

OOAD

Project Deliverable 1



Group Members

MUHAMMAD WALEED KHALID (BSEF18M014)

LAIBA IMTIAZ (BSEF18M027)

Project Name:MrLab.Online

Vision

Introduction:

MrLab.Online is an enterprise resource planning (ERP) software for the management of Medical Laboratories. MrLab.Online Manage Every Aspects of Laboratories data:

- Data of Employee
- Data of Tests
- Data of Test's Report
- Data of Specimen
- Data of Customer
- Laboratory Profile
- Laboratory Bills
- Employee Attendance

The main target audience of this application is Laboratory owners and their employees.

The stakeholders in this workflow are:

- Owner
- Employee
- Laboratory Chemist
- Customer-Patient

High Level Goals of this project is to provide an interoperability of data of different Medical Laboratories at different Interfaces of Hospitals using the same centralised data source.

User Level Goals of this project is to provide Laboratories and advance system for their operations

Product Overview:

MrLab.Online is an online platform for the operation of a lab on a centralised platform. In which there will be some stakeholders to entertain the whole project.

List of Stakeholders involved:

1. Owner
2. Laboratory Assistant
3. Laboratorian
4. Customer

Summary and Feature;

There four main Stakeholders that can operate application on the following terms

Owner:

Basically Every Laboratory owner has all the basic rights to add employees and can set the roles in the laboratory. Can generate any test report, can edit it, and can also manipulate any data of his laboratories database. Owner will have the sole right to give a discount to any customer.

Functionalities:

- Add/Remove/Edit Employee whole data
- Add/Remove/Edit Test whole Data
- Add/Remove/Edit Tear Breakage whole Data
- Add/Remove/Edit Billing whole Data
- Add/Remove/Edit Receipt whole Data
- Add/Remove/Edit Report whole Data
- Add/Remove/Edit Customer whole Data
- Add/Remove/Edit Discount whole Data
- Add/Remove/Edit whole Payment Data
- View/Edit his/her Profile
- Set/Reset Passwords

Laboratory Assistant:

Laboratory Assistant will have sole right on the manipulation of customer data, Test Data, Report Data, Tear-Breakage Data, Receipts, and Discount Data registered by him/her or by his/her subordinate

Functionalities:

- Add/Remove/Edit Test Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Tear Breakage Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Receipt Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Report Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Customer Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Discount Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Payment Data registered by him/her or by his/her subordinate
- View/Edit his/her Profile
- Set/Reset Passwords

Laboratorian:

Laboratorian will have sole right on the manipulation of reports, tests, tear-breakage, and specimen data registered by him/her.

Functionalities:

- Add/Remove/Edit Test Data registered by him/her

- Add/Remove/Edit Tear Breakage Data registered by him/her
- Add/Remove/Edit Report Data registered by him/her
- View/Edit his/her Profile
- Set/Reset Passwords

Customer:

Customers will have no direct access to the system. They can only post their reports and receipt on a web page or a patient associated application(MrPatient.Online).

Functionalities:

- View Reports (using url/MrPatient.Online)
- View Receipts (using url/MrPatient.Online)

Supplementary Specification:

User will need to provide identity Verification for record purpose and to prevent any kind of fraud or scam. User will need to have Balance in the Cash Flow wallet to be able to send money. Payment Verifications will be made to prevent any kind of fraud and dummy payments. OTP will be generated on every login. Sessions will be created so that system remains secure. Security of System will be guaranteed.

Major Requirements:

Functionalities:

Owner:

- Add/Remove/Edit Employee whole data
- Add/Remove/Edit Test whole Data
- Add/Remove/Edit Tear Breakage whole Data
- Add/Remove/Edit Billing whole Data
- Add/Remove/Edit Receipt whole Data
- Add/Remove/Edit Report whole Data
- Add/Remove/Edit Customer whole Data
- Add/Remove/Edit Discount whole Data
- Add/Remove/Edit whole Payment Data
- View/Edit his/her Profile
- Set/Reset Passwords

Laboratory Assistant:

- Add/Remove/Edit Test Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Tear Breakage Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Receipt Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Report Data registered by him/her or by his/her subordinate

- Add/Remove/Edit Customer Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Discount Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Payment Data registered by him/her or by his/her subordinate
- View/Edit his/her Profile
- Set/Reset Passwords

Laboratorian:

- Add/Remove/Edit Test Data registered by him/her
- Add/Remove/Edit Tear Breakage Data registered by him/her
- Add/Remove/Edit Report Data registered by him/her
- View/Edit his/her Profile
- Set/Reset Passwords

Customers:

- View Reports (using url/MrPatient.Online)
- View Receipts (using url/MrPatient.Online)

Usability:

1. User Friendly
2. Efficient to interact with users
3. Portability
4. Easy to Install
5. Offline Usability
6. Online Syncing with database server

Reliability:

1. Secure
2. Quick Processing
3. Reading view available
4. Robust

Performance:

1. Fast
2. Error tolerant
3. Good and fast algorithms
4. Improved performance

Supportability:

1. Available Worldwide
2. Security
3. Adaptive

Feature List:

- Controlled Registration
- Login
- Test Records Management
- Reports Records Management
- Customer Record Management
- Employee Record Management
- Inventory Management
- Pay Management
- Billing Management
- Receipts Management
- Purchase Management
- Tear-Breakage Management
- Tax Calculation
- Security
- User Authentication
- Fraud Prevention
- Log History

Glossary:

- **OTP:** One time password
- **2FA:** 2 Factor Authentication

Domain Rules:

- Tax Deduction
- Transactions Limits
- Account access attempts
- **OTP** Generation
- Session Timeout
- **2FA**

Risk List:

- Security Breach
- Request Failure
- Large Data requests
- Dummy Data
- Funds decrease

Feasibility:

TimeLine:

Modern agile iterative and incremental technique scrum which implements 4-5 week period iteration to retain deadline span and use de-scoping technique to avoid time problems in development.

Technical:

System is implemented on React-Native and Node-Js, one of the advanced, emerging and implementational Stack with Dart as a Supportive Language. Product has greater flexibility regarding future advancement.

Actors:

- Owner
- Laboratory Assistant
- Laboratorian
- Customer

Goals:

Owner:

- Login/Registration Request to MrLab.Online Administration
- Add/Remove/Edit Employee whole data
- Add/Remove/Edit Test whole Data
- Add/Remove/Edit Tear Breakage whole Data
- Add/Remove/Edit Billing whole Data
- Add/Remove/Edit Receipt whole Data
- Add/Remove/Edit Report whole Data
- Add/Remove/Edit Customer whole Data
- Add/Remove/Edit Discount whole Data
- Add/Remove/Edit whole Payment Data
- View/Edit his/her Profile
- Set/Reset Passwords

Laboratory Assistant:

- Login/Registration Request to Laboratory Owner
- Add/Remove/Edit Test Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Tear Breakage Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Receipt Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Report Data registered by him/her or by his/her subordinate

- Add/Remove/Edit Customer Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Discount Data registered by him/her or by his/her subordinate
- Add/Remove/Edit Payment Data registered by him/her or by his/her subordinate
- View/Edit his/her Profile
- Set/Reset Passwords

Laboratorian:

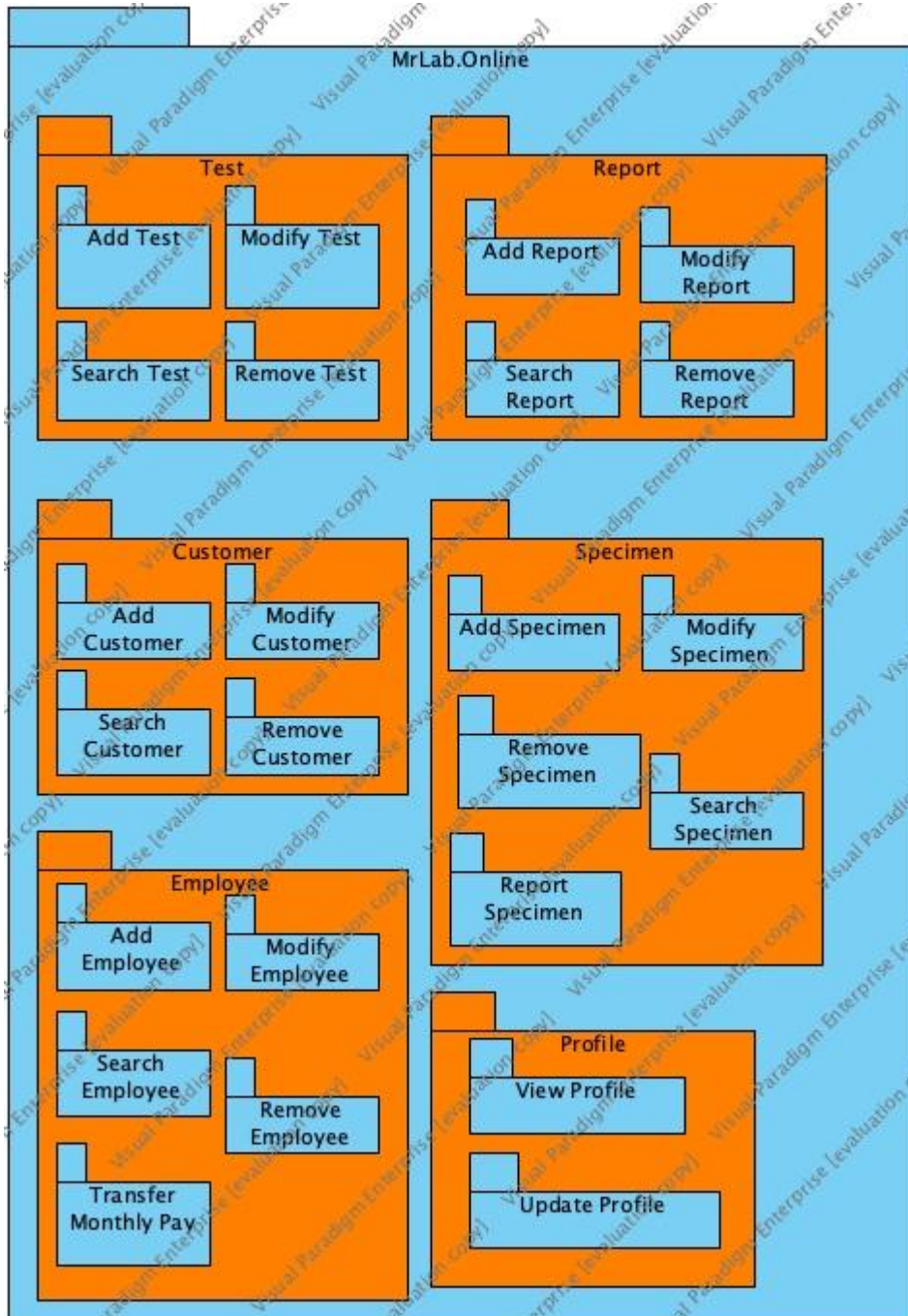
- Login/Registration Request to Laboratory Owner
- Add/Remove/Edit Test Data registered by him/her
- Add/Remove/Edit Tear Breakage Data registered by him/her
- Add/Remove/Edit Report Data registered by him/her
- View/Edit his/her Profile
- Set/Reset Passwords

Customer:

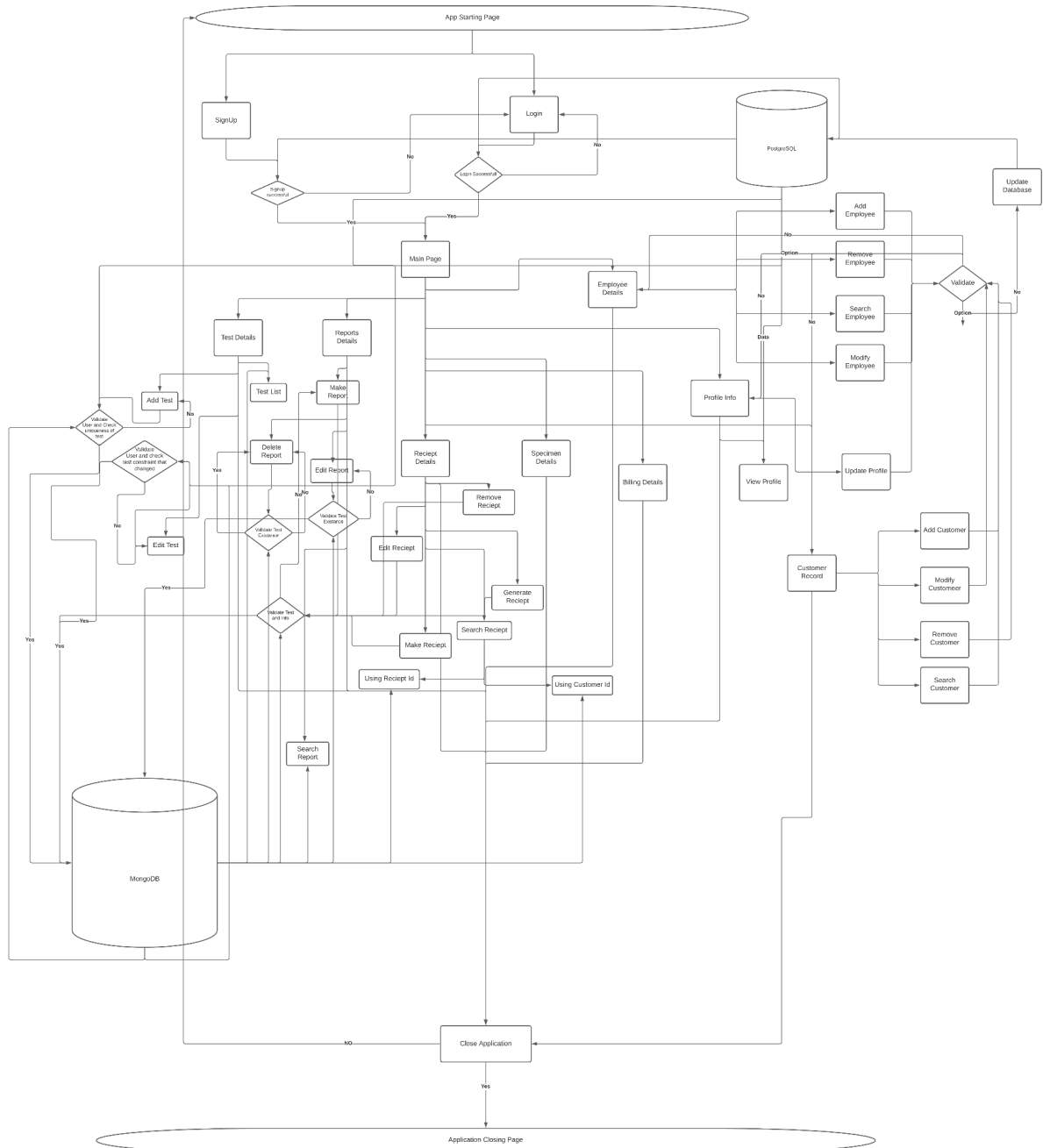
- View Reports (using url/MrPatient.Online)
- View Receipts (using url/MrPatient.Online)

Software Architecture:

Package diagram:



Activity Diagram:



Use-Case Diagram:

