AVANTIKA UNIVERSITY

FUNCTIONAL SPECIFICATION DOCUMENT

BUSYLESS DESKTOP APPLICASTION

DOCUMENT VERSION 1.0

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AUTHORS

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DOCUMENT HISTORY

Date	Version	Document Revision Description	Document Author
15-nov-2021	1	Problem Statement and Objectives	Sheikh M. Tadeeb
15-nov-2021	2	Functional Requirement	Sheikh M. Tadeeb
15-nov-2021	3	Decision Layout and Frame for the Application	Sheikh M. Tadeeb
22-nov-2021	4	Er diagram and Relational schema	Sheikh M. Tadeeb
22-nov-2021	5	Database and Queries	Sheikh M. Tadeeb
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APPROVALS

Approval Date	Approved Version	Approver Role	Approver
15-nov-2021	1	Reviewing and Approve Problem Statement	Rushikesh Pawar
15-nov-2021	2	Reviewing Functional Requirements	Rushikesh Pawar
15-nov-2021	3	Reviewing Decision Layout and Frame for the Application	Vrushal Verma
22-nov-2021	4	Reviewing Er diagram and Relational schema	Ashish Bansal
22-nov-2021	5	Reviewing Database and Queries	Ashish Bansal
4-Dec-2021	6	Testing Application	Rushikesh Pawar/Atul Chaudhary
4-Dec-2021	7	Reviewing Deployment	Rushikesh Pawar/Atul Chaudhary

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1. Introduction

Maintaining records of goods in factories or shops is a cumbersome procedure as it makes it difficult to build profitable business strategies and makes tracking of goods & credit on customers a hectic task.

1.1 Purpose of the document

The system will function and the requested behavior will be:

1) To collect the various parameters of goods purchased from the wholesaler.

2) To collect the various parameters of goods sold to different retailers.

3) Analyzing the goods data and making profitable business decisions.

4) Keeping a track of credit amount on business.

5) Keeping a track of credit amount on customers.

6) Developing business customers bonds.

1.2 Project Scope

In this era of digital world, business is one of the fields that has received a lot of attention from problem solvers. It is said that time is money. So, I also decided to make some contribution. The following are the points which tells the scope of project:

1) I propose a system that uses desktop application which keeps record of all the business records and helps the businessmen to make good decisions for their business.

2) My system requires the user to enter various goods/products detail (if required) in a desktop app.

1.3   Scope of the document

As described in section 1.2, In relation to that the data goes in the database where the processing is done and profitable suggestions could be made based on the stored data.

1.4   Related documents

Component	Name (with link to the document)	Description
ER Modelling	https://www.comp.nus.edu.sg/~lingtw/cs4221/er.pdf	Used for database designing
Relational Modelling	https://cs.uwaterloo.ca/~tozsu/courses/CS338/lectures/12%20ER%20to%20Rel.pdf	Used for database designing
Electron Documentation	https://www.electronjs.org/docs/latest	Used for UI designing

1.5   Terms/Acronyms and Definitions

| Term/Acronym	Definition	Description
UI	User Interface	It is the part with which the end user interacts.

1.6   Risks and Assumptions

1. The biggest hurdle that all businessmen face today is the management of hardcopies which hold all their records.

2. Keeping a check on how much amount is due on them and how much amount is due on their customers.

2. System/ Solution Overview

The main aim of this project is to propose a desktop application that helps the businessmen to maintain their records digitally. The biggest hurdle that all businessmen face today is the management of hardcopies which hold all their records. This system allows businessman to access their data fast and easily. Secondly keeping a check on how much amount is due on them and how much amount is due on their customers becomes very easy with desktop application without wasting time in searching hard-coded records.

2.1 Context Diagram/ Interface Diagram/ Data Flow Diagram, Application Screen Flow, Sitemap, Process Flow
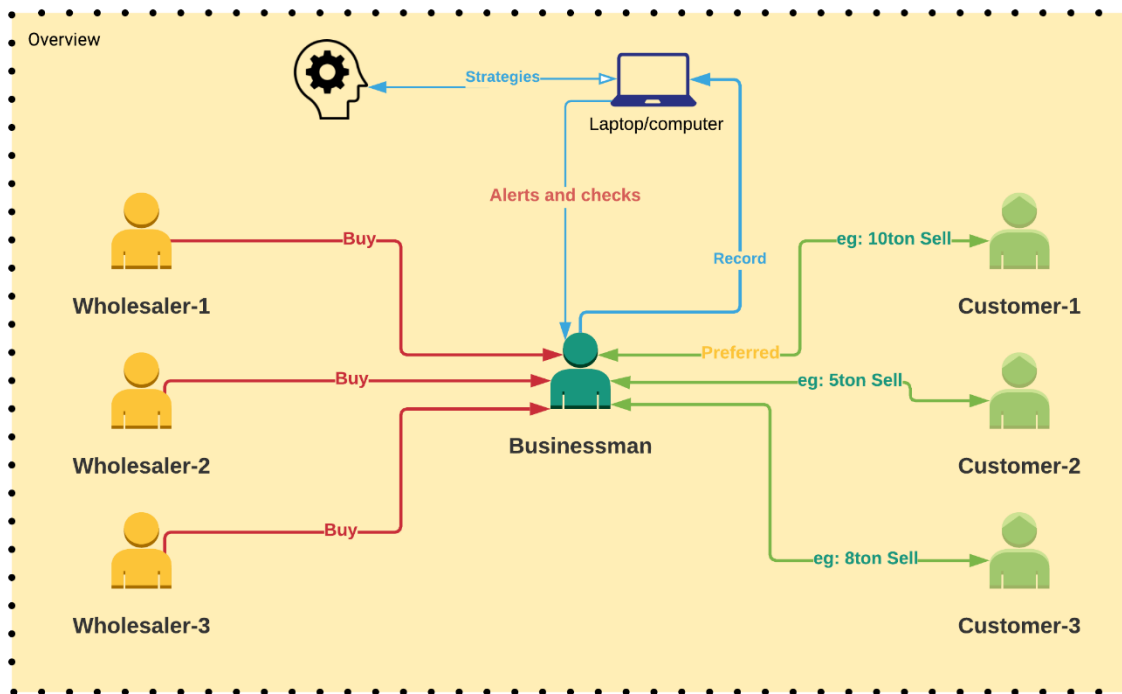
2.2 System Actors

2.2.1 User Roles and Responsibilities / Authority Requirements

User/Role	Frequency of Use	Security/Access, Features Used	Additional Notes

Cashier	Occasional	Only Purchasing goods data is visible	They have most interaction with the system.
Business Customer	Frequent	Read access	They have least direct interaction with the system.
Accountant	Rare	Read access	They read the reports.
Warehouse workers	Frequent	Admin	They have least direct interaction with the system.
Seller	Occasional	Read access	They may read the reports.
System maintenance person	Rare	Admin access	They may have to fix things when system doesn't work properly.

2.3 Dependencies and Change Impacts

2.3.1   System Dependencies

Xampp : As the database is local so we need to have xampp for database system.

2.3.2   Change Impacts

1. Whole-sale business
2. Retail business

3.   Functional Specifications

Section/Requirement ID	Requirement Identification
FR1.0	The system shall authentication feature.
FR1.0.1	The system "Authentication feature" must include signup/login which could check for user authenticity.
FR2.0	The system shall have home page.

FR2.1	The system home page shall have a dashboard where the end user could easily navigate through different features of the Application.
FR2.1.1	The system dashboard shall have six blocks i.e. Purchased goods record, Sold goods record, Profit record Analysis of goods, Credit amount on business, Credit amount on Customers.
FR2.1.2	All the blocks shall have an option to get data in printed format. i.e. a print option.
FR2.2	The system home page shall have a Side Panel.
FR2.2.1	The system side panel sould include recent activities of user as well as Logout option.
FR2.3	The system home page shall have a top menu bar.
FR2.3.1	The system menu bar shall have name of the business and logo of the application.
FR3.0	The system Purchased goods record block shall have separate window.
FR3.0.1	This window shall have a form where user can enter NAME, QUANTITY, TYPE OF GOOD, DATE & TIME, TOTAL COST and AMOUNT PAYED.
FR4.0	The system Sold goods record block shall have separate window.
FR4.0.1	This window shall have a form where user can enter QUANTITY, TYPE OF GOOD, DATE & TIME, SOLD COST, CUSTOMER NAME and AMOUNT PAYED.
FR5.0	The system Profit record block shall display the profit made by the busines on various types of products (in my case sheets).
FR5.0.1	This window shall display profit by analyzing Purchased goods record (PURCHASED COST) and Sold goods record (SOLD COST).
FR6.0	The system Analyze record block shall have separate window.
FR6.0.1	This window shall display highest profit, Product Flow (how much time it took to get sold) by analyzing Purchased goods record and Sold goods record (PURCHASED, SOLD D&T).
FR7.0	The system Credit amount on business shall have a separate window.
FR7.0.1	This window shall display credit amount due on the business from various wholesalers.
FR7.0.2	This window will analyze Purchased goods record. (PURCHASED COST, AMOUNT PAYED).
FR8.0	The system Credit amount on customers shall have a separate window.

FR8.0.1	This window shall display credit amount due on the customers.
FR8.0.2	This window will analyze Sold goods record. (SOLD COST, AMOUNT PAYED).
FR9.0	The system window shall have search feature.
FR10.0	The system should show products with their limit period.

3.1 <Title>

Digital empowerment of business
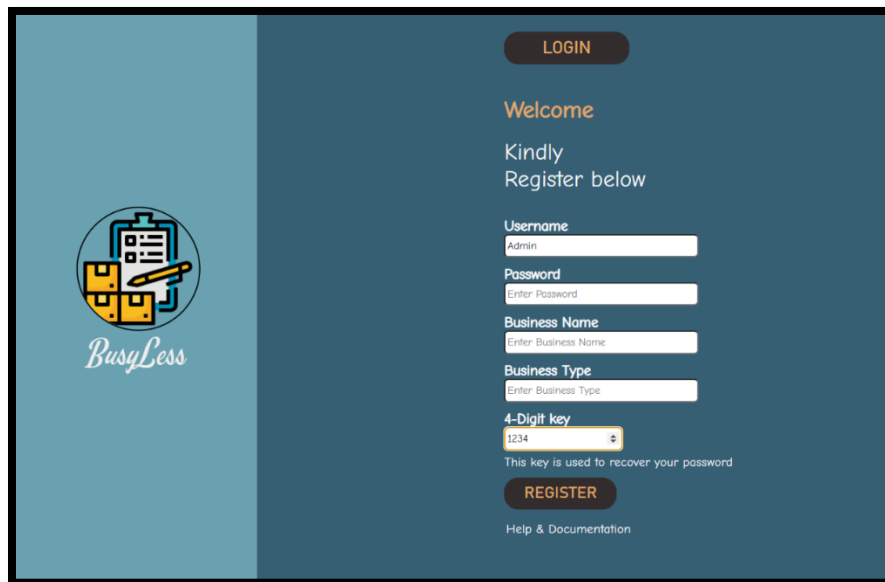
3.1.1 Purpose/ Description

The main aim of this project is to propose a desktop application that helps the businessmen to maintain their records digitally. The biggest hurdle that all businessmen face today is the management of hardcopies which hold all their records. This system allows businessman to access their data fast and easily. Secondly keeping a check on how much amount is due on them and how much amount is due on their customers becomes very easy with desktop application without wasting time in searching hard-coded records.

3.1.2 Use case

UC-1	Proper Input details for Proceed for Loan and Deposit
Primary Actor(s)	*Broker*
Stakeholders and Interest	*Client*
Trigger	*Wrong input in respective Fields*
Pre-conditions	We have assumed about invoice and physical checking of documents by the businessman along with security factor which is login or Signup.
Post-conditions	*Successfully new user added and Invoice generated*
Main Success Scenario	*1. Login* *2. Dashboard* *3. Purchased->Purchased Details->Print* *4. Sold->Sold Details->Print* 5. Deposit->Deposit Details -> Invoice 6. Deposit payback -> Invoice 7. Records ->customer Records

	8. Records->Monthly Records *9. Analysis of goods* *10. Profit on various goods*
Extensions	-
Priority	high
Special Requirements	Works on all systems
Open Questions	-

3.1.3 Mock-up

3.1.4 Functional Requirements

Spec ID	Specification Description	Business Rules/ Data Dependency
Username	To take username of person	Validation applied i.e. Username must be admin
Password	To take password of the person	Validation applied i.e. password must be 5 character and digits long with special characters.
key	If the user forgets password, key is used to recover it	Validation applied i.e. Key must be 4 digits only.
Bname	This is the business name of the user	Validation applied i.e. business name must be filled
Btype	This is the business type of the user	Validation applied i.e. business type must be filled
gName	This is goods name purchased and sold by the user	Validation applied i.e. goods name must be filled
gType	This is goods type purchased and sold by user	Validation applied i.e. goods name must be selected from the dropdown list provided.
Vname	This is Vendor name from whom the business purchases goods	Validation applied i.e. Vendor name must be filled
gQty	This is goods quantity purchased and sold by user	Validation applied i.e. goods quantity must be filled and should be numeric only
Purchasing cost	This is total purchasing cost	Validation applied i.e. Purchasing cost must be filled and should be numeric only
Sold cost	This is total sold cost	Validation applied i.e. Sold cost must be filled and should be numeric only
Amount paid	This is amount payed by business to vendor or customer to business.	Validation applied i.e. amount payed must be filled and should be numeric only

3.1.5 Field level specifications
<Specify all the field data elements related to the functional requirement in both tables below.>

Form Elements:

Call-out	Field Label	UI Control	Mand?	Editable	Data Type	Value Set	Default Value	Data Example	Data Source
Username input	Username	Username	Yes	No	varchar	None	Admin	Tadeeb	Automatic
Password Input	Password	Password	Yes	Yes	varchar	None	NA	T@deeb12	User Entry
Key input	4-digit key	key	Yes	No	integer	None	NA	1234	User Entry
Business name input	Business name	Bname	Yes	Yes	varchar	None	NA	Teba Steels	User Entry

Business type input	Business type	Btype	Yes	Yes	varchar	None	NA	Hardware	User Entry
Goods name input	Goods name	gName	Yes	Yes	varchar	None	NA	Metal Sheets	User Entry
Goods type input	Goods type	gType	Yes	Yes	varchar	None	NA	Iron hardware	User Entry
Vendor name input	Vendor name	Vname	Yes	Yes	varchar	None	NA	Ramesh Jain	User Entry
Goods quantity input	Goods quantity	gQty	Yes	Yes	integer	None	NA	500	User Entry
Purchasing cost input	Purchasing cost	Purchasing cost	Yes	Yes	integer	None	NA	50000	User Entry
Sold cost input	Sold cost	Sold cost	Yes	Yes	integer	None	NA	100000	User Entry
Amount payed input	Amount paid	Amount paid	Yes	Yes	integer	None	NA	60000	User Entry

Form Business Rules and Dependencies:

Field Label	Validation / Business Rules	Error Messages	Data Dependencies	Additional Info/ Notes
Username	Username shall be a valid	Incorrect Username or password	None	Access prohibited
password	Password shall be a valid	Incorrect Email or password	None	Access prohibited
Key	Key shall be a valid	Incorrect Key	None	Access prohibited
Goods name	Goods name shall be a valid	Incorrect Customer Name	None	Access prohibited
Purchased goods	Purchased goods shall be a valid	Enter valid goods name	None	Access prohibited
Quantity	Quantity shall be a valid	Enter valid quantity	None	Access prohibited
Customer Code	Customer code shall be a valid	Enter valid code	None	Access prohibited
ID's	ID shall be a valid	Enter Valid ID	None	Access prohibited
Security	Login successful	Login failed	None	-

Buttons, Links and Icons:

Button, Link, Icon Label	OnClick Event	Other Event	Visible	Enabled Vs Disabled	Navigate To	Validation	Dependencies
Customer Code	*Generate Customer code*	-	*Yes, always*	*Enabled*	*table*	*Verify code*	-
Register	*Submitting User Details*	-	*Yes, always*	*Enabled*	*Invoice*	*Verify form details*	-
Dashboard	*Redirection*	-	*Yes, always*	*Enabled*	*Dashboard*	-	-
Purchased records	*Redirection*	-	*Yes, always*	*Enabled*	*Payback*	*Verify form details*	-
Records	*Redirection*	-	*Yes, always*	*Enabled*	*Records*	-	-
Login	*Redirection*	--	*Yes, always*	*Enabled*	*Dashboard*	*Verify Email and password*	-
Analysis of time	*Redirection*	-	*Yes, always*	*Enabled*	*Analysis*	-	-
Profit on goods	*Redirection*	-	*Yes, always*	*Enabled*	*Profit*	-	-
Credit on customers	*Search*	-	*Yes, always*	*Enabled*	*Table*	-	-
Credit on business	*Show*	-	*Yes, always*	*Enabled*	*Table*	-	-

4.   System Configurations

• RAM: 4 GB, i4 processor, 64 bits

5.   Other System Requirements/ Non-Functional Requirements

Section/ Requirement ID	Requirement Identification
NFR 1	Developing Customer – Business Bonds
NFR 2	Developing Vendor – Business Bonds
NFR 3	Giving Discount to lucky customers
NFR 4	Giving Discount to Regular customers

6.   Reporting Requirements

1. *User should allow to add new user or business*
2. *Generate invoice for every process.*

7.   Integration Requirements

Stages	Phase
Problem Statement and Objectives	Planning
Functional Requirement	Analysis
Decision Layout and Frame for the Application	Analysis
Er diagram and Relational schema	Design
Database and Queries	Implement
Implementation	Implement
Testing Application	Testing
Deployment	Maintence

7.1   Exception Handling/ Error Reporting

1. The system is not allowing the user to enter into the system with the wrong username or password it will show the warning message.
2. In Purchased goods detail, Input and other details input user has to give valid input for respected fields else the user will get a warning on each part and not be able to go for further process.

3. Same for Sold Goods pages as well users will not able to update status on a non-existing customer code.

Exception/ Error ID	Error	Cause	Solution Strategy
Login	Incorrect Userame	Wrong Input	Correct input
Register	Invalid Input	Wrong data input	Correct input
Purchased and Sold Records	Invalid Input	Wrong Data Input	Correct input
Credit on customer	Incorrect customer code	Wrong Input	Correct input

4. Data Migration/ Conversion Requirements

Field Name	Name	Data Type
Username	Username	varchar
Password	Password	varchar
4-digit key	key	integer
Business name	Bname	varchar
Business type	Btype	varchar
Goods name	gName	varchar
Goods type	gType	varchar
Vendor name	Vname	varchar
Goods quantity	gQty	integer
Purchasing cost	Purchasing cost	integer
Sold cost	Sold cost	integer
Amount paid	Amount paid	integer
Purchased goods	Pgoods	varchar
Sold goods	Sgoods	varchar
Customer code	Cus_code	char
Discount%	discount	integer

4.1 Data Conversion Strategy

Field Name	Short Name	Long Name	Data Type	Format	Len	Translate Y/N
Username	Username	Username	varchar	text	50	N
Password	Password	Password	varchar	password	20	N
4-digit key	key	4-digit key	integer	number	4	N
Business name	Bname	Business name	varchar	text	50	N
Business type	Btype	Business type	varchar	text	50	N
Goods name	gName	Goods name	varchar	text	50	N
Goods type	gType	Goods type	varchar	text	50	N
Vendor name	Vname	Vendor name	varchar	text	50	N
Goods quantity	gQty	Goods quantity	integer	number	_	N
Purchasing cost	Purchasing cost	Purchasing cost	integer	number	_	N
Sold cost	Sold cost	Sold cost	integer	number	_	N
Amount paid	Amount paid	Amount paid	integer	number	_	N
Purchased goods	Pgoods	Purchased goods	varchar	text	50	N
Sold goods	Sgoods	Sold goods	varchar	text	50	N
Customer code	Cus_code	Customer code	char	text	50	N
Discount%	discount	discount	integer	number	_	N

5. References

1. *https://www.electronjs.org/docs/latest*
2. *https://www.w3schools.com/*
3. *https://reactjs.org/*

6. Open Issues

Issue ID	Issue	Raised By	Raised On	Solution/ Decision	Resolved By	Resolved On	Status
1	Consistency & Standard	Vrushal Verma	15-11-2021	Read Material.io	Sheikh Tadeeb	16-11-2021	Solved
2	Customer Code	Ashish Bansal	19-11-2021	Autoincrement	Sheikh Tadeeb	20-11-2021	Solved
3	Dropdown	Atul Chaudhary	3-12-2021	Give options to user	Sheikh Tadeeb	3-11-2021	Solved
3	Digits in key	Atul Chaudhary	3-12-2021	Give only numbers	Sheikh Tadeeb	3-11-2021	Solved
3	Alert messages	Atul Chaudhary	3-12-2021	Remove them	Sheikh Tadeeb	3-11-2021	Un-Solved