

# **B4U LOGISTICS**

Project report submitted in partial fulfillment of the requirement for the  
degree of

**Bachelor of Technology**  
In  
**Computer Science and Engineering**

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To



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# **CERTIFICATE**

## **Candidate's Declaration**

This is to certify that the work which is being presented in the report entitled “**B4U Logistics**” in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Computer Science and Engineering/Information Technology** submitted in the department of Computer Science & Engineering and Information Technology, Jaypee University of Information Technology, Wagnaghat is an authentic record of our own work carried out over a period from April 19, 2017 to May 25, 2017 under the supervision of **Ms. Kirti Kanyal** (Senior System Engineer in the department of Education, Training and Assessment at Mysuru Development Centre, Infosys Technologies Ltd, Karnataka).

The matter embodied in the report has not been submitted for the award of any other degree or diploma.

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This is to certify that the above statement made by the candidates is true to the best of my knowledge.

**Ms. Kirti Kanyal**  
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**Dated: 25<sup>th</sup> May, 2017**

## **ACKNOWLEDGEMENT**

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## **ABSTRACT**

A logistics SCM (Supply Chain Management) application which will help the admins/end-users to keep track of their logistics (letters/couriers/parcels etc.). This application will use live tracking system for this purpose. Along with this, the application will also help in CRM (Customer Relationship Management) of the logistics company.

- It is just a basic application having 3 kinds of users – customers, managers and admins.
- Customers can send couriers and parcels to their recipients and track the same. They can register, login, logout, deactivate account etc.
- Managers can edit and update the shipment status from pending to deliver or pending to return.
- Admins can change status of different consignments and can send notifications to users at every step.
- Live tracking has also been implemented in the application so that the end user i.e customer can live track its parcel's location in between its pending delivered status.



# CHAPTER 1

## INTRODUCTION

Nowadays, information is one of the most valuable possessions of companies, organizations and individuals. From the beginning of time, people try to search information saved on various kinds of storage. It is an online application for booking and tracking the parcel. It is named as Supply Chain Management and so what is mainly does is supplying the parcel booked by the end user and keep the track of the parcel booked by him/her. The users involved in the application are Customers, Managers and Admin. All the users have their dashboards.

The project aims at providing a platform for the users/customers to book their shipment from one particular source to destination and to live track their shipment from the unique tracking ID that has been given to the user at the time of booking the shipment. It also provides the user an option to return the parcel booked if demanded. That also is done with the help of the tracking ID given to the user at the time of booking only.

The application includes three users namely: Customers, Managers and Admin. The application provides the feasibility to the customers at a great extent being a user-interactive application. The customers can easily book their parcel for shipment. They just have to enter the dimensions of the parcel i.e. weight, height, width and length and they will get the minimum amount of fare they need to pay. There is also an option of live tracking which is done via Google API in which user can enter his/her tracking ID and can get the current location of their parcel and its shown in the map as well. In order to return any item ordered by the customer due to dissatisfaction or disinterest. Customer is capable of returning that particular item back to the origin location with the help of return facilitated function in the application. He can also get the Print Invoice of the booking made by him. The managers of this application are capable of editing and updating any shipment if required to update any delivery status. Apart from these two users, there is Admin to control all the adding and deleting of managers and customer.

## **1.1) PROBLEM STATEMENT**

With the increasing need and dependency on online application for various booking to provide more ease and feasibility to the customers we have come up with the idea of this particular project of online parcel booking and shipping through which customers can easily interact and book shipment of their parcel. This project aims at building an application for the customers out their looking for the parcel shipping at its easiest way possible. The application contains 3 users: Customers, Managers and Admin. Each of these users have their dashboards in which there are various options according to their roles.

Each users can perform their specific tasks like customer can sign up if he is not a registered user and then can login and enter the dimensions of the parcel if he wishes to book the parcel. If the user wants to track the parcel, he can choose the option of live tracking and can easily track its current location. If the user wishes to return any item he can choose the option of the “Return” and can easily return the shipment back to its origin location.

Managers can easily update the status of the shipment and Admin can add and delete any customer or manager if required and can make the changes in the database tables on any amendments.

## **1.2) OBJECTIVE**

The main objective of this project is to build an application where customers can sign up and register themselves and login to choose options like booking any shipment, returning item, Print Invoice after booking any shipment and live tracking of the parcel that has been booked entering the tracking ID that has been given to the customers on booking. This project is built with aim of providing the best services to the customers as well as the managers to interact with customers and make it feasible for all the users at its best

The motive is to become completely aware and familiar with the technology used for the implementation of the project and make the best use of it for our project

completion. Thus we aim at drawing out results which could be used in future in real-time projects by means of collective learning, problem solving and collaborative research work through proper coordination and cooperation.

### **1.3) METHODOLOGY**

B4U Logistics is divided into three tiers. Each tier has some functional responsibility which adds to the feature of the project. Also, project division into tiers make our project modularized and easy for maintenance. The different tiers are-

1. Presentation Tier – This tier consist of the view which is shown to user who is using it. The tier is made in such a way that a person who is using it fined its user friendly and easy to use. The technologies used in this tier are different front end languages like HTML5, CSS3 and Bootstrap. Also, some client side validations are done which are coded in JavaScript and use of some controllers in angular-JS which promotes our data to feed to databases through various methods like GET,POST and delete(if required).
2. Business Tier – This tier deals with different business logics which are required to be done for the fulfillment of project. Also the project includes various service classes to pass the data to the other tier which interacts with the databases. It also include various validation classes and different methods like sorting etc. if required.
3. Persistence tier – The main job of this this tier is to interact with databases. The tier is responsible for inserting the data, updating of data and deletion of data or fetching of data from the databases. It uses entity classes to interact with databases. Here various technologies like Hibernate, HQL and criteria API are used.

#### **Application Design:**

We then had to create a web based user interface for the parcel shipping application. The application enables the user to be able to perform all the booking and receiving functionalities and understand the concepts and purpose of the application by going through the user requirements and courier parcel booking management desk.

#### **Integration and Unit Tested Modules:**

In this step we add the various booking features in our application to ensure user authentication and use of different functionalities on the server.

### **Deployment on web:**

Deployment is awaited until the application is approved by the admins.

### **1.4) LITERATURE SURVEY**

Our project depends on different languages-

- 1. Java:** Java is a simple, object-oriented programming language developed to serve various business domains like banking, insurance, education, entertainment etc. Features of Java includes-Object Oriented, Robust, simple, Multi-threaded, Secure and platform independent. If a program written on a particular platform can run on other platforms without any recompilation, it is known as **platform independence**. Since Java is **platform independent**, it is not a problem. A program written using Java on Windows will execute **without any recompilation** on any other platform.
- 2. Hibernate: With the help of hibernate**, a Java application can store, retrieve or process the data in or from a file system and database. Hibernate is an open source ORM implementation for Java developers which follows JPA standards.

### **Advantages of Hibernate-**

1. Hibernate supports Inheritance, Associations, Collections.
2. Hibernate supports relationships like One-To-Many, One-To-One, Many-To-Many-to-Many, Many-To-One.
3. Hibernate has capability to generate primary keys automatically while we are storing the records into database
4. Hibernate has its own query language, i.e. hibernate query language which is database independent
5. Hibernate supports annotations, apart from XML
6. Hibernate supports caching mechanism by this, the number of round trips between an application and the database will be reduced, by using this caching technique an application performance will be increased automatically.

3. **Bootstrap:** It contains various classes that help in designing responsive webpages. It has many classes required for adding styles to text and UI components. The major advantage of Bootstrap over CSS is that in CSS the degree of compatibility varies with various browsers. Bootstrap is a **complete CSS framework** offering Grid system and configurations, Typography classes and UI components like forms and tables. It is a widely used framework in the development of **responsive** website.
  
4. **Angular -JS:** commonly referred to as "**Angular.js**" or "**Angular JS 1.X**" is a JavaScript-based open-source front-end web application framework mainly maintained by Google and by a community of individuals and corporations to address many of the challenges encountered in developing single-page applications. The JavaScript components complement Apache Cordova, the framework used for developing cross-platform mobile apps. It aims to simplify both the development and the testing of such applications by providing a framework for client-side model–view–controller (MVC) and model–view–view model (MVVM) architectures, along with components commonly used in rich Internet applications. The Angular JS framework works by first reading the HTML page, which has embedded into it additional custom tag attributes. Angular interprets those attributes as directives to bind input or output parts of the page to a model that is represented by standard JavaScript variables. The values of those JavaScript variables can be manually set within the code, or retrieved from static or dynamic JSON resources.

## **CHAPTER 2**

### **SYSTEM DEVELOPMENT**

The primary priorities of this design are, in order of importance:

- 1) Functionality
- 2) Reliability
- 3) Maintainability
- 4) Security and Privacy
- 5) Scalability
- 6) Interfaces

#### **2.1) FUNCTION REQUIREMENTS**

1. There will be a common login portal for user, managers and admin so that he/she can login to the respective account.
2. There will be a logout mechanism so that admin/manager/user can logout.
3. There will be a registration page so that user can register.
4. There will be the option of deleting any user's booking of parcel so that Admin can approve whether shipment has to be done or not.
5. Admin can delete any user/manager so that a redundant or unnecessary parcel booking can be removed.
6. Customer will be able to register for any parcel booking after the Admin's approval.
7. User can login and give the requirements of the measurement of the parcel to be booked and can know the total amount of the shipment
8. User can return the parcel if required by choosing the "Return" option in the customer's dashboard
9. User can live track his/her parcel's current location by choosing "Live Tracking" option from the customer's dashboard.

10. User can also get the print invoice after booking the parcel to be booked by choosing “Print Invoice” option from customer’s dashboard.
11. Managers have an option to edit and update the shipment status according to its location.

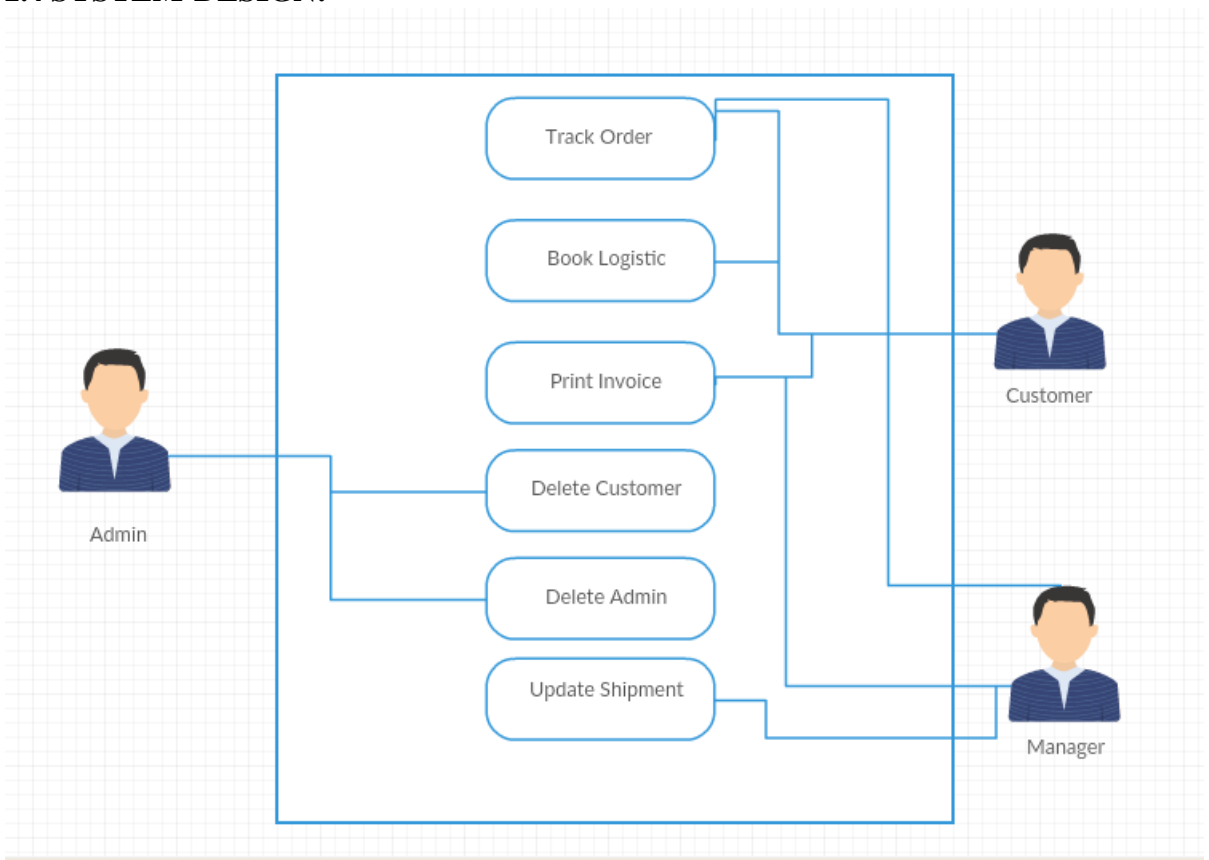
## 2.2 SOFTWARE REQUIREMENTS

<b>ENVIRONMENT</b>	VS-2015, SQL Server 2012 or above.
<b>Language and Web Technology</b>	<b>JavaScript</b>

## 2.3 HARDWARE REQUIREMENTS

<b>OPERATING SYSTEM</b>	Windows 7 or above
<b>RAM</b>	RAM
<b>HARD DISK</b>	1TB Hard disk

## 2.4 SYSTEM DESIGN:



Our system have 3 user roles – Admin, Customer and Manager having their particular functionality to perform. Admin have functionality to delete customer and manager.

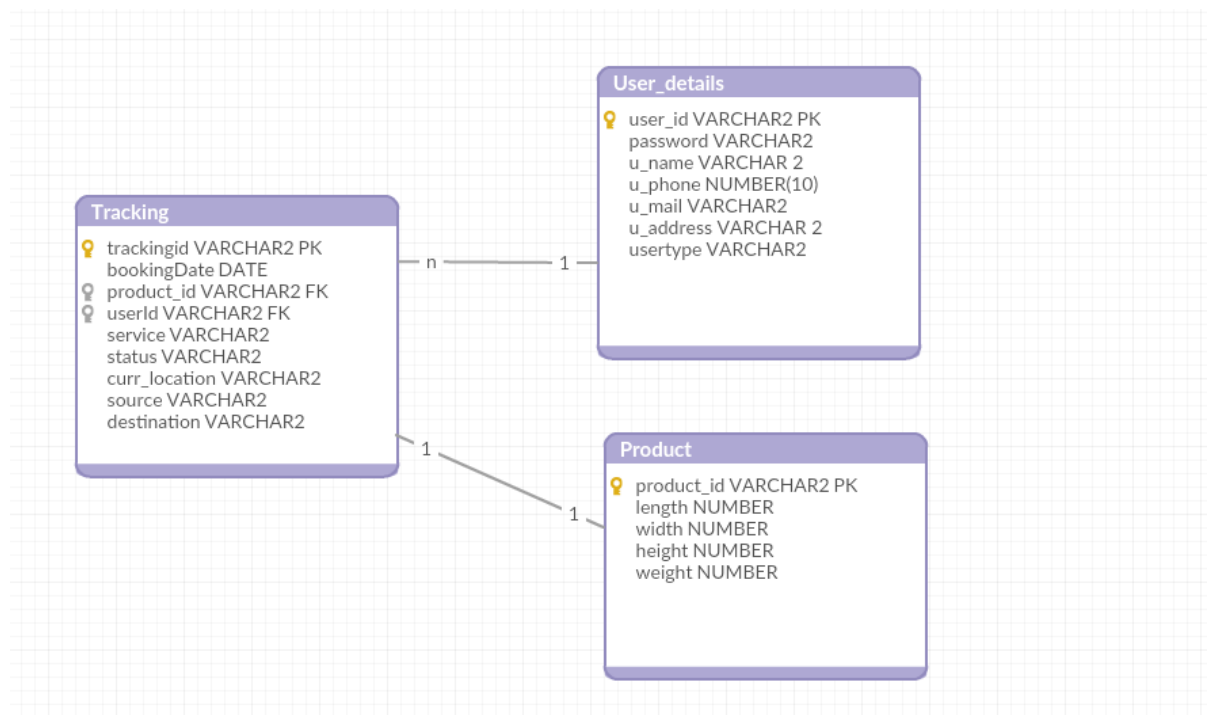
Customer can book a logistic service by logging in and providing the necessary details regarding product and source and destination and will be given unique tracking Id for future use.

Customer can return shipment if they want to.

Customer can also print the invoice of bill for a particular period of time

Manager can update the shipment provided by user, their status and current location can only be updated by managers.

Manager and Customer can track the shipment by providing the unique tracking Id given at the time of booking.



Database Schema

User\_details stores the information and user credentials that is used by customer and manager to login in system.

Tracking stores the location, status and various details regarding shipment.

Product table stores the product specification of shipment that is required to be shipped.



## **CHAPTER 3**

### **PERFORMANCE ANALYSIS**

#### **3.1 TESTING ANALYSIS**

Testing is the stage of implementation that is aimed at ensuring that the system works accurately and efficiently before the live operation commences. Testing is vital to the success of the system. System testing makes the logical assumption that if all the parts of the system are correct, then the goal will be successfully achieved. A series of testing are done for the proposed system before the system is ready for the user acceptance testing.

#### **FOR LOGIN PAGE:**

1. To check whether username and password fields are rendered.
2. To check whether the page redirects to the admin page when logging in as an admin.
3. To check whether the page redirects to the candidate page when logging in as a manager.
4. To check whether the page redirects to the user page when logging in as user.
5. To check whether error message "Wrong username or password" is displayed in red color while logging in with wrong credentials.
6. To check whether tracking ID is valid or not and whether on entering invalid tracking ID it shows an error message.
7. To check whether an authenticated user is logging in.
8. To check whether user is able to access all the functionalities of the respective dashboards.
9. To check whether Admin is able to log in and the page is redirecting to the Admin's dashboard.

#### **FOR SIGN UP OF THE USER:**

1. To check whether signup form fields are rendered.

2. To check whether name field is not accepting numbers.
3. To check on entering different passwords "Passwords do not match" error is shown.
4. To check whether Email id accepted is of the form "characters@characters.domain".
5. To check whether password field matches with confirm password field.
6. To check whether all the address fields are being filled or not.

**FOR MANAGER'S PAGE:**

1. To check whether manager can login with valid email ID and password.
2. To check whether on the password entered is matching with the one stored in the database at the time of making an account
3. To check whether on entering the invalid user ID
4. To check whether update and edit shipment options are working proper.
5. To check whether print invoice option is working or not.
6. To check whether tracking of the parcel is working or not.
7. To check whether on entering the wrong or invalid tracking ID error message displays.

**FOR ADMIN'S PAGE:**

1. To check whether Admin can login with valid email ID and password.
2. To check whether on the password entered is matching with the one stored in the database at the time of making an account.
3. To check whether admin can delete any customer's record from database on choosing delete customer option.
4. To check whether the action performing by admin is displaying in database as well.
5. To check whether admin can delete any managers' record from the database on choosing delete manager option.

## Login as Admin:

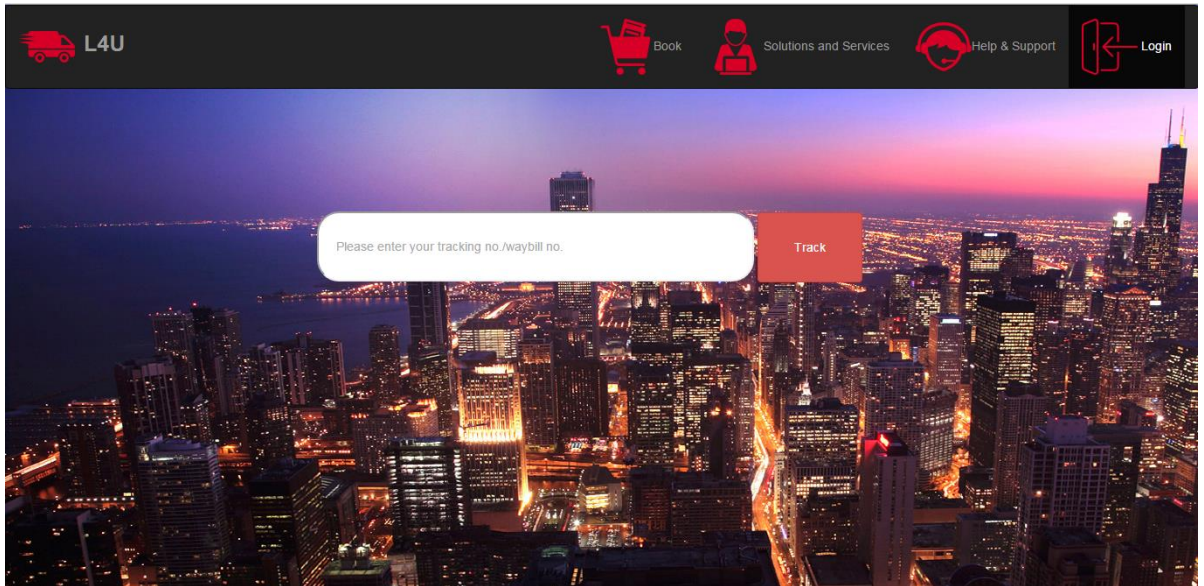
localhost8765/project002/LogisticLogin.html

Screenshot: 1

Submit Delete

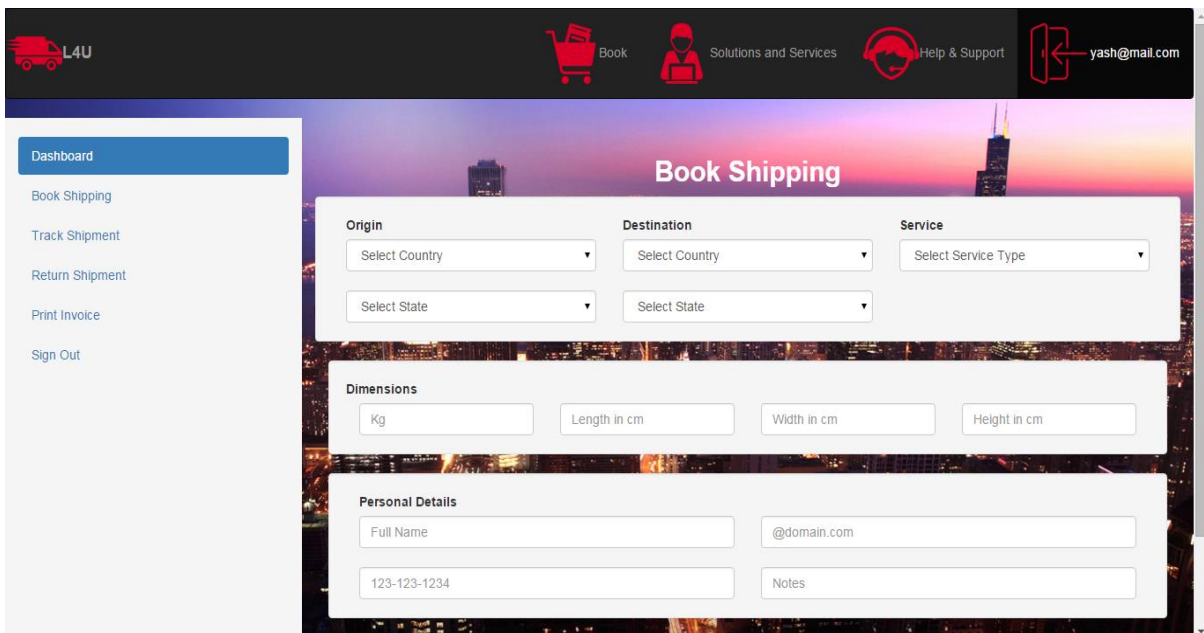
Screenshot: 2

## Tracking of Parcel on entering Tracking ID:



Screenshot: 3

## Book Shipping:



Screenshot: 4



## Manager Dashboard:

The screenshot displays the Manager Dashboard for L4U. The top navigation bar includes the L4U logo, a shopping cart icon labeled 'Book', a person icon labeled 'Solutions and Services', a headset icon labeled 'Help & Support', and a user profile icon labeled 'admin@mail.com'. The left sidebar contains a 'Dashboard' menu with options: 'Delete Customer', 'Delete Admin', and 'Sign Out'. The main content area features a table with the following data:

Type:	Customer	GET
User ID	Name	
<input type="radio"/>	customer@demo	customercustomer
<input type="radio"/>	cust@b4u	sadrwqe
<input type="radio"/>	yash@mail.com	YashKaushal
<input type="radio"/>	sk@gmail.com	asluhjjk

A 'DELETE' button is visible below the table. The background of the dashboard is a cityscape at night.

Screenshot: 5

## Return of shipment:

The screenshot shows the 'Return Shipping' page in the L4U system. The top navigation bar includes the L4U logo, a shopping cart icon labeled 'Book', a person icon labeled 'Solutions and Services', a headset icon labeled 'Help & Support', and a 'Sign Out' button. The left sidebar contains a 'Return Shipment' menu with options: 'Dashboard', 'Book Shipping', 'Track Shipment', 'Return Shipment', 'Print Invoice', and 'Sign Out'. The main content area features a large heading 'Return Shipping' and a form with the text: 'Please enter your tracking no./waybill no. to return an Item'. A red 'Return' button is positioned to the right of the form. The background is a cityscape at night.

Screenshot: 6

## Solutions and Services Page:

The screenshot shows the top navigation bar with the B4U logo, a shopping cart icon labeled 'Book', a person icon labeled 'Solutions and Services', a headset icon labeled 'Help & Support', and an email icon labeled 'manager@mail.com'. Below the navigation bar, the page title 'Solutions and Services' is followed by the main heading 'E-commerce Solutions'. The content area contains four paragraphs of text describing e-commerce solutions, including supply chain management, advanced online retail platforms, online storefront design, and seamless package delivery. To the right, there is a 'Find us' section with a Google Map showing the location of the Infosys Mysore campus and surrounding areas.

**Solutions and Services**

### E-commerce Solutions

As a way to connect the world through logistics and transportation services we offer e-commerce solutions that assist start-ups and established businesses in supply chain management, technical support, and more.

With partners such as ShopGo and Martjack we can provide advanced online retail platforms, and ease in website maintenance.

Design your online storefront, update online catalogues, and manage orders and payments.

Once your online platform is complete and customers begin to make purchases, we will deliver your online orders both domestically and internationally.

In an effort to get your packages out seamlessly and uniformly, using the latest technology, we provide everything from storage of your products to order fulfillment through effective supply chain management.

B4U E-commerce solutions are tailored to suit your customers needs as well as the size of your business.

### Find us

The map displays the Infosys Mysore campus and its vicinity, including landmarks like Infosys Guest House, Infosys Campus SDR4, Infosys Leadership Institute, ICICI Bank Infosys Mysore - Branch & ATM, Larsen & Toubro Limited, Oasis, WAP Factory Rd, WAP Factory Bld, RiIT, Software Paradigms Infosys Pvt, Patahli Enterprise, and Country Inn & By Carlson. The map is centered on Mysore, India, with a Google logo at the bottom.

Screenshot: 7

## Creating a new user account:

The screenshot shows the top navigation bar with the L4U logo, a shopping cart icon labeled 'Book', a person icon labeled 'Solutions and Services', a headset icon labeled 'Help & Support', and a login icon labeled 'Login'. The main content area features a 'Create Your L4U Account' form with a lock icon and a 'Login As' dropdown menu set to 'Customer'. The form includes input fields for Email, Password, Confirm new password, First Name, and Last Name, all marked with an asterisk to indicate they are required fields. The background of the page is a cityscape at night.

### Create Your L4U Account

Login As  
Customer

Email\*

Password\*

Confirm new password

First Name\*

Last Name\*

Screenshot: 8

## CHAPTER 4

### ORGANIZATION OF DATABASE

#### User Entity:

Name : user\_details

Synonym name : UserEntity

Description : User\_details table stores the data of the details about the admin, customer or manager. userId acts as the primary key of the table .

Attributes/Fields :

No.	Field Name	Description	Size	Type	Optional/ Mandatory?	Occurs (Instances of attribute)	Default values
1	userId	UserId acts as the primary key .The email id of the client or the admin is the userid.	20	VARCH AR2	mandatory		Not Null
2	password	It is used to save the password in the field.	20	VARCH AR2	mandatory		Not Null
3	u_name	It is used to store the name of the corresponding usertype	20	CHAR	mandatory		Not Null
4	u_phone	It is used to store the phone number of the corresponding usertype	10	NUMBE R	mandatory		Not Null

5	u_email	It is used to store the email of the corresponding usertype	30	VARCHAR	mandatory		Not Null
6	u_address	It is used to store the address of the corresponding usertype	70	VARCHAR	mandatory		Not Null
7	usertype	It is used to store whether the user is a customer, manager or administrator	30	VARCHAR	mandatory		Not Null

**Product Entity:**

Name : Product

Synonym name : ProductEntity

Description : It stores the information regarding the details of the parcel/courier. Product\_Id acts as the foreign key in the table.

Attributes/Fields :

No.	Field Name	Description	Size	Type	Optional/ Mandatory?	Occurs (Instances of attribute)	Default values
1	Product_id	It is a unique user generated value that acts as the primary key of this table.	50	VARCHAR2	mandatory		Not Null
2	weight	It is used to store the weight of	5	NUMBER	mandatory		Not Null



		the parcel booked					
3	height	It is used to store the height of the parcel booked	10	NUMBER	mandatory		Not Null
4	length	It is used to store the length of the parcel booked	10	NUMBER	mandatory		Not Null
5	width	It is used to store the width of the parcel booked	10	NUMBER	mandatory		Not Null

**Track Entity:**

Name : Tracking

Synonym name : TrackEntity

Description : It stores the details regarding tracking of the product. Product Id and User Id acts as the foreign key in the table .Tracking id acts as the primary key.

Attributes/Fields :

No.	Field Name	Description	Size	Type	Optional/Mandatory?	Occurs (Instances of attribute)	Default values
1	trackingId	Tracking id is being auto generated .It acts as the primary key.	8	VARCHAR2	mandatory		Not Null
2	bookingDate	The date on which the order has been placed.		DATE	mandatory		Not Null

3	Product_id	Product id is the foreign key which references table product.	50	VARCHAR2	mandatory		Not Null
4	userId	userId is the foreign key which references table user_details.	20	VARCHAR2	mandatory		Not Null
5	service	It stores the type of service chosen by the customer.	20	VARCHAR2	mandatory		Not Null
6	status	The status of the parcel is set and changed by the manager.	10	VARCHAR2	mandatory		Not Null
7	curr_location	It is automatically set as the source destination chosen. It can also be set by the manager.	20	VARCHAR2	mandatory		Not Null
8	source	It is the source stored from which the parcel has been dispatched.	20	VARCHAR2	mandatory		Not Null
9	destination	It is the destination stored where the parcel has to be sent.	20	VARCHAR2	mandatory		Not Null

## **CHAPTER 5**

### **CONCLUSION**

It is concluded that the application works well and satisfy the users. The application is tested very well and errors are properly debugged. The application is simultaneously accessed from more than one system. The application works according to the restrictions provided in their respective system. Further enhancements can be made to the application so that the application functions appear attractive and in a more useful manner than the present one.

Every application has its own demerits. The project has covered almost all the requirements. Further requirements and improvements can easily be done since the coding is mainly structured and modular in nature. Changing the existing modules or adding new modules can append improvements. Further enhancements that can be made to the application are –

1. Better UI (User Interface) can be given to the program.
2. Allows the users to live track their shipment's current location.
3. Provide each user who has successfully booked shipment a tracking number to prove that their booking was successful.
4. Allows the users to return their shipment if required.
5. Allows the users to get the print invoice of their booking transaction with the amount they have to pay.
6. Reports any attempted breaches of security to the Admin.

#### **5.1) Future scope**

On the basis of the analysis of performance of our application we can predict that it will stand by all the requirements and expectations of the user.

Considering the future use and scope of the application, we can say that it will be used by the customers as it is highly user-interactive and easy to operate for managers and Admin of any organization. It accepts almost every city to be source or destination hence easily accessible by the customer.