>* This this activity will be done through existing barcode application which is being used in all plants on manufacturing lines.</i></p>
Pre-Conditions	<ol style="list-style-type: none"> 1. Authorized access to the application. 2. For unique identification of carton the model code and serial no to be pasted on it. 3. Website link to be in working conditions.
Process Steps	<ol style="list-style-type: none"> 1. The product with barcode (Chassis) is received on the WIP Line. 2. Scan the Product's (Chassis) label. <i>*Label is been printed as per current process running.</i> 3. The system will show the Model Code and Serial Number. 4. The user will create two QR Code labels that are the same. 5. Apply one label to the product unit and the other to the packaging box. <i>*QR code label will have model Code and serial number and User Manual Download application link to send the information of QR code to User Manual database server.</i>

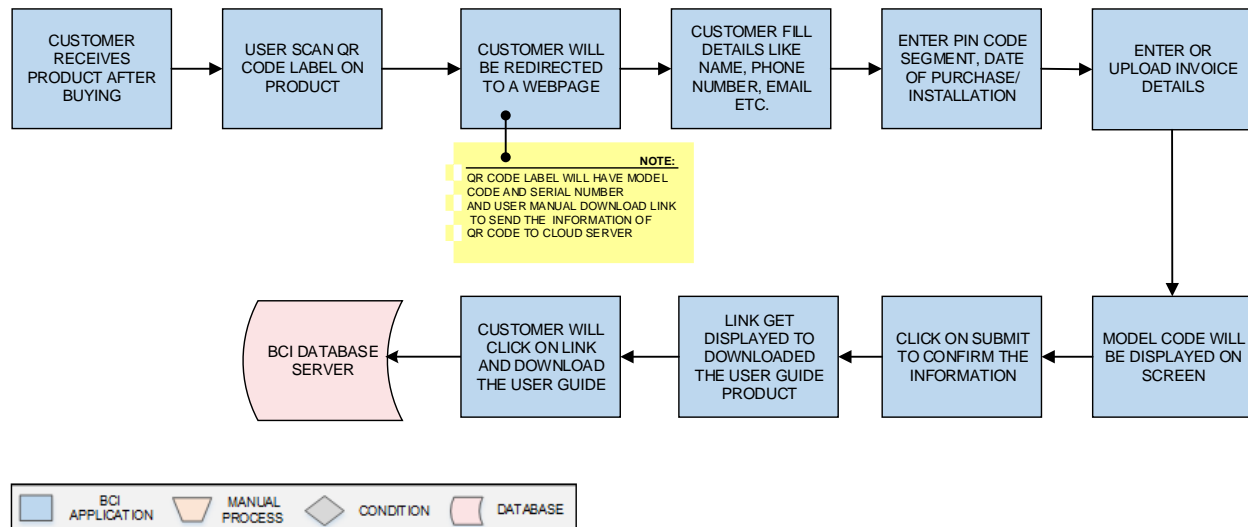
	<ol style="list-style-type: none"> 6. Model code and product serial number will be uploaded in user manual application database through API integration in order to verify the serial number during user manual download. 7. Details get saved in User Manual database Server.
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Post-Conditions	<ol style="list-style-type: none"> 1. QR Code label found in the Carton to be having application linkage.
------------------------	--

Validations	<ol style="list-style-type: none"> 1. An alert should be displayed in case invalid model code and serial number. 2. An alert message is displayed in case of any error / invalid activity. <p><i>Note: *Since this module is already available and being used in the manufacturing plants and there is no change in the UI, Hence all validations are already available in the module.</i></p>
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Remarks	Add any remark (If needed).
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7.4.2 USER MANUAL DOWNLOAD



Activities

Module Description	This module shows the process when Product reaches customer/ consumer, he needs to scan the QR Code. Web Link in QR Code will redirect the Customer on Blue Star's User manual downloading Website Web Page. Customer is required to fill up the form and download the User Manual.
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Pre-Conditions	<ol style="list-style-type: none"> 1. Product received to customer to be sealed packed. 2. Customer should scan the QR code label on product/ box.
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Process Steps	<ol style="list-style-type: none"> 1. Product will be delivered to the customer. 2. Use his smartphone to scan a product's QR code label. 3. The QR code's link will take the user to a web page. <i>*QR code label will have model Code and serial number and User Manual Download application link to send the information of QR code to Cloud server.</i> 4. Basis scanned QR code, Application will validate the scanned QR code and it's containing model and serial number and if it is valid QR code then Model & Serial number will auto populate on the user screen and it will be non-editable. 5. The customer must input the mandatory information like their Name, Phone Number, Email Address, Segment, and Pin Code. 6. The Purchase/Installation Date to be selected from Date picker. 7. Insert the invoice copy into the Upload Invoice file column.
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	<ol style="list-style-type: none"> 8. A success message appears after the invoice is successfully uploaded. 9. The system will automatically fill the City and State text fields based on Pin code. 10. When the product's QR code is scanned, the Model Code and Serial Number are automatically filled in. 11. Following completion of the form's fields, the consumer submits it. 12. The pop-up displays and directs you there to download PDF file. 13. The user manual gets displayed on screen and customer can download as required. 14. Corresponding details will get saved in database.
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Post-Conditions	<ol style="list-style-type: none"> 1. Customer entered information will get saved in database. 2. Download manual to be in PDF format.
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Validations	<ol style="list-style-type: none"> 1. An alert should be displayed in QR Code label not scanned properly. 2. An alert will be displayed, if the URL of the web link changes. 3. An alert should be displayed, if the model code and serial number for that manufacturing plant are invalid. 4. All mandatory fields are highlighted with (*) in red color on the field. 5. An alert message is displayed in case of data is invalid filled. 6. A message of warning will be sent if the wrong pin code is entered. 7. Validation of mobile numbers will be done using country-specific digit numbers. 8. The dot (.) and @ (at) symbol to there in the e-mail address. 9. User can upload invoice in file formats like ".pdf", ".PNG", ".JPG" and application can accept less than 5Mb file during upload. This limit can be extended. 10. If user does not enter the PIN Code then he needs to enter the city & state name manually. 11. User manual can be viewed and downloaded by the user.
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Sample
Screen

Screen displayed in Laptop/System View:-

BLUE STAR Header

KEEPS FOOD FRESH **DEEP FREEZERS**

User Manual Download

Model Code
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Serial No.
xxxxxxxxxxxxxxxxxxxxxxxx

Name * Phone Number *

Segment * Pin Code
123456

Email * Purchase Date *

City * State
xxxxxxxxxxxxxxxx

Invoice Upload File (Allowed Type : png.jpeg, pdf)
xxxxxxxxxxxxx.pdf **Browse**

Uploaded Successfully

Submit **Close**

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Screen displayed in Mobile View:-

BLUE STAR

KEEPS FOOD FRESH **DEEP FREEZERS**

User Manual Download

Model Code
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Serial No.
xxxxxxxxxxxxxxxxxxxxxxxx

Name * Phone Number *

Segment * Pin Code
123456

Email * Purchase Date *

City * State
xxxxxxxxxxxxxxxx

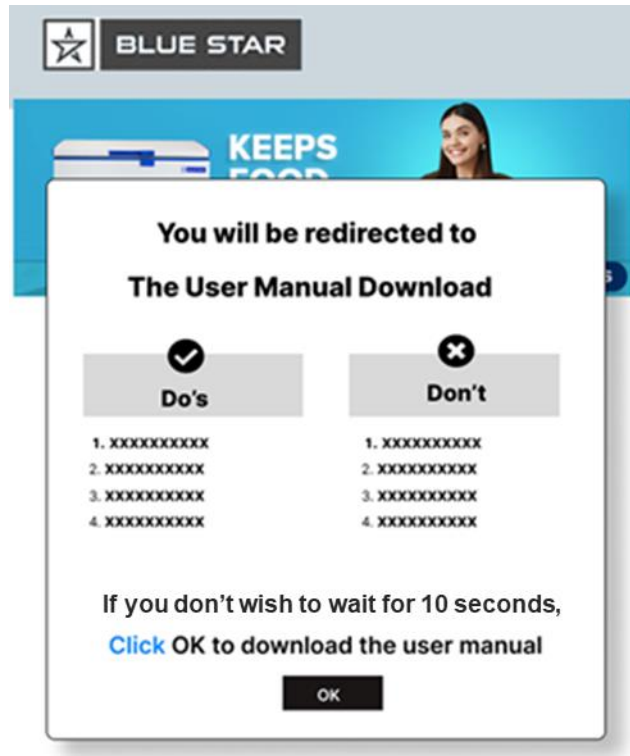
Invoice Upload File (Allowed Type : png.jpeg, pdf)
xxxxxxxxxxxxx.pdf **Browse**

Uploaded Successfully

Submit **Close**

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After submitting the web form, a pop-up should get displayed with the following message:



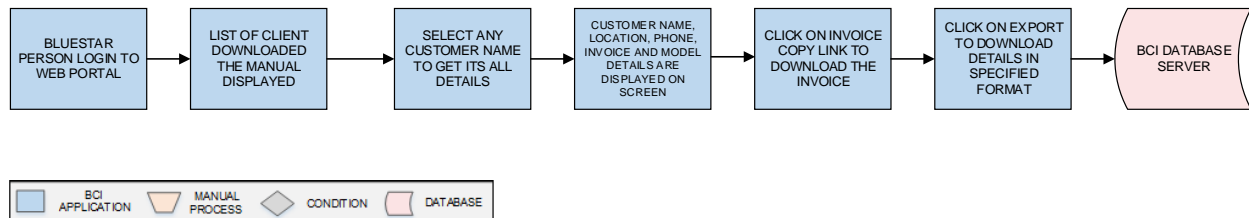
After Submitting data then Download manual Screen appears :-



Remarks

Add any remark (If needed).

7.4.3 VIEW CUSTOMER DETAILS



Activities

Module	Users of Blue Star will be able to view and export customer information in excel/csv
Description	format from this module who have downloaded the product's user manual. This will give Blue Star a complete perspective of the customers.

Pre-Conditions	1. Check particular user manual against model no is downloaded by customer.
-----------------------	---

Process Steps	<ol style="list-style-type: none"> 1. Blue Star User will login to the web portal. 2. A tabular format get displayed on screen with all customer details filled while user manual download form. 3. The following information is shown on the screen: Customer Name, Location (City, State, and Pin code), Invoice Number, Product Model Code, Segment, Serial Number, Phone Number, Purchase Date, date (on which user manual was downloaded) and Email. 4. Click on Invoice Copy link to download the invoice uploaded by user. 5. Click on export to download in excel/ csv format. 6. Click on Filter option to filter the data as per user choice. <i>*The date sorting feature can be used by the user to sort the date.</i> <i>*User manual download dates can be filtered by filling From and To date.</i> 7. User can search particular data by use of search option.
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Post-Conditions	<ol style="list-style-type: none"> 1. User can filter customer information by the use of filter. 2. Data can be search by using of search option and filter option both. 3. Customer can download the data if required.
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Validations	<ol style="list-style-type: none"> 1. By default, the customer details will be sorted in date (downloaded date) wise in descending order so that latest downloaded record will be shown first, however user can change the sorting directing by clicking on column header. 2. Purchase Dates can also be sorted in date-wise order. 3. An alert message is displayed in case of any error / invalid activity. 4. Customer data can be filtered on by using filter button. 5. Invalid Search Data cannot be searched from Search Option.
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Sample Screen

View Customer Details

Filter Customer Details

Search Customer Details

Remarks	Add any remark (If needed).
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8 SRS SCOPE CHANGE PROCESS

8.1 BEFORE SIGN OFF

Any changes in SRS need to be informed in writing by Blue Star India. It will be incorporated / confirmed only after doing detailed feasibility study by BCI.

- If any change is out of scope then this would be done as a CR post feasibility and priority will be decided based on mutual agreement.
- Once the change is developed , any further change in the same would be considered as a CR

8.2 AFTER SIGN OFF

Any changes in proposed solution after approval of this document by Blue Star India are subjected to confirmation from BCI, taking feasibility constraints into account. These changes will be incorporated (if any) into the solution only after delivering proposed solution & may be charged as extra.

- Any change in the proposed solution due to customer system design or process will be considered as CR
- Any process which is not mentioned in this document will not be considered as “mutual understanding or default presence or standard practice”.

The changes in proposed solution before & after acceptance will be mutually agreed and duly signed and accepted by Blue Star India & BCI.

8.3 SRS ACCEPTANCE

Agreed and Accepted by Blue Star India and Bar Code India

For Blue Star India

For Bar Code India (BCI)

Name:

Name:

Designation:

Designation:

Department:

Department: