LAPTOP MANAGEMENT SYSTEM

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

in

Information Technology

By

Shivani Kansal 131407

Pratibha Singla 131413

Under the supervision of

Mr. Saikat Kuila

to

Department of Computer Science & Engineering and Information Technology

Jaypee University of Information Technology Waknaghat, Solan-173234, Himachal Pradesh

Candidate's Declaration

We hereby declare that the work presented in this report entitled **"Laptop Management System"** 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 Waknaghat is an authentic record of our own work carried out over a period from January 2017 to May 2017 under the supervision of **Mr. Saikat Kuila**.

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

Shivani Kansal (131407)

Pratibha Singla(131413)

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

Supervisor Name: Mr. Saikat Kuila

Dated :

ACKNOWLEDGEMENT

"*It is not possible to prepare a project without the assistance and encouragement of other people This one is certainly no exception*"

We have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals of organization. I would like to extend my sincere thanks to all of them.

We are deeply indebted to our project guide Mr. Saikat Kuila, whose help, stimulating suggestions and encouragement helped us in all the time of research on this project. We felt motivated and encouraged every time we got his encouragement. For his coherent guidance throughout the tenure of the project, we feel fortunate to work under him.

We would like to express our special gratitude and thanks to industry persons for giving us such attention and time.

Our thanks and appreciations also go to our group mates in developing the project and to the people who have willingly helped us out with their abilities.

Shivani Kansal (131407)

Pratibha Singla (131413)

TABLE OF CONTENTS

CERTIFICATE i

ACKNOWLEDGEMENT ii

LIST OF FIGURES..... v

ABSTRACT..... vii

1.) INTRODUCTION..... 1

1.1) Introduction..... 1

1.2) Problem Statement 1

1.3) Objective 2

1.4) Methodology and Organization..... 2

2.) SYSTEM DEVELOPMENT 10

2.1) Business Tier Tools……10

2.1.1) Oracel SQL Plus……..….10

2.1.2) Hibernate……..11

2.2) Presentation Tier Tools……17

2.2.1) Angular JS……17

2.2.2) Bootstrap…….20

2.2.3) HTML5……...….21

2.2.4) CSS3…….…….21

2.3) Miscellaneous……..…. 22

3.) PERFORMANCE ANALYSIS 23

3.1) Activity Diagram 23

3.2) Use Case Diagram..... 24

3.3) Screenshots..... 25

4.) CONCLUSION..... 48

4.1) Conclusion 48

4.2) Future work..... 48

List of Figures

1.) Scrum Process..... 5

2.) N-Tiered Architecture 8

3.) Sql Plus in Action..... 10

4.) Hibernate Framework..... 12

5.) Hibernate's main classes..... 14

6.) Lifecycle of a bean encompassing three tiers..... 15

7.) Strps in enterprise application..... 16

8.) MVC Controller..... 18

9.) Activity Diagram 23

10.) Use Case Diagram..... 24

11.) Home Page..... 25

12.) Sign In Page..... 26

13.) Invalid Sign In Error Message..... 27

14.) Page After Successful Signing In..... 28

15.) Change Password Page..... 29

16.) Create a Request Page-1..... 30

17.) Create a Request Page-2..... 31

18.) Laptop Request Page-1 32

19.) Laptop Request Page-1..... 33

20.)Page After Successful Laptop Registration..... 34

21.) Issue Registration Page-1……..... 35

22.) Laptop Request Page-2..... 36

23.) Laptop Submission Page-1..... 37

24.) Laptop Submission Page-2..... 38

25.) View My Request Page-1..... 39

26.) Page Displaying Raised Requests..... 40

27.) Page Displaying Open Requests..... 41

28.) Laptop Already Assigned Error Message Page..... 42

29.) No Laptop Assigned Error Message Page..... 43

30.) Admin Page After Signing In..... 44

31.) Add Employee Page..... 45

32.) Add Laptop Page..... 46

33.) Responsive Home Page..... 47

34.) Toggle Button Content Page..... 47

ABSTRACT

This is an application which maintains an order in which a laptop has to be issued to an employee along with the information of the user who owns a laptop. The hardware and software issues or any other requirements has to be raised in the form of a ticket which has to be handled. As a client one employee can choose the brand for their laptop. If the requested laptop is not available then the status for their request should be open and whenever an employee submits laptop of that brand then the laptop is assigned to the employee and the status of request is changed to closed.

This project can be a success in IT industry as it makes things easier through the online platform reducing human effort and making things less complicated. It will provide an easy and attractive interface so that the user can easily manage and utilize the application. Various other approaches were considered for this application. This application is designed in a way that it will only require a minimum amount of information from the user. The goal was to look for the minimum amount of information that will meet needed requirements.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This project is very popular and widely usable in many organizations especially in many IT organizations for assigning and managing laptops to the employees. This project aims at developing a system by which the employees in the organization can request for a laptop and after being assigned they can raise an issue if any. The laptops are of various brands like APPLE, VAIO, HP, DELL. This application is functional for either the admin or the employees, if any third person tries to operate it then a particular error message will be displayed. The employee on requesting for the laptop, if available, will be assigned to that employee. All the assignment related requests and issues related requests are handled differently. They pass through a workflow process and the employee who raise that particular request can view its status at any time. The project is planned to have a view of 3-tier architecture, namely presentation, business and persistence tiers, with centralized storage of the database. The software requirements for the logical implementation of these tiers and the database has already been planned for example the data storage and retrieval is done using SQL plus.

1.2 Problem Statement

In this application new laptops are to be assigned to the employees (one employee can have only one laptop) and an employee can raise a request regarding any hardware/software requirements in the form of tickets. Every new employee is registered by admin by entering the user information into the database. Same is the case for laptops. Every laptop is also being registered by the admin along with its details like brand name , mac id etc into the database.

1.3 Objective

The objective of this project is to make a user friendly application and an easy to use environment. Also, the data provided should be correct and consistent. To maintain the accuracy of data only an admin with sufficient privileges can add or delete the data. . Thus, the data entered by the admin is secured and reliable providing a user with accurate data. The data of the raised requests is retrieved for different registration ids and are displayed in a tabular format

1.4 Methodology and Organization

The Agile Methodology (Using Scrum) The Agile technique of development of the code that refers to a gaggle of methodologies based on the event that is unvaried . during this technique requirementstheare gathered and thethesolutions referring to the project area unit found via collaboration between groups United Nations agency area unit cross practical and self-organizing in nature.

Agile methodes focus on a process of the management of the project that encourages the scrutiny into the work flow ofttimes and fast adaptation to evolving technologies. Agile stresses on a philosophy of leadership which pires cooperation, answerability and organization. There area unit a engineering set for best practices that is meant to permit fast delivery of the code having high-quality, along side a approach of business that aligns development with the requirements of the corporate goals and also the client.

Some blessings of Agile Methodology are:

1. advantages to the Customer: Customers realize the seller to be terribly reactive to the amendment requests. options having high worth area unit developed and so deployed terribly quickly with facilitate of short cycles, instead of victimisation the longer cycles favored by the methods referred to as falls process.

2. advantages to the Vendors: Vendors will currently focus for a lot of efforts on the event of options having high worth and in reducing the time-to-market relative to the processes of falls model thanks to the decrease within the overhead and increase within

the potency. increased satisfaction of the client suggests that higher retention of client and a lot of positive references of the shoppers.

3. advantages to the event Teams: Members of the team fancy the work of development as a result of they willcurrently see and feel that their work is getting used and valued. beginning helps the members of the team in reducing non-productive work therefore giving them longer to try to to their own work.

4. advantages to the merchandise Managers: Product Managers area unit principally accountable in creatingthe shoppers happy by guaranteeing that the work of development is lined up with the requirements of the custoer. beginning makes it straightforward by providing lots of opportunities of prioritizing the work and guaranteeing the utmost delivery important .

5. advantages to the Project Managers: Managers of the project United Nations agency fill within the role of the Scrum-Master's realize that doing coming up with is way a lot of easier and a lot of concrete as compared to the falls method. the main target is on the task-level trailing and additionally on the utilization of Burn-down Charts that displays the progress on the day after day, and also the beginning conferences that area unit command daily along provides the attention to the Project Manager regarding the state of the project the least bit times.

6. advantages to the Project Management Offices and to the C-Level Executives: beginning methodology offers a high visibility into the project state on a day after day. Stakeholders will currently use this issue to set up a lot of affectively, and to regulate their methods.

Scrum

A method of the beginning is differentiated from alternative processes of the agile by victimisation a number ofthe particular practices and ideas that area unit additional divided into the 3 classes that are: Roles, Artifacts and Time Boxes. beginning methodology is employed for managing the code that area unit complicated and also the development of product, victimisation practices like unvaried and progressive practices.

This method of beginning permits a corporation to regulate to the wants that area unit rapidly-changing and to make a product that meets the goals of business that area unit evolving currently a days. the method of associate agile beginning helps the organization in increasing the standard of the deliverables and to cope higher with the changes. Scrum methodology doesn't outline the wants to require, however area unit gathered into the merchandise Backlog. thanks to the time-boxed nature of a Sprint, we are able to say that every set ought to need less time to implement than the length of the Sprint itself.

User Story:

A User Story primarily could be a practical demand in type of narrative. These area unit written by the merchandise Owner and area unit principally the responsibility of the merchandise Owner. The format of writing a User Story isn't the least bit standardized, however usually encompasses a name, some descriptive text and knowledge regarding the implementation of the User Story.

Defect:

A Defect, or sometimes termed as a bug, could be a represented as failure of the merchandise to behave within the expected fashion. Defects area unit hold on in a very system that tracks bugs. These systems might not be physically be a similar system within which the merchandise Backlog is hold on.

There area unit 3 roles outlined in Scrum: ScrumMaster, Product Owner, and also the Team.

Scrum Master:

The beginning Master is that the keeper/coordinator of the method. they're liable for a swimmingly running method and additionally for removing unproductive obstacles. The beginning Master is liable for overall organization and facilitation of conferences. in short the most responsibilities include:
1. Removing the barriers between the event Team and also the Product Owner. This successively facilitates the merchandise Owner to directly drive development.

2. They educate the merchandise Owner on a way to maximize come back on investment (ROI), and meet the projected objectives for the merchandise through beginning.

3. Improve the work-life balance and keep the operating atmosphere stress free for the event Team by facilitating ability and direction.

4. perpetually improve the engineering practices and tools. the top result ought to be such when every sprint the merchandise is probably shippable.

5. continue to this point info regarding the Team's

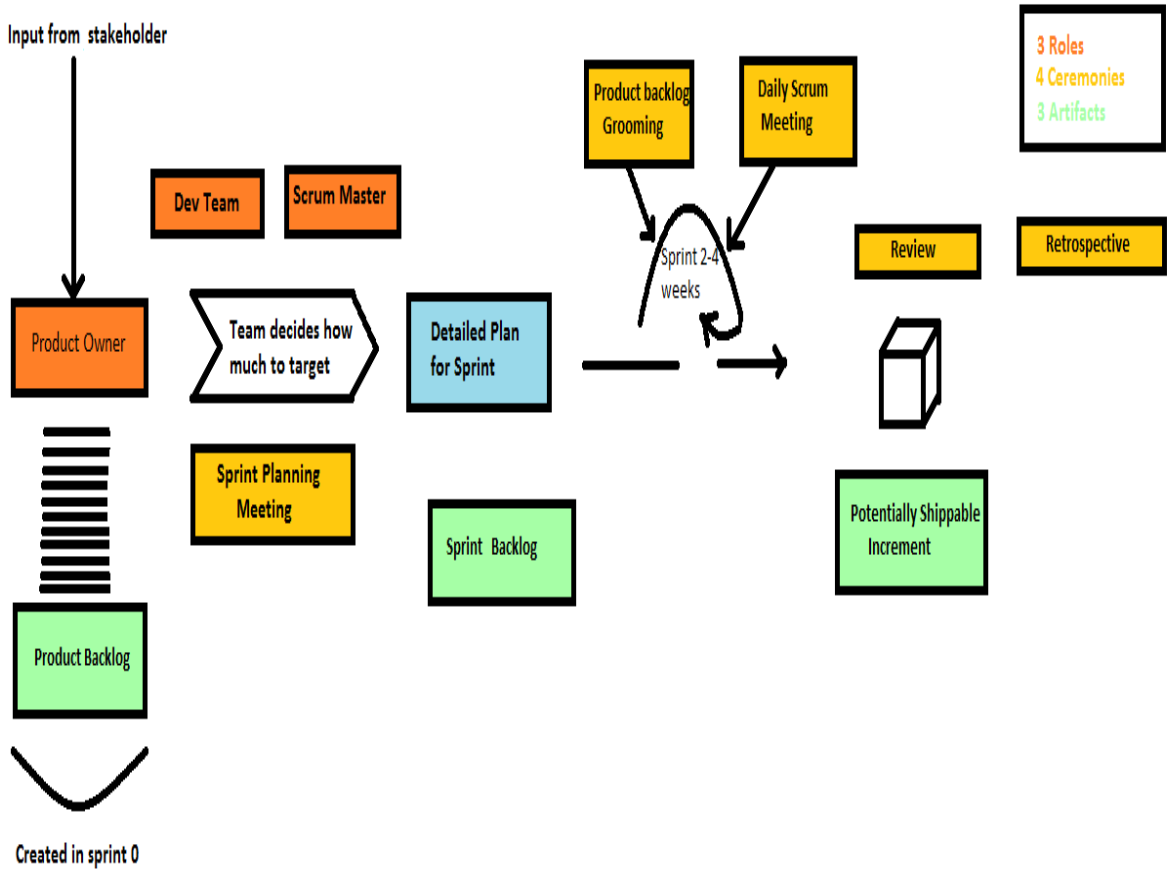

Figure 1. Scrum Process

Product Owner

The Product Owner is that the one who keeps the necessities regarding the merchandise. He usually is the "single supply of truth" for the Team with relevancy needs and their planned order of implementation.

In apply, the merchandise Owner is the interface between the business, customers and their product connectedwants on the one hand, with the Team on the opposite. He is a buffer to the Team with relevancy feature and bug-fix requests that return outside sources, and is to be thought of the only purpose of contact for all queriesconcerning product needs. The Product Owner is accountable for maintaining the merchandise Backlog, and conjointly setting the schedule that governs the sprint lifecycle. they create the ultimate call on whether or not product implementations have the options and quality needed for unharness to customers.

Team

The Team refers to the those that do the particular work of developing and testing the merchandise. they'relargely self-organizing and cross-functional. Since the Team is accountable for development, they set their own targets for development. This results in self-organization:

1. Team members decide the way to break work into tasks.
2. Team members decide the way to assign tasks to people.

The Team size ought to be unbroken tiny, ideally within the vary from 5 to 9. this is often as a result of a biggervariety makes intra-team communications tough, whereas a really tiny variety results in low productivity.

Organization: N-Tiered Architecture

A multi-tier design for building relaxing net services:

What is REST?

REST (REpresentation State Transfer) defines associate style of architecture of net applications. it had been 1st introduced by Roy Fielding within the year 2000. REST refers to a group of design constraints and principles. associate application that meets those constraints and principles, is termed as relaxing.
In REST net applications the interaction between the consumer and server is unsettled between requests. each request from the consumer to the server should contain all the required data required to know the request. The consumer would not grasp if the server were to be restarted at any purpose between the requests. Moreover, the unsettled requests is answered by any offered server, that is suitable. The consumer ought to be ready to cache the info to enhance the performance.

On the server facet, the state of the appliance and also the functionalities square measure divided into resources. A resource is outlined as associate item of interest that's exposed to the shoppers. each resource is unambiguously diagnosable employing a URI (Universal Resource Identifier).

Another REST principle is that the bedded system, which suggests that a part cannot see outside the immediate layer with that it's interacting. Since the data of the system is restricted to one layer the system quality is reduced thereby promoting substrate independence.

A n-tier design for building relaxing net services:

RESTful net services and dynamic net applications square measure similar in ways in which they supply the terribly similar knowledge and functions, though to totally different sorts of shoppers. net services edges from the separation of issues innate in an exceedingly multi-tier design in an exceedingly means as most dynamic net applications do. Separating the business logic from knowledge access permits the appliance to be knowledgebase-independent and provides for plug-ability to attach to numerous styles of data stores.

Figure two shows shoppers, that uses Java and scripts of varied languages like Python, Perl, or command-line tools like curl. mythical being run within the net browser and acts as a relaxing net service. In machine-controlled net service, shoppers send protocol requests to the Resource Request Handler within the Presentation tier. The unsettled requests from the consumer contains data of the sort of request within the header, namely GET,POST, PUT, and DELETE, that gets mapped to the corresponding operations of the resources within the Resource Request Handler. each request contains the required data together with the login credentials for the Resource Request Handler to method the request.

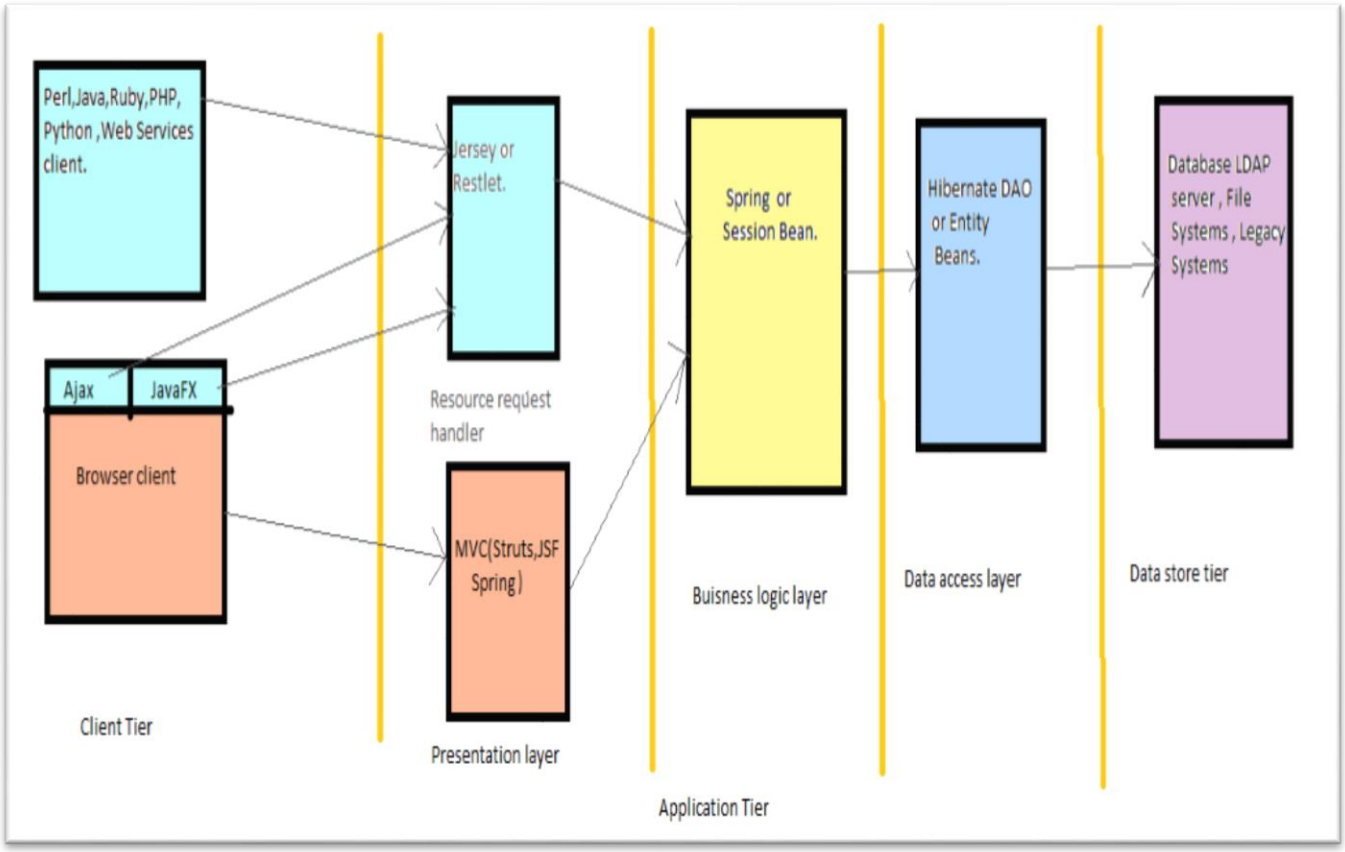

Figure 2. N-Tiered Architecture

The Resource Request Handler, once receiving asking from an internet service shopper, requests for the service from the business layer. The Resource Request Handler identifies all the entities that the system exposes as resources and allocates a novel URI to every one amongst them. The Resource Request Handler will be enforcedvictimization Jersey or alternative frameworks like Restlet and needs to be light-weight, primarily assignment the serious work to the business tier. Ajax and reposeful net services work with one another. They each leverage on the wide obtainable net technologies and standards like HTML and JavaScript. reposeful net services places mythical being calls employing a terribly straightforward API to trot out the interactions with the resources on the server. The Web browser, the shopper in Figure one acts as a graphical user interface providing show functions victimization HTML within the presentation layer. The Browser Requester Handler will be simply enforcedvictimization MVC model. It accepts the request from the online browser so forwards those requests to the business layer, dynamically produces the presentation, and at last sends a response to the shopper application program. Business rules square measure unified into the business layer that is Associate in Nursing treater for information exchange between the 2 adjacent layers - presentation layer and also the persistence layer. The Browser Request Handler and Resource Request Handler square measure decoupled from the business layer which can facilitate facilitate code reprocess, and result in a versatile design. The persistence layer interacts with the information store and is enforced victimization the DAO style pattern or object-relational mapping (ORM) solutions like Hibernate. additionally the elements within the business layer and persistence layer will be enforced as EJB elements with the assistance of and EJB instrumentation that facilitates the part life cycle and manages the persistence, transactions and resource allocations.

CHAPTER 2

SYSTEM DEVELOPMENT

1.1 Business Tier Tools

2.1.1 Oracle Sql Plus

SQL*Plus is the most basic Oracle Database utility. It consists of a basic command-line interface to the object relational database management system, which is commonly used by users, administrators, and programmers.

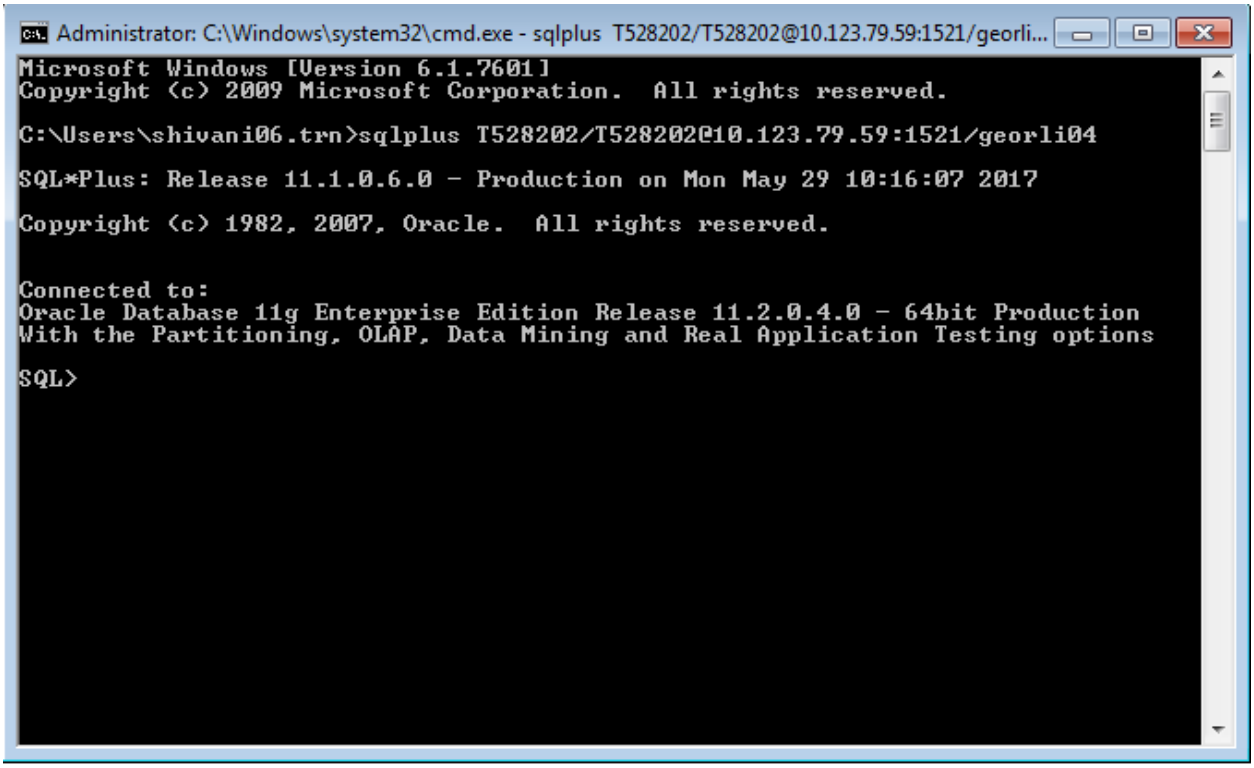

Figure 3. SQL Plus in Action.

SQL*Plus understands five categories of text:

a. SQL statements

b. PL/SQL blocks

c. SQL*Plus internal commands, for example:

a. Environment control commands like SET

b. Environment monitoring commands like SHOW

d. Comments

e. External commands prefixed by the ! char

A Script written in SQL Plus can include any or all of these components.

2.1.2 Hibernate

To interface with the persistence layer, our DAO classes use Hibernate. Hibernate is a high-performance Object/Relational persistence and query service which is licensed under the open source GNU Lesser General Public License.

Hibernate ORM is an object-relational mapping tool for the Java programming language. Hibernate provides a framework to map an object-oriented domain model to a relational database. Hibernate solves object-relational impedance mismatch problems via replacing direct, persistent database accesses with high level functions that handle objects.

Hibernate does the following:

a. Takes care of the mapping from Java classes to database tables.

b. Takes care if the mapping from Java data types to SQL data types.

c. Provides data query and retrieval facilities.

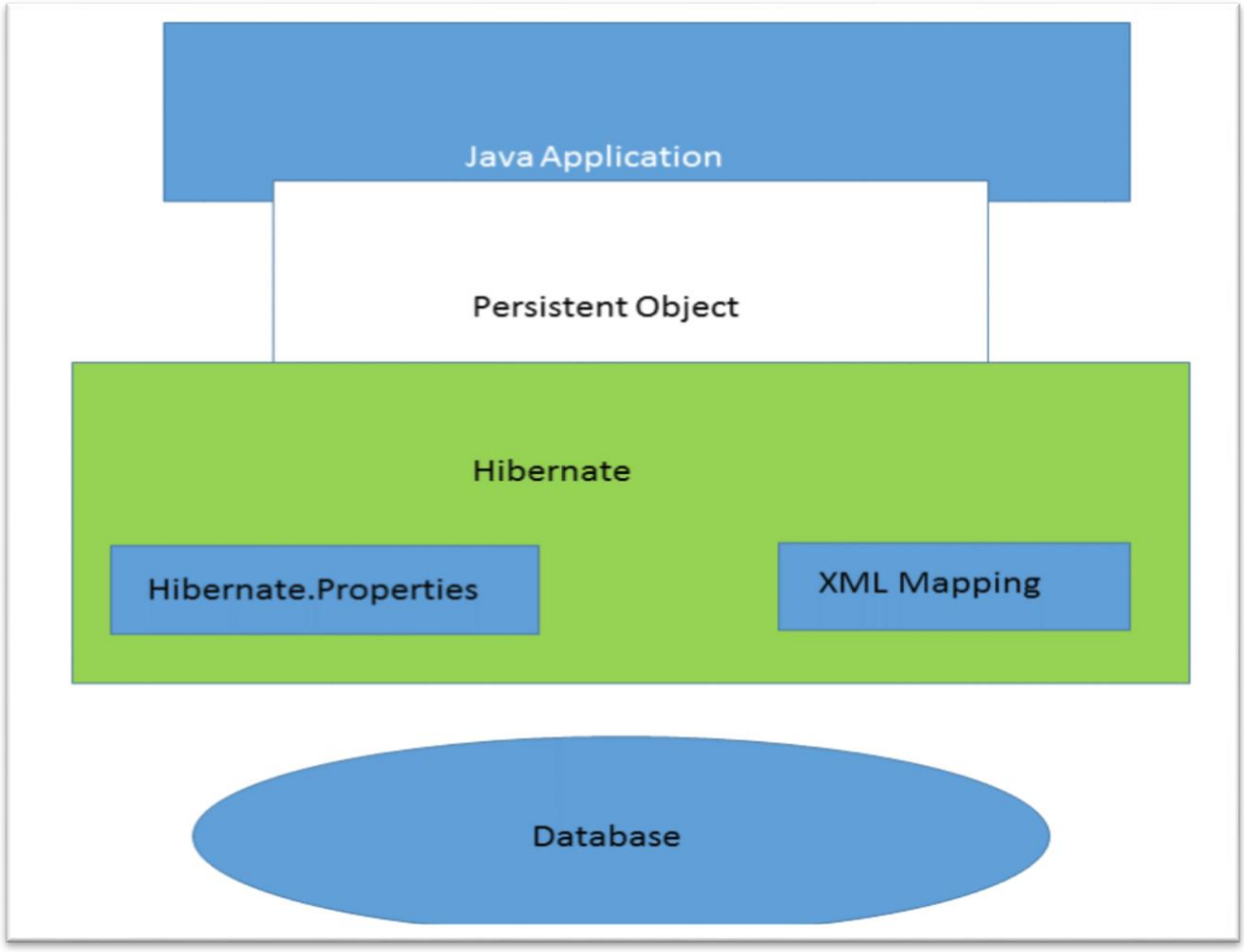

Figure 4. Diagrammatic Representation of Hibernate Framework

We describe some of the important class objects involved in Hibernate Application Architecture below:

a. **Configuration Object**: The Configuration object is the first Hibernate object created in any Hibernate application. It is usually created only once during application initialization. Configuration Object represents a configuration or properties file which is required by the Hibernate framework. The Configuration object provides two keys components:

    a. **Database Connection**: This is handled through one or more configuration files supported by Hibernate. These files are hibernate.properties and hibernate.cfg.xml.

b. **Class Mapping Setup**: This component creates the connection between the Java classes and database tables.

b. **SessionFactory Object**: Configuration object is used to create a SessionFactory object. This object in turn configures Hibernate for the application using the supplied configuration file. This process now allows for a Session object to be instantiated.

The Session Factory is a thread safe object and used by all the threads of an application. The Session Factory is typically a heavyweight object so usually it is created during application start up and kept for later use within the application. We need one Session Factory object per database using a separate configuration file. So if we are using multiple databases then you would have to create multiple SessionFactory objects, each with a one to one mapping to its own database.

c. **Session Object**: A Session is used to create a physical connection with a database. The Session object is comparatively lightweight and it is designed to be instantiated each time we require an interaction with the database.

   Objects persisted in the database are saved and retrieved through a Session object. The session objects should not be kept open for a long time because they are not usually thread safe unlike a SessionFactory object.

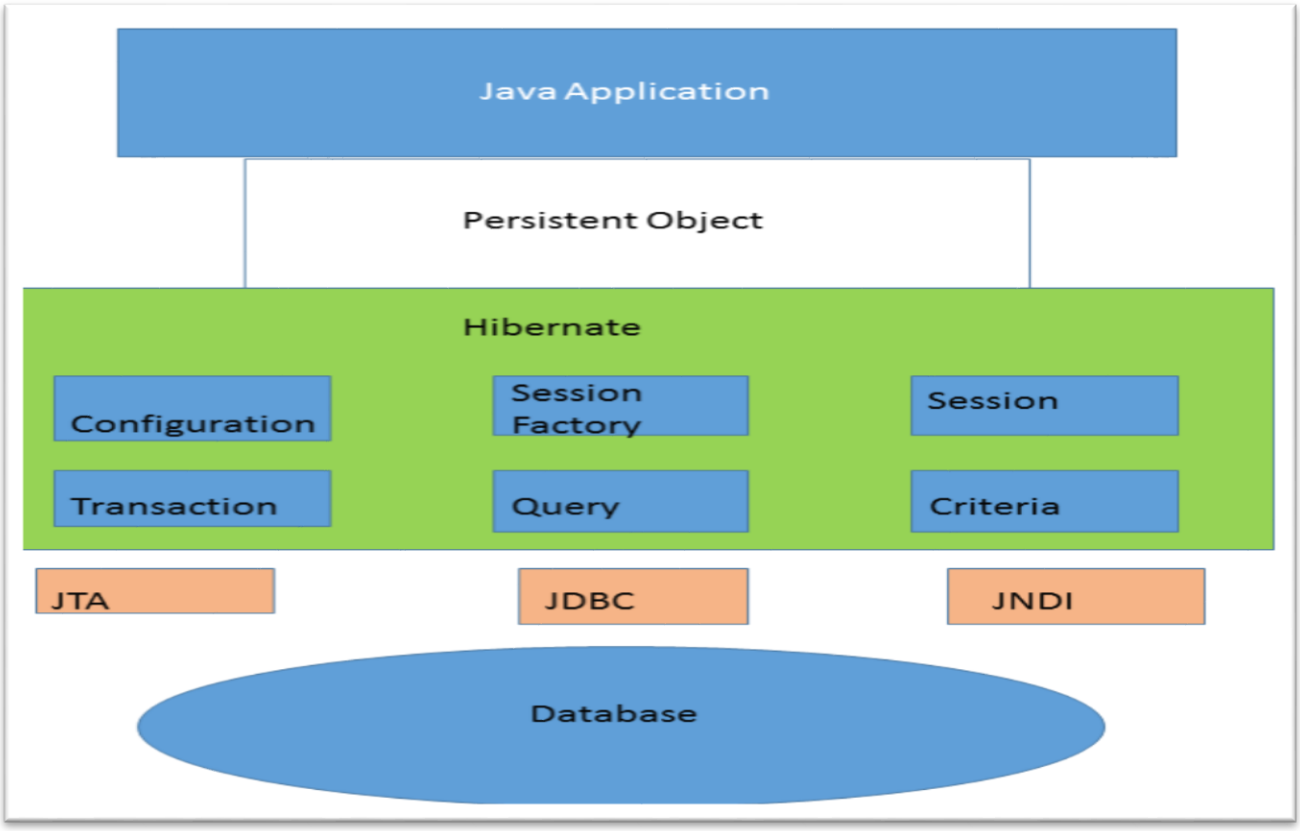

Figure 5. Detailed view of Hibernate's main classes

d. **Transaction Object**: A Transaction represents one unit of work with the database. Almost all RDBMS' support the transaction functionality. In Hibernate transactions are handled by an underlying transaction manager.

   The Transaction Object is optional and Hibernate applications may choose not to use this interface. They can instead opt to manage transactions in their own application code.

e. **Query Object**: These objects use SQL or Hibernate Query Language (HQL) strings to retrieve data from the database and create objects. A Query instance is used to:

   a. bind query parameters,
   b. limit the number of results returned by the query,
   c. to execute the query

f. **Criteria Object**: This object is used to create and execute object oriented criteria queries to retrieve objects.

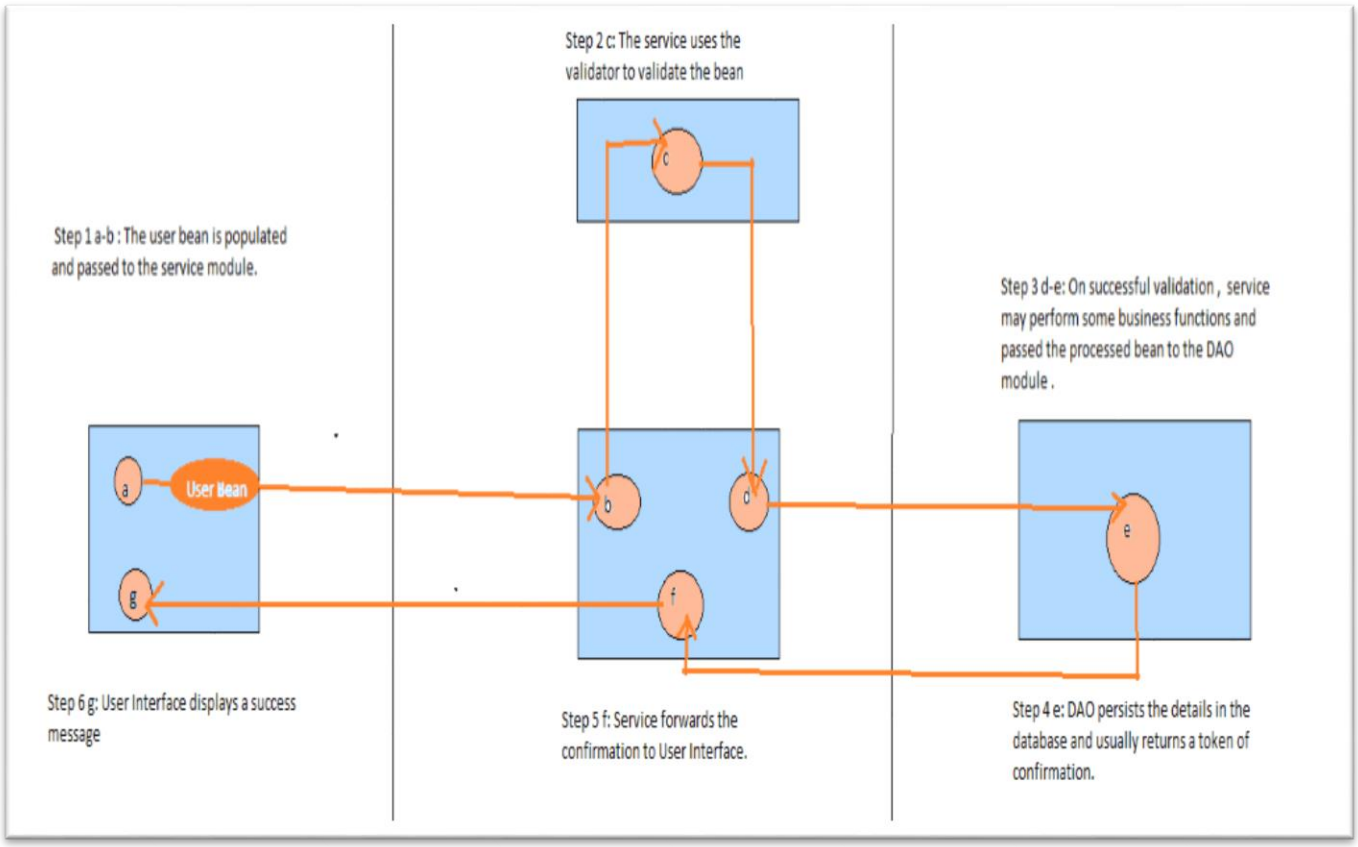

Figure 6. Lifecycle of the Bean encompassing the 3 Tiers: Presentation, Business and Persistence

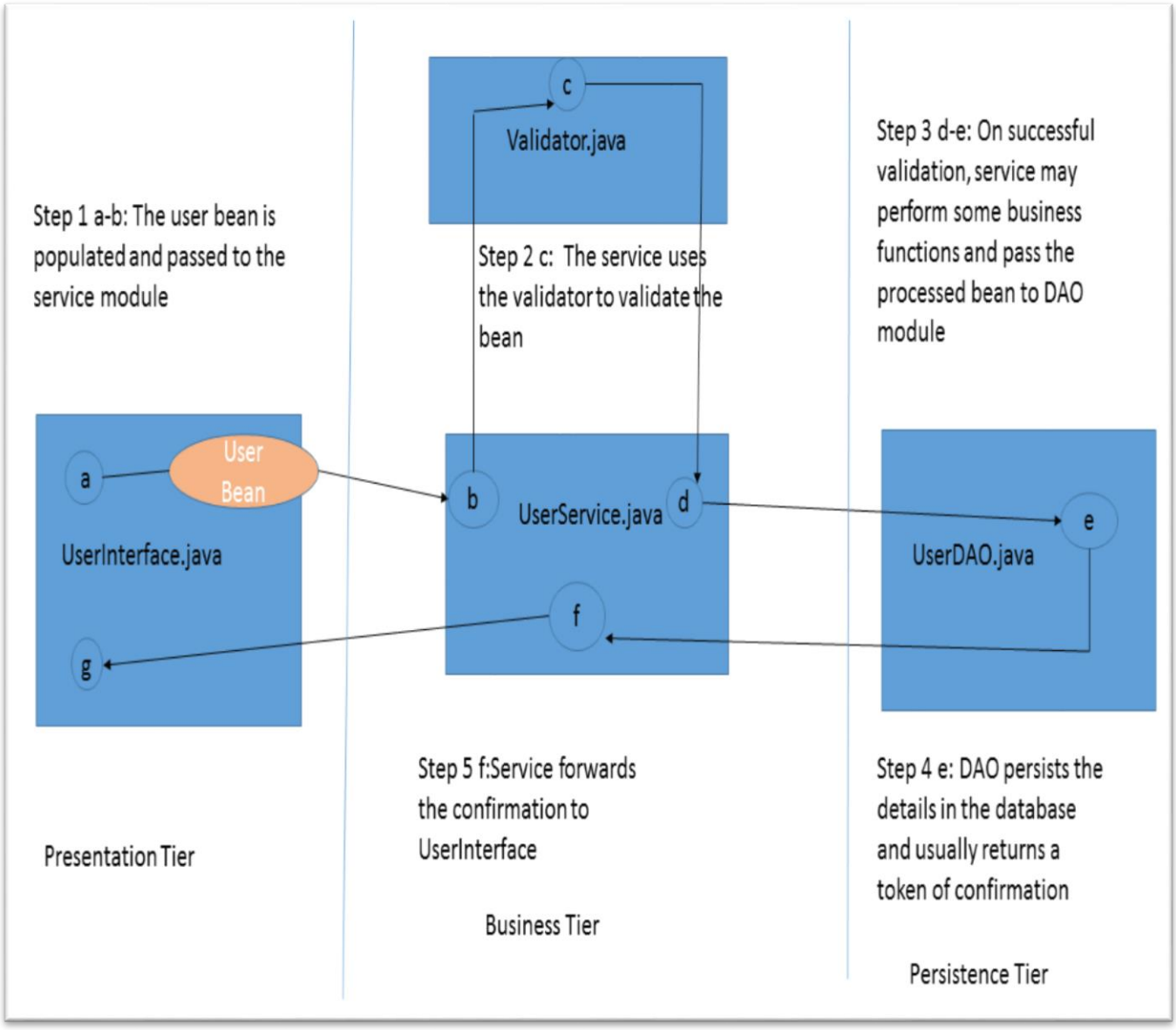

Figure 7. Steps in the Enterprise Application

2.2 Presentation Tier Tools

2.2.1 AngularJS

AngularJS is an open JavaScript framework. It can be added to an HTML page with a <script> tag. AngularJS extends HTML attributes with Directives, and binds data to HTML with Expressions.

The script tag used for adding Angular JS to a HTML page is:

<script

src="https://ajax.googleapis.com/ajax/libs/angularjs/1.4.8/angular.min.js">
</script>

AngularJS is especially maintained by Google and by a community of technical firms to handle the challenges encountered in developing single-page applications. The JavaScript elements complement Apache Cordova, the framework used for developing cross-platform mobile apps. It aims to modify the event and therefore the testing of such applications by providing a framework for client-side model–view–controller (MVC) and model–view–viewmodel (MVVM) architectures.

The AngularJS framework works by presentation the hypertext mark-up language page. This has embedded into it further custom tag attributes provided by Angular. Angular interprets those attributes as directives to bind input or output elements of the page to a model.

As with alternative software package architectures, MVC expresses the "core of the solution" to a haul whereaspermitting it to be tailored for every system. explicit MVC architectures will vary considerably from the standard description here.

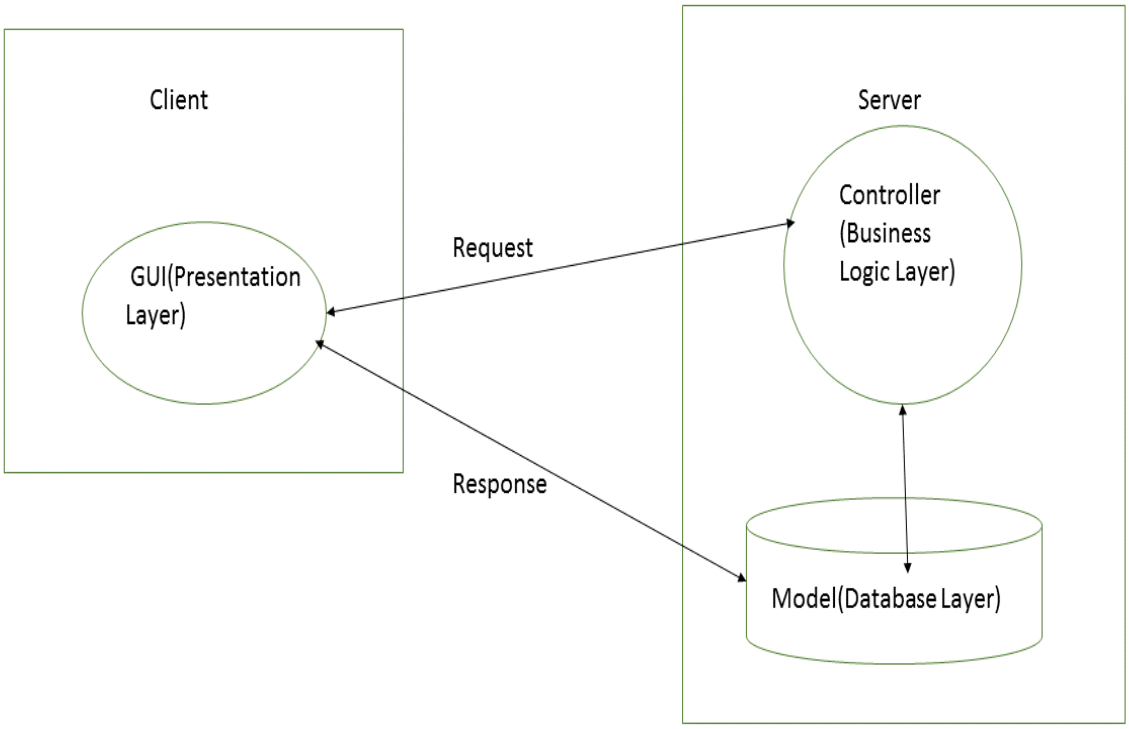

Figure 8. The MVC Controller

Components

The model is that the central part of the pattern. It expresses the application's behavior in terms of the matter domain, freelance of the interface. It directly manages the information, logic and rules of the applying.

A read may be any output illustration of data, like a chart or a diagram. Multiple views of identical data square measure potential, like a bar graph for management and a tabular read for accountants.

The third half, the controller, accepts input and converts it to commands for the model or read.

In addition to dividing the applying into 3 styles of elements, the model–view–controller style defines the interactions between them.

A model stores information that's retrieved per commands from the controller and displayed within the read.

A read generates new output to the user supported changes within the model. A controller will send commands to the model to update the model's state (e.g., writing a document). It also can send commands to its associated read to vary the view's presentation of the model (e.g., scrolling through a document).

Advantages

i. concurrent development – Multiple developers will work at the same time on the model, controller and views.

ii. High cohesion – MVC allows logical grouping of connected actions on a controller along. The views for a particular model also are classified along.

i. Low coupling – The terribly nature of the MVC framework is such there's low coupling among models, views or controllers.

ii. simple modification – owing to the separation of responsibilities, future development or modification is simpler.

iii. Multiple views for a model – Models will have multiple views

Disadvantages

1. Code suitability – The framework navigation may be advanced as a result of it introduces new layers of abstraction and needs users to adapt to the decomposition criteria of MVC.

2. Multi-artifact consistency – mouldering a feature into 3 artifacts causes scattering. Thus, requiring developer(s) to take care of the consistency of multiple representations quickly.

3. Pronounced learning curve – information on multiple technologies becomes the norm. Developers victimisation MVC have to be compelled to be ball-hawking in multiple technologies.

2.2.2 Bootstrap

Bootstrap could be a free and ASCII text file front-end net framework. Bootstrap is principally used for planningnetsites and web applications. It contains HTML- and CSS-based style templates for varied parts of style such as:

- typography,

-forms,

- buttons,

-navigation,
-other interface elements,

- optional JavaScript extensions.

Unlike several net frameworks, it considerations itself with front-end development solely. Bootstrap is that the second most-starred project on GitHub, with quite 107,000 stars and forty eight,000 forks.

2.2.2 HTML5

HTML5 (Hypertext Markup Language) could be a terminology used for structuring and presenting content on the globe Wide net. it's the fifth and current version of the hypertext mark-up language customary.

It includes elaborated process models which inspires bigger practical implementations by extending, rising and rationalizing the markup accessible for documents.

It additionally introduces markup and application programming interfaces (APIs) for advanced net applications.

HTML can:

Publish documents with text, headlines, images etc
Create forms to gather user information

Include videos, audio clips, flash movies etc. within Associate in Nursing hypertext mark-up language document
Access on-line data via hyperlinks

For similar reasons, HTML5 is additionally used for cross-platform mobile applications, as a result of it includes options designed with powerless (lesser information measure, screen resolution or process power) devices in mind.

2.2.4 CSS3

Cascading vogue Sheets (CSS) could be a piece of paper language used for describing the presentation of a document written in a very terminology.
CSS is most frequently accustomed vogue the net pages and user interfaces written in hypertext mark-up language and XHTML. but excluding these, CSS may be applied to any XML document, together with plain XML, SVG and XUL, and is applicable to rendering in speech, or on alternative media.

Inline CSS is employed for terribly tiny net applications wherever you're victimisation little CSS designs.

Embedded CSS is employed for medium size net applications wherever you would like to separate hypertext mark-up language content from CSS vogue, however keep them in same page, creating modifications easier.

External CSS is employed for big net applications once identical layout must be maintained for all websites. this will be done by adding the links of the stylesheets all told the pages, sanctionative employ of existing designs.

Along with hypertext mark-up language and JavaScript, CSS could be a cornerstone technology employed by most websites. along the 3 technologies kind the Trinity of net technologies. they're accustomed produ ce visually participating webpages, and user interfaces for net applications and mobile applications.

2.3 Miscellaneous

a. Eclipse Luna : This was the IDE used for developing the project.
b. JUnit : we have a tendency to used the JUnit categories to check totally different modules of the applying.
c. Log4J : we have a tendency to used the Log4J to log the assorted
d. PMD : we have a tendency to used it to ascertain our adherence to numerous committal to writing conventions.

CHAPTER 3

Performance Analysis

Laptop Management System

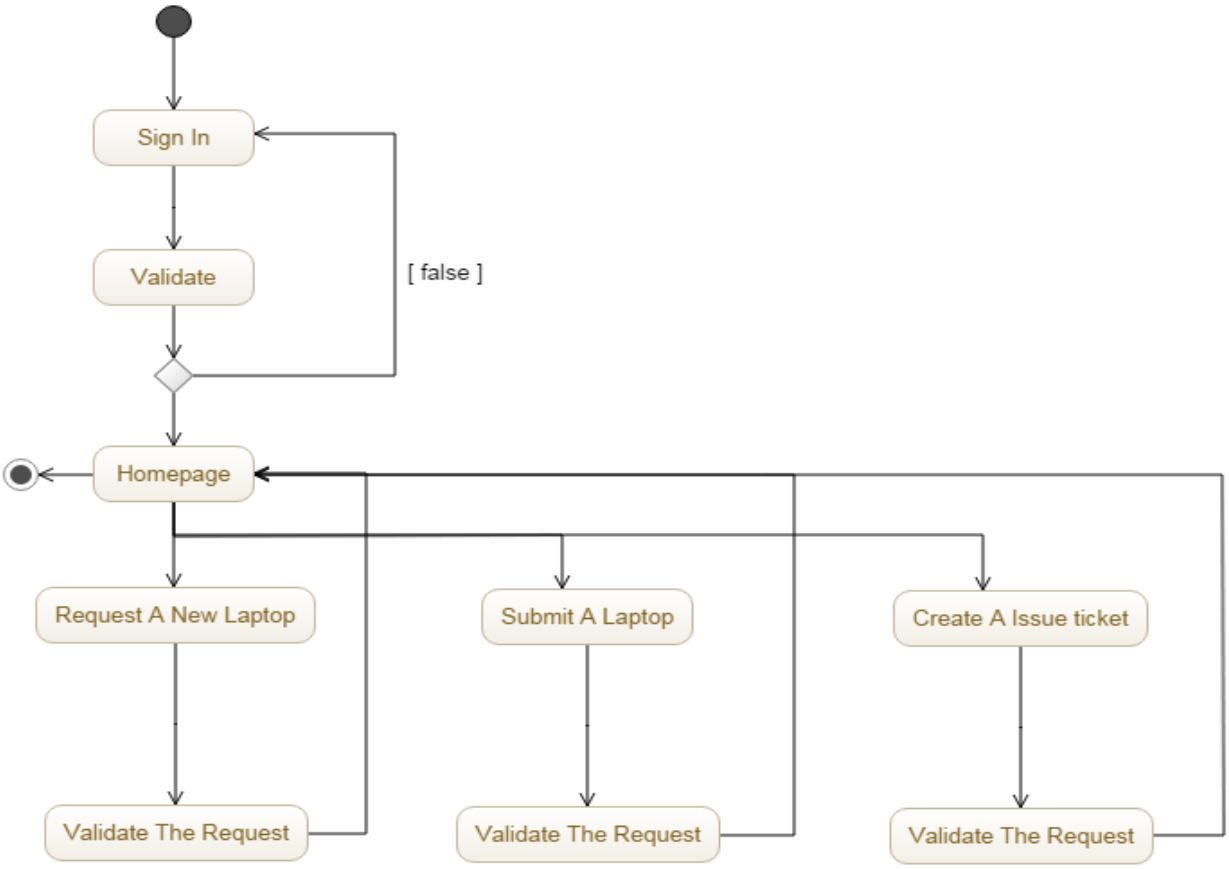

Figure 9. Activity Diagram for the Laptop Management System

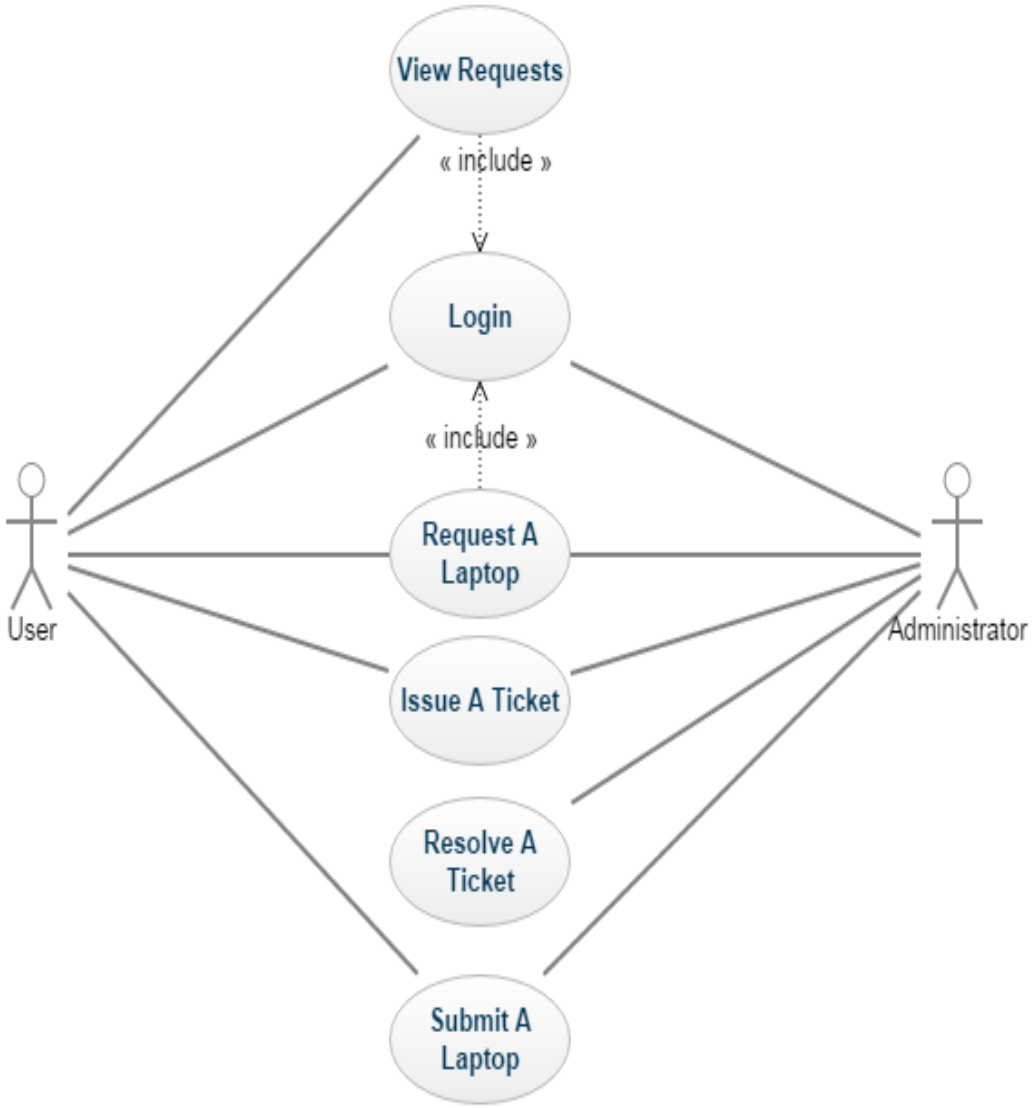

Figure 10. Use Case Diagram for Laptop Management System

The flow of activity is as follows:

1. We sign in and validate our details.
2. If these are valid details we are then taken to the homepage.
3. From our home page we can either view our previous requests or create a new request.
4. If we want to create a new request we have to choose what kind of a request we are trying to make:

a. Issue a laptop
b. Submit an issued laptop
c. Report Software / hardware issues

5. After a new request is submitted we are issued with a registration number and redirected back to the homepage.
6. All requests are persisted in the Database for retrieval by the administration.

This flow of activity is shown via the following screenshots.

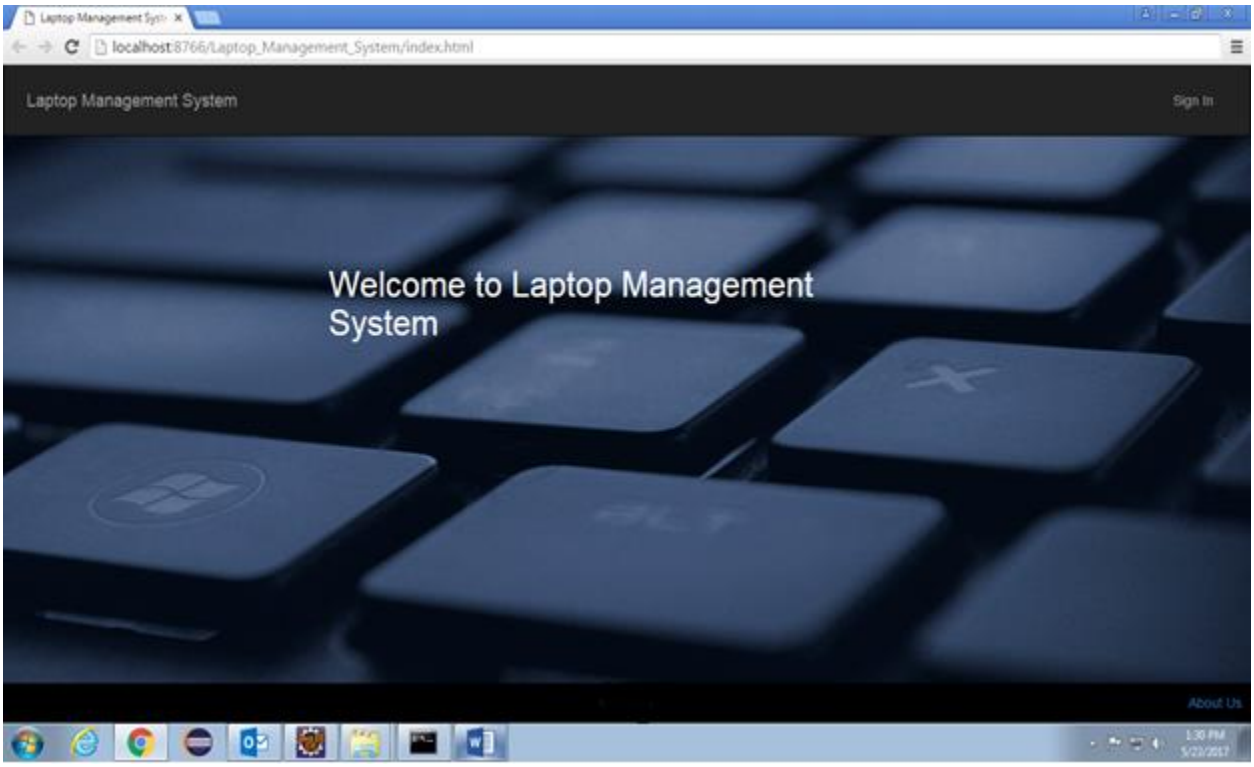

Figure 11 Home Page

This is the homepage of our Single Page Application.

At this point of time we have the Sign In option to validate our credentials. Without doing this we cannot proceed further. The Other Hyperlink is Laptop Management System that routes to the homepage itself.

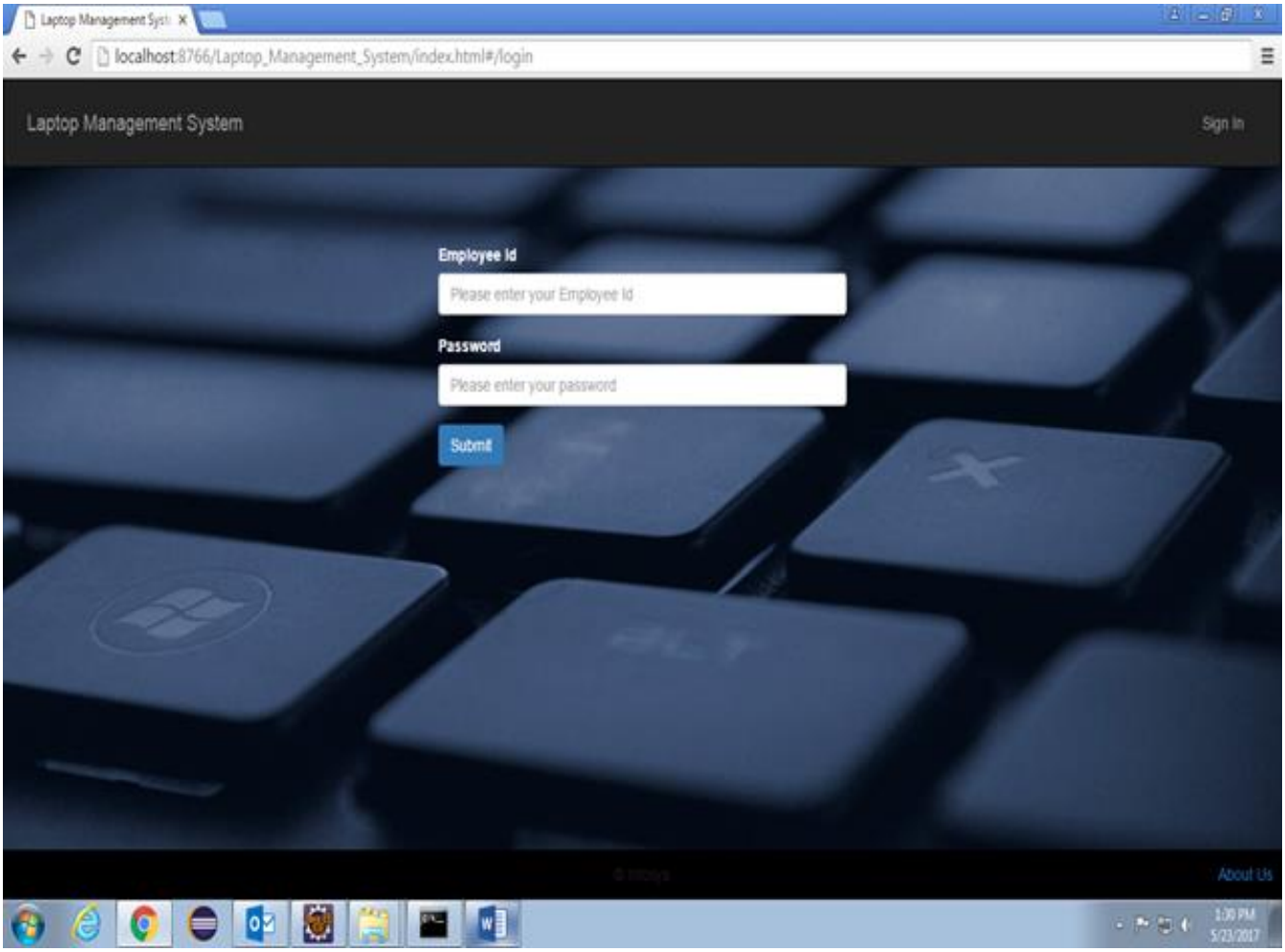

Figure 12 Sign In page

This is what happens when we click on the Sign In tab. We are asked to validate our Employee Id and Password or admin id and password depending upon who is signing in. These details are then cross-validated against the employee details or the admin details present in our Database.

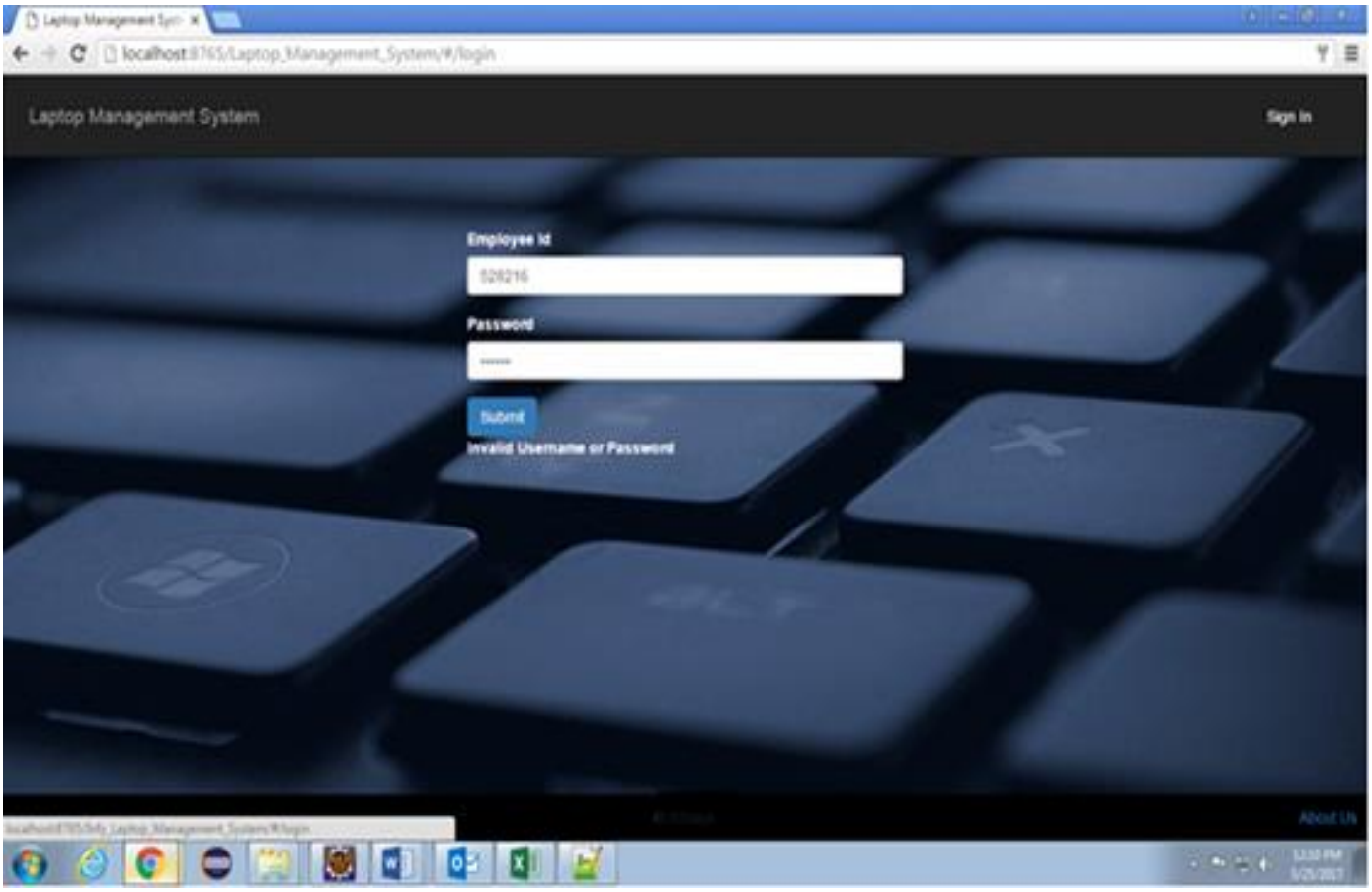

Figure 13 Invalid Sign In Error Message

In case the Employee/Admin Id or Password are invalid the error message appears as ‘Invalid Username or Password’.

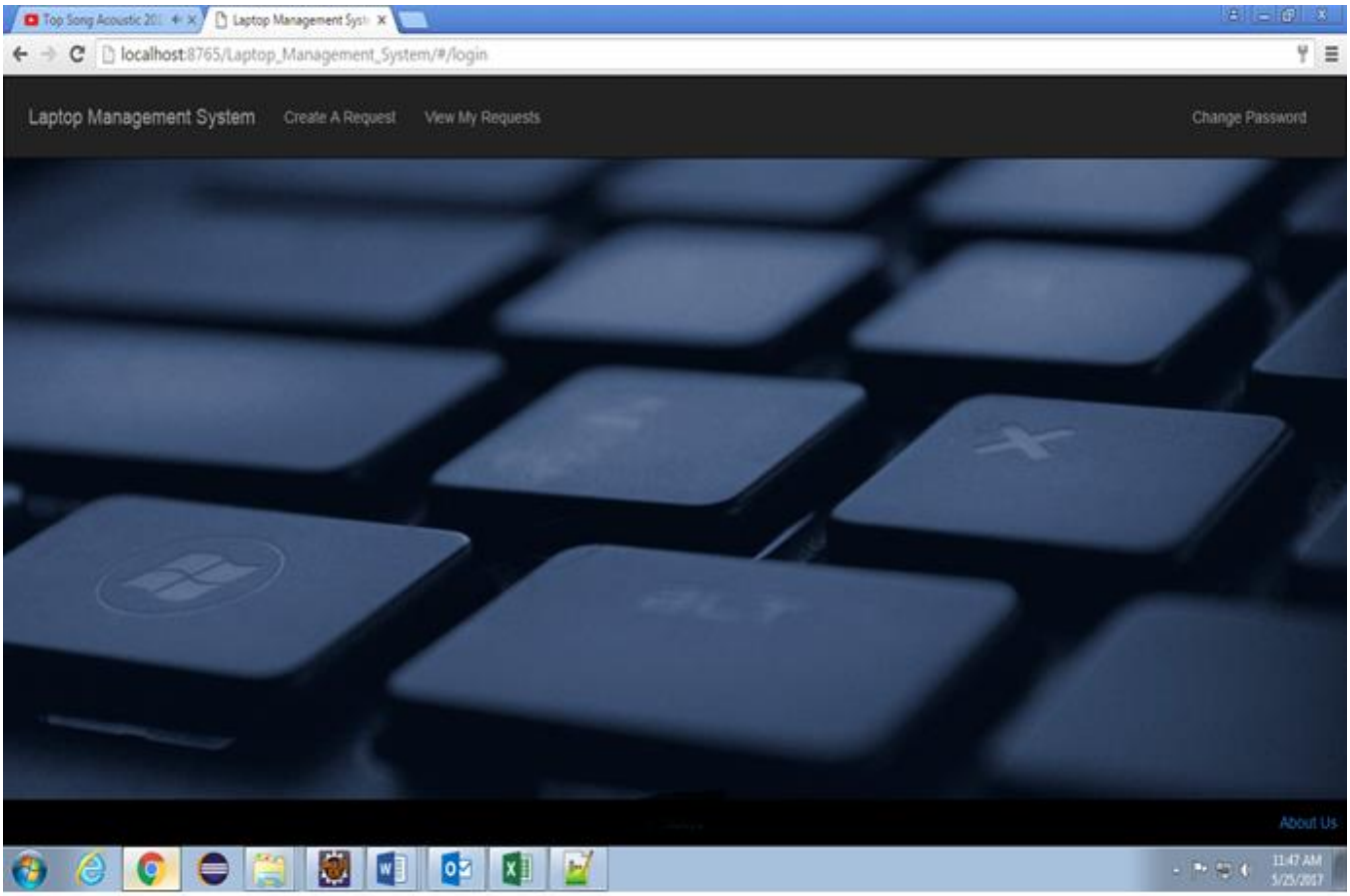

Figure 14 Page After Successful Signing In

Lets say that employee has signed into the system. If the user details are validated successfully then the sign in tab disappears only to be replaced with other options that are Create a Request, View My Requests and Change Passoword.

Here the employee can either create a new request or can view the all the requests being created by him till date and can also change the password.

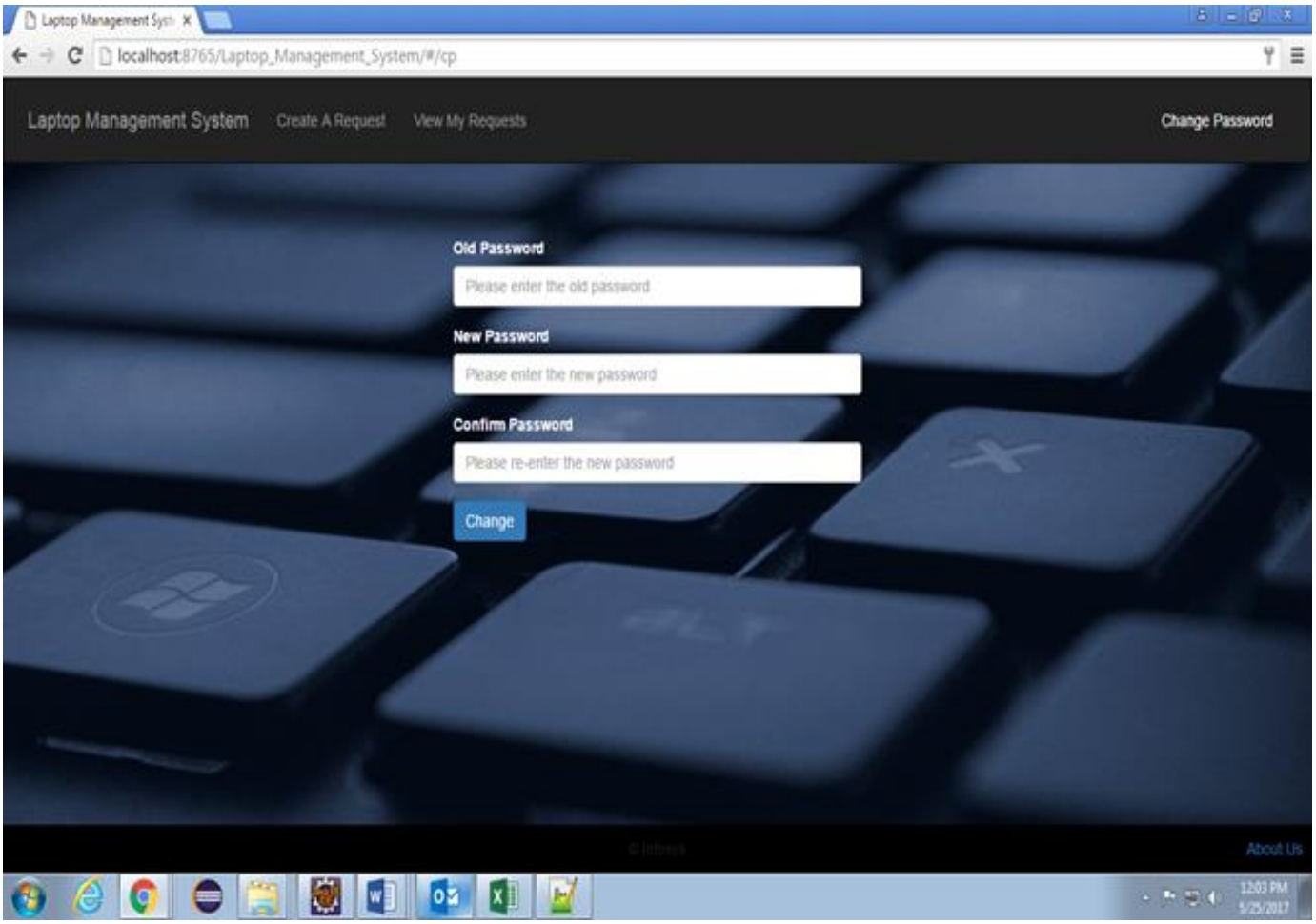

Figure 15 Change Password Page

If the User Clicks on the Change Password tab, the user is routed to Change Password page where he/she can change the password after entering values in the required fields that are old password, new password and confirm password. After clicking the Change button the password details are sent to the database and the changes are made in the database.

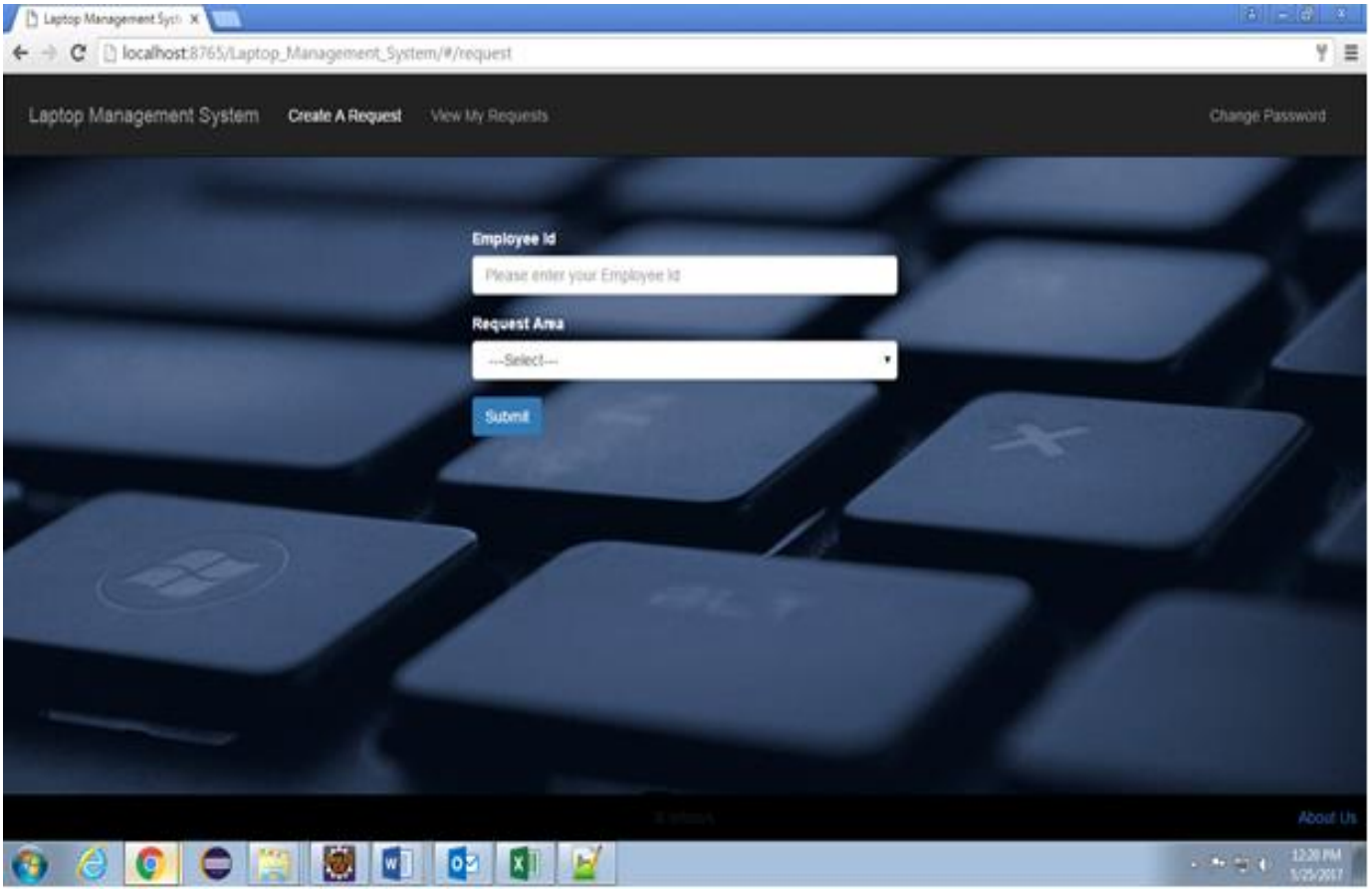

Figure 16 Create a Request Page -1

If an employee wants to create a request then he has to click on the “Create A Request” field and then he will be directed to the page shown above. Here he has to fill in the few details to create a request like its employee id and the type of request he wants to raise.

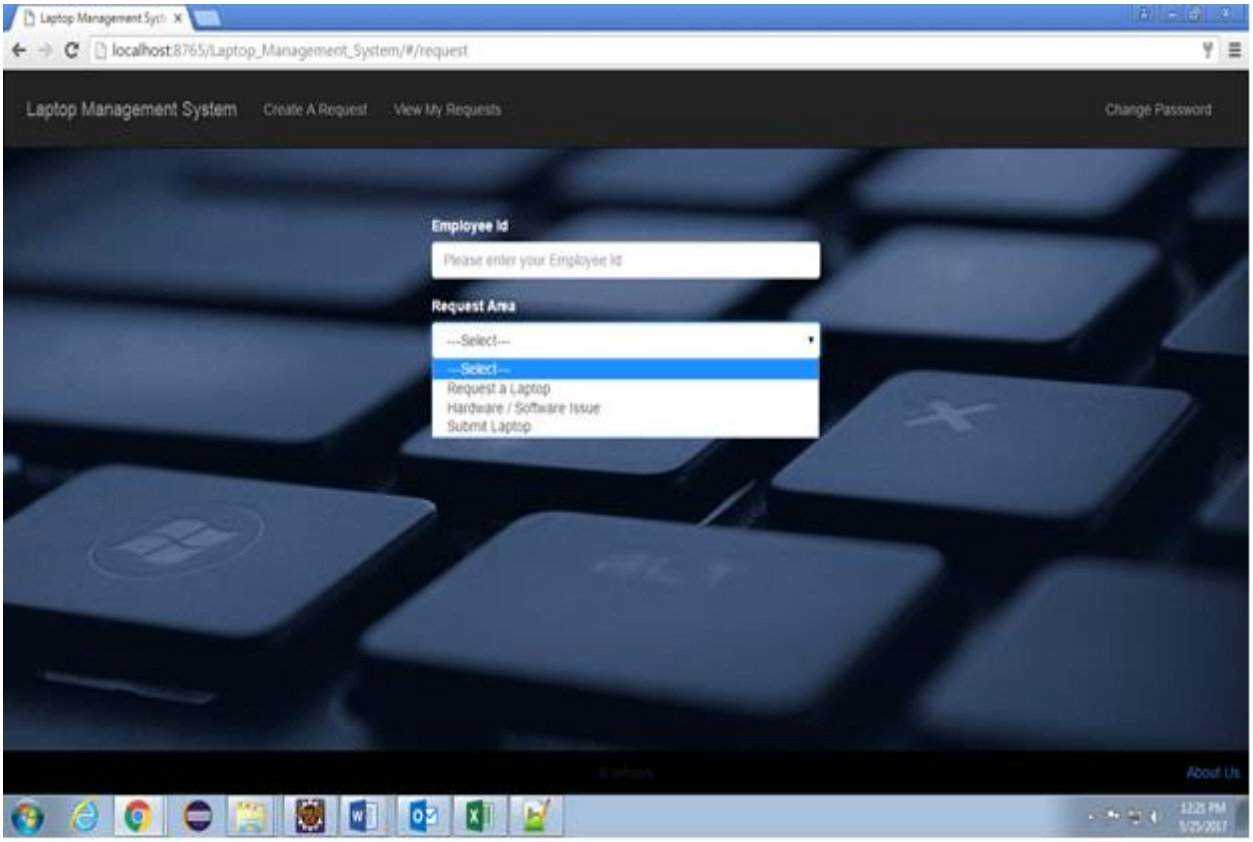

Figure 17 Create a Request Page -2

When we select “Create A Request”, we have to enter our EmployeeID and then the Request Area is filled with three options:

1. Request a Laptop
2. Submit a Laptop
3. Hardware / Software Issue

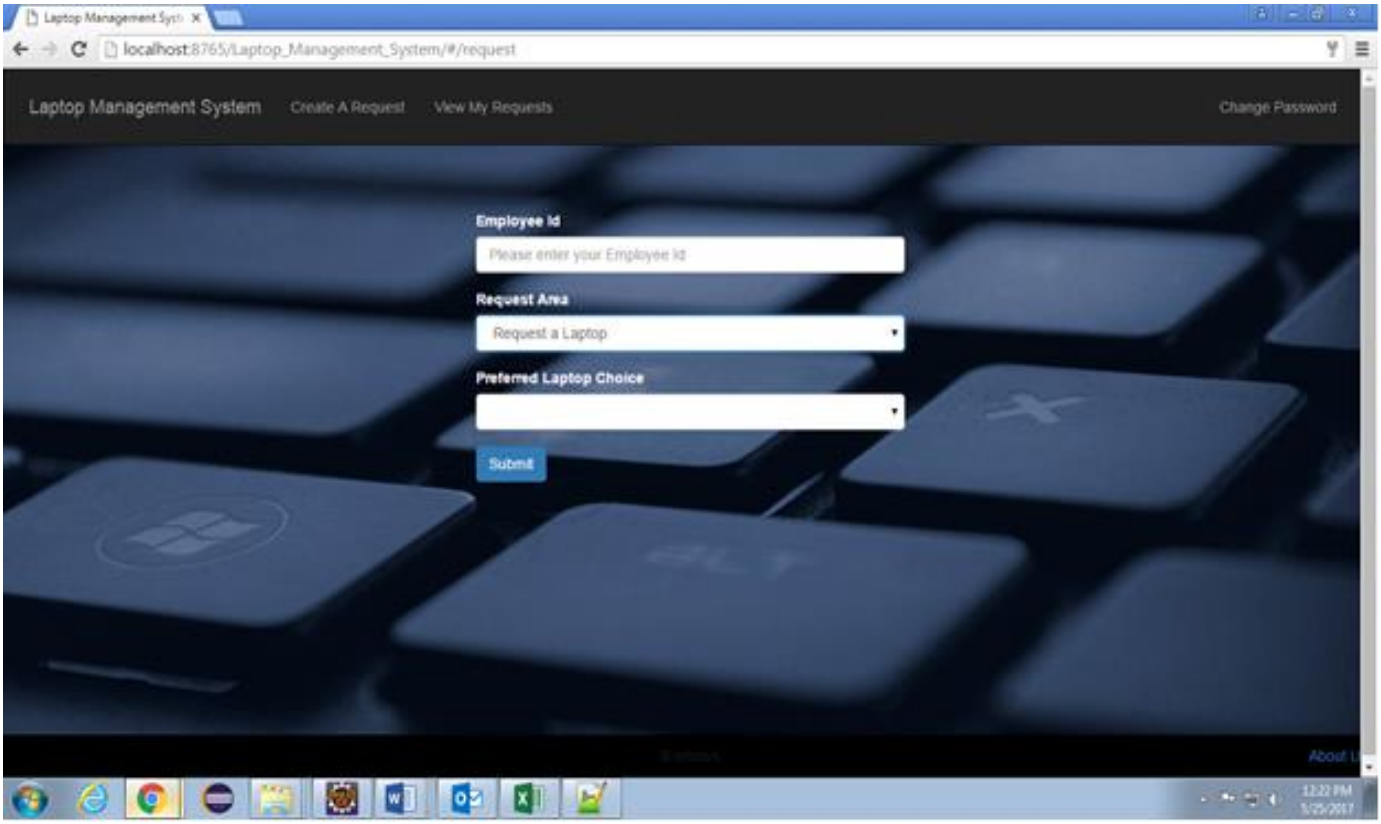

Figure 18 Laptop Request Page -1

If we click on Request Laptop we are asked our preferred Laptop choice from a list of Laptop Makes which are fetched from the Laptops present in the Database. This done via a Hibernate Query Statement to fetch all distinct Laptop makes from the database.

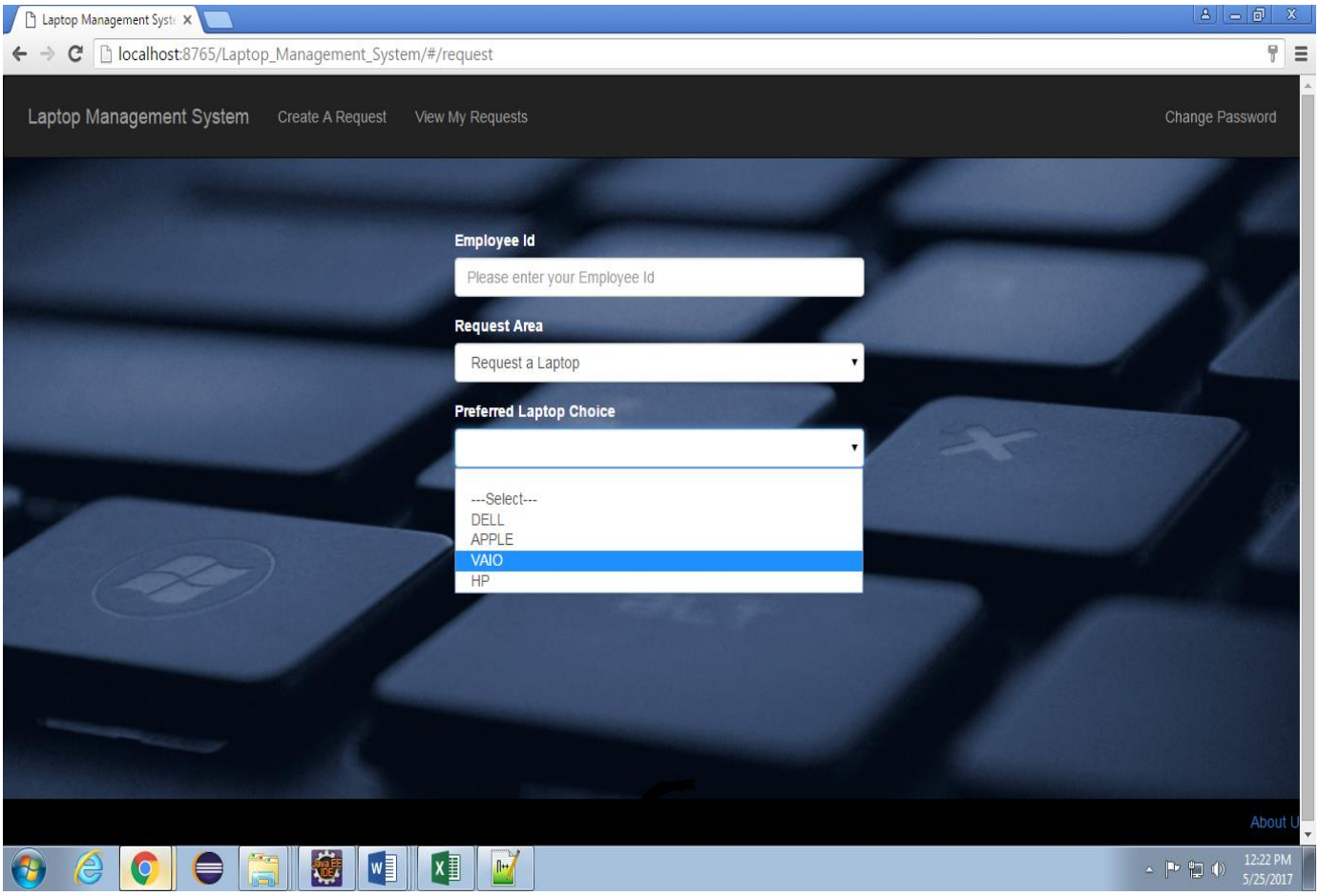

Figure 19 Laptop Request Page -2

When we select “Create A Request” to request a new laptop, we have to enter our EmployeeID and then the Request Area is filled with request a laptop. After that the preferred Laptop Choice field is filled with the following options :

1. DELL
2. APPLE
3. VAIO
4. HP

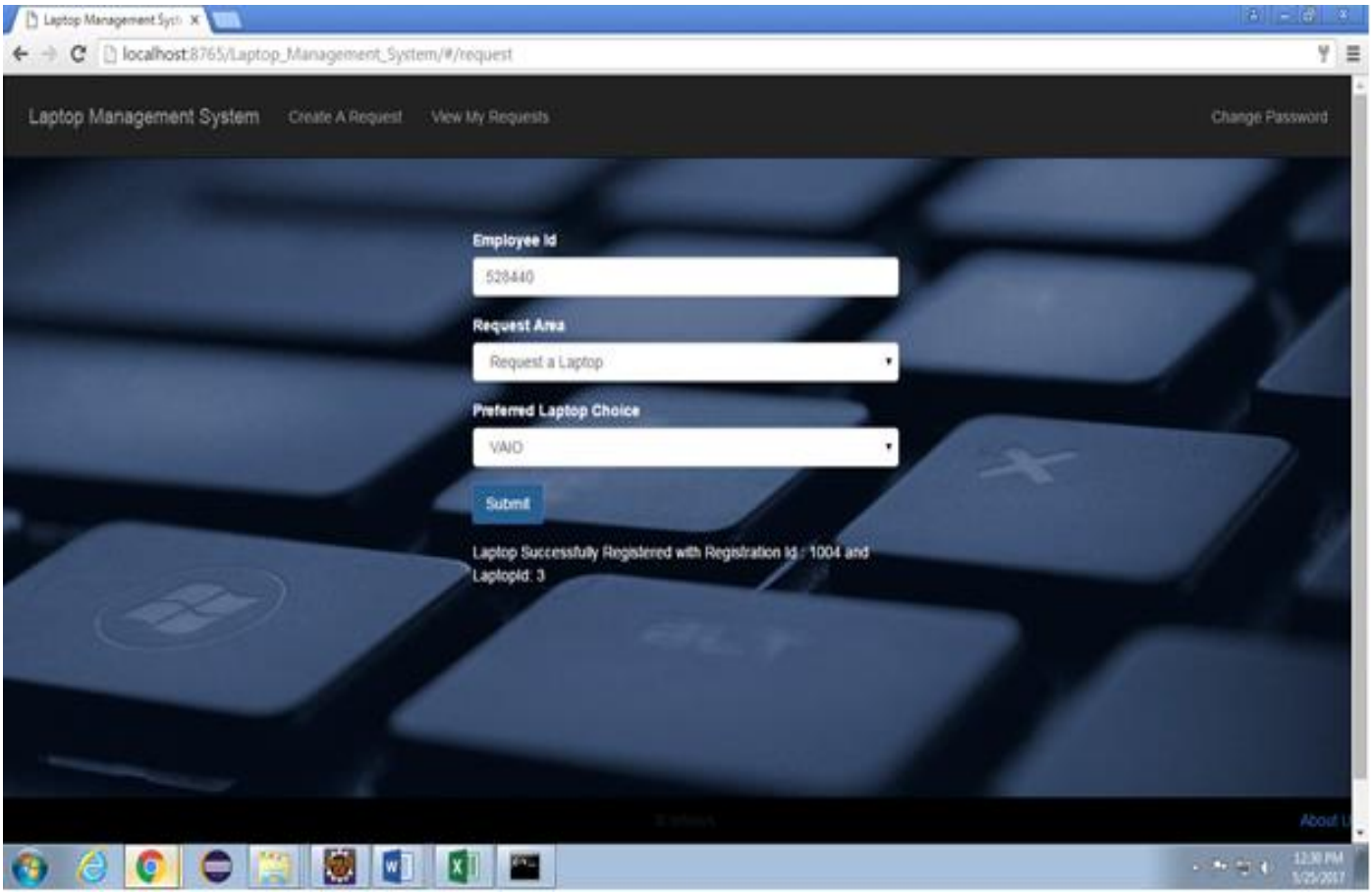

Figure 20 Page After Successful Laptop Registration

While requesting laptpop, after the employee has provided all the desired details and submit the request then a successful message will be displayed saying “laptop Successfully Registered with Registration Id : xyz and laptop Id : abc”

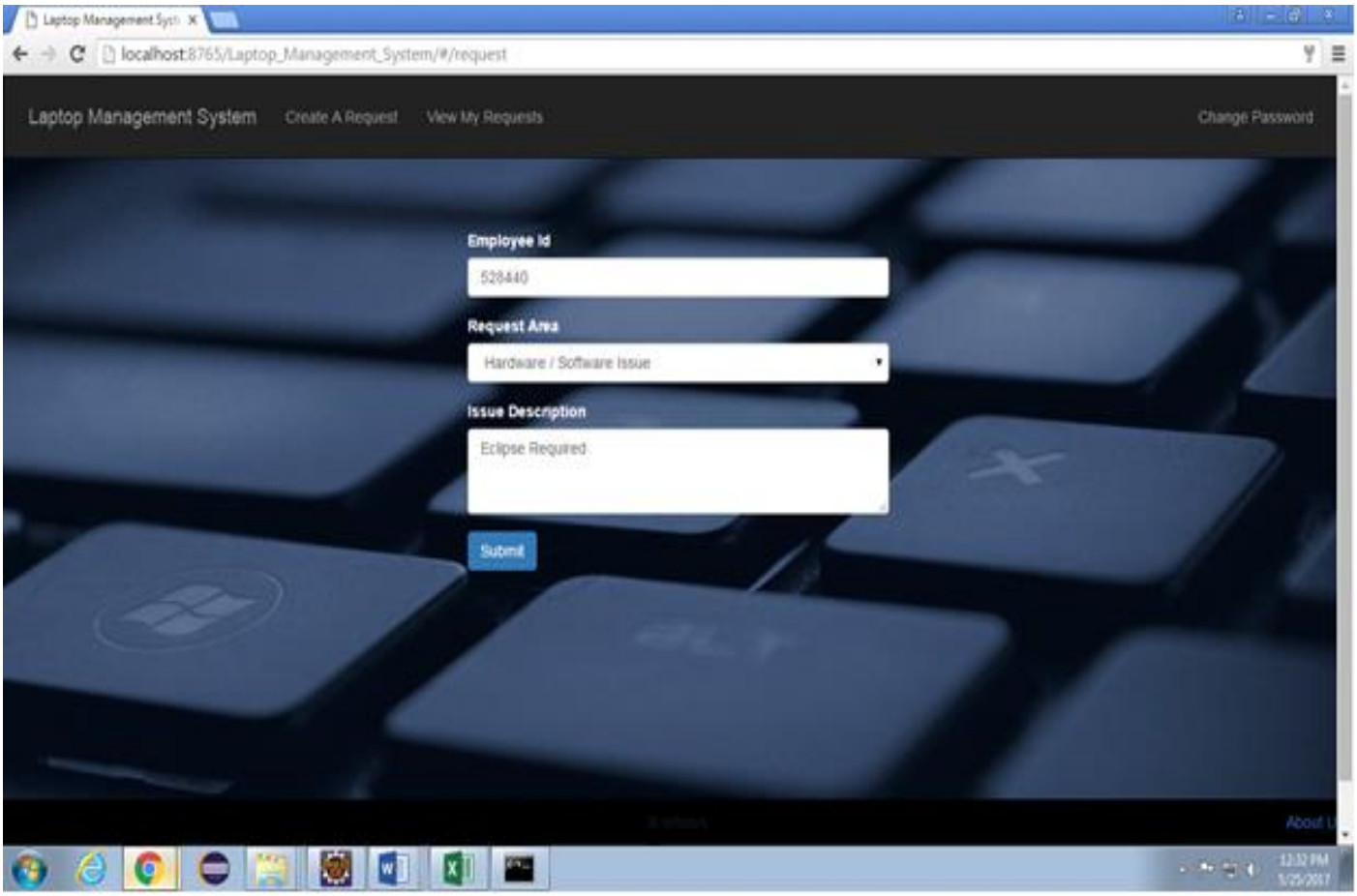

Figure 21 Issue Registration Page -1

If an employee wants to raise an request regarding any hardware or software issues related to the laptop being assigned to the employee then he has to create a new request. After that the page which will be displayed is shown above. Here the employee has to fill in the few details to proceed and then submit the request.

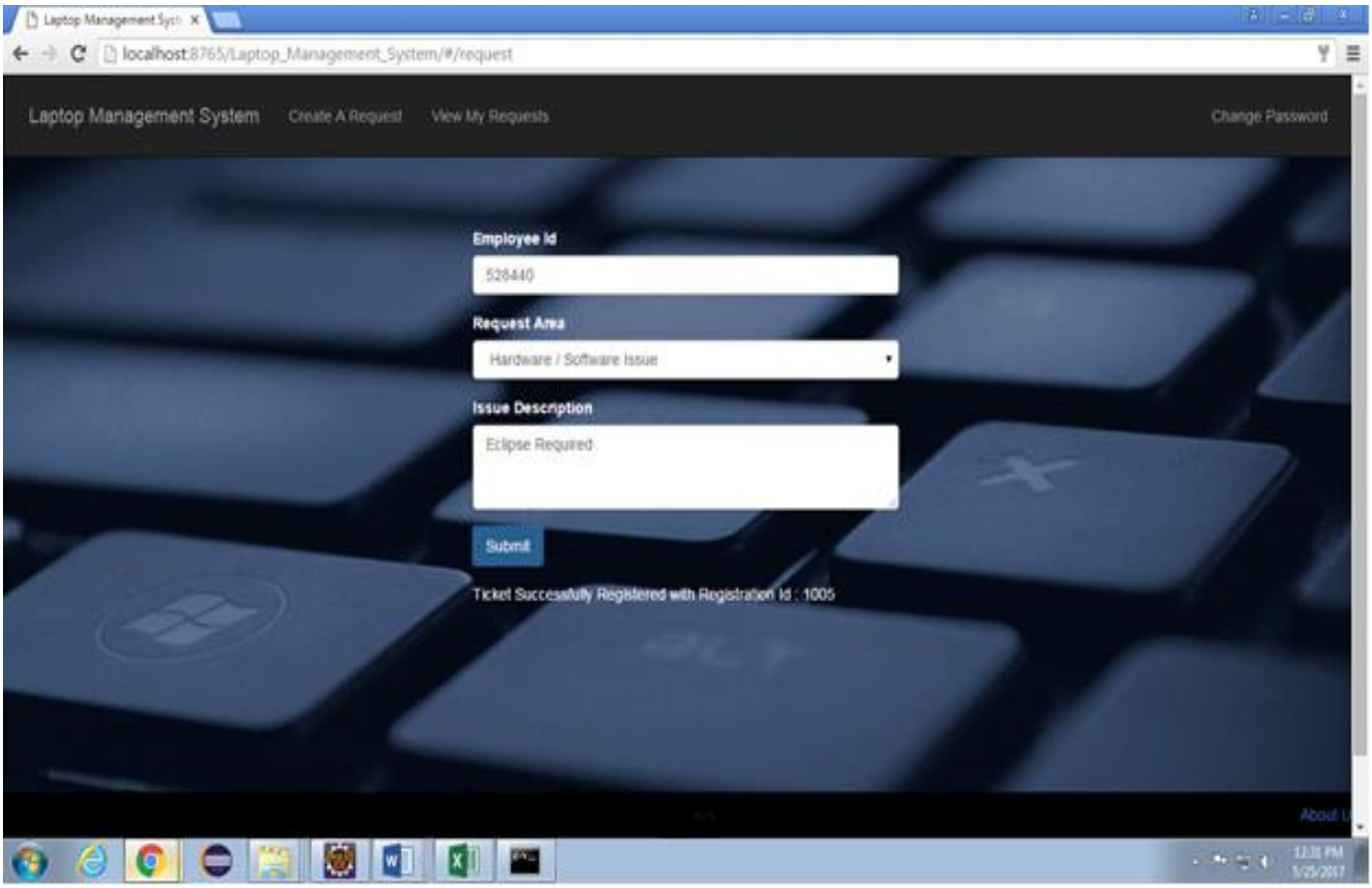

Figure 22 Issue Registration Page -2

To raise a request regarding any hardware or software related issue that employee has to fill in its employee id and select the request area as “Hardware/Software Issue” and then also provide the Issue description. After filling in all these details employee has to submit the request and after clicking on submit button a successful message will be displayed saying “Ticket Successfully Registered with with Registration Id : xyz!”

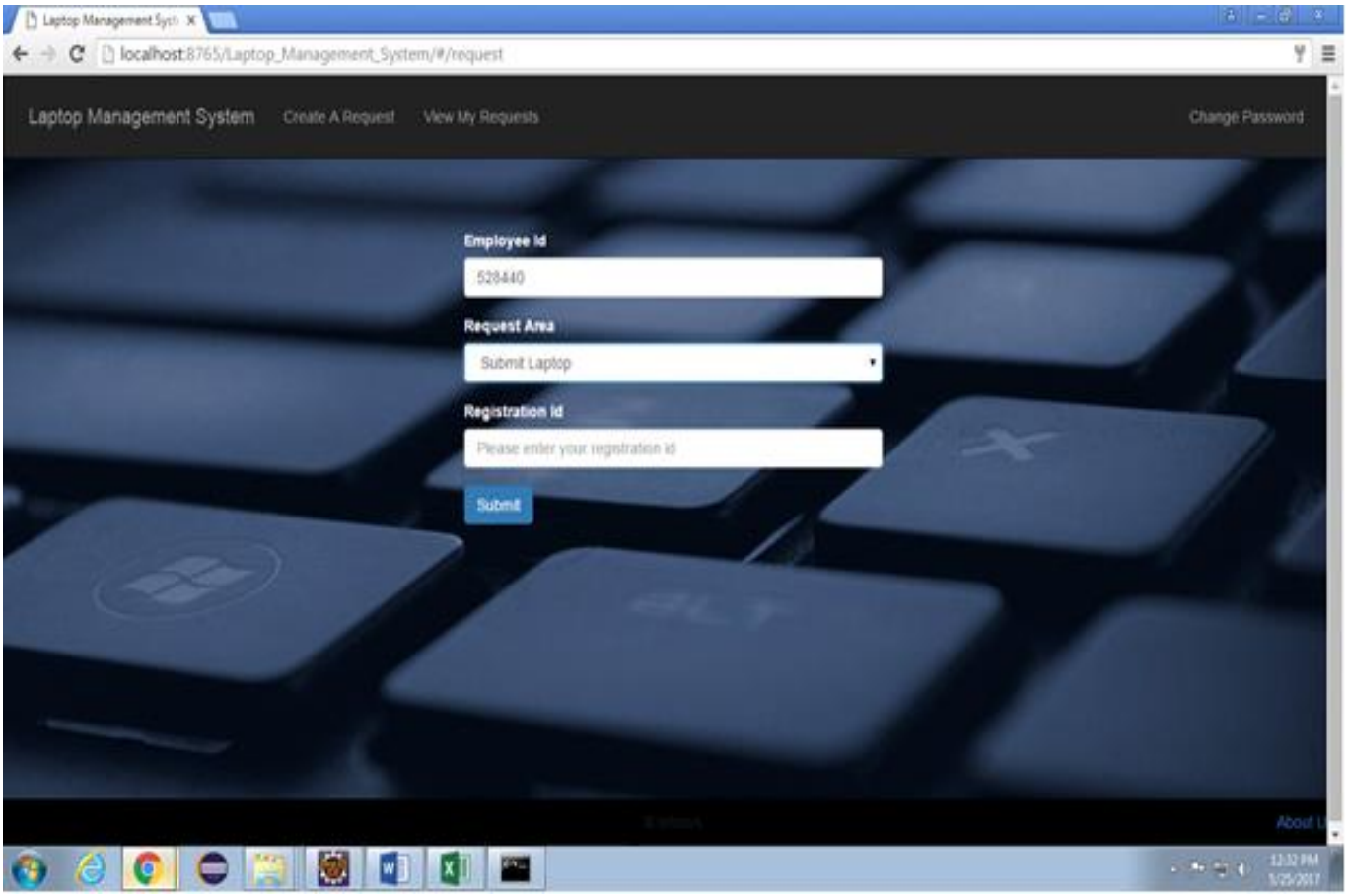

Figure 23 Laptop Submission Page -1

If the employee wants to submit the laptop being assigned to him then he has to create a new request. After that the page which will be display is shown above. Here 5the employee has to fill in the few details to proceed and then submit the request.

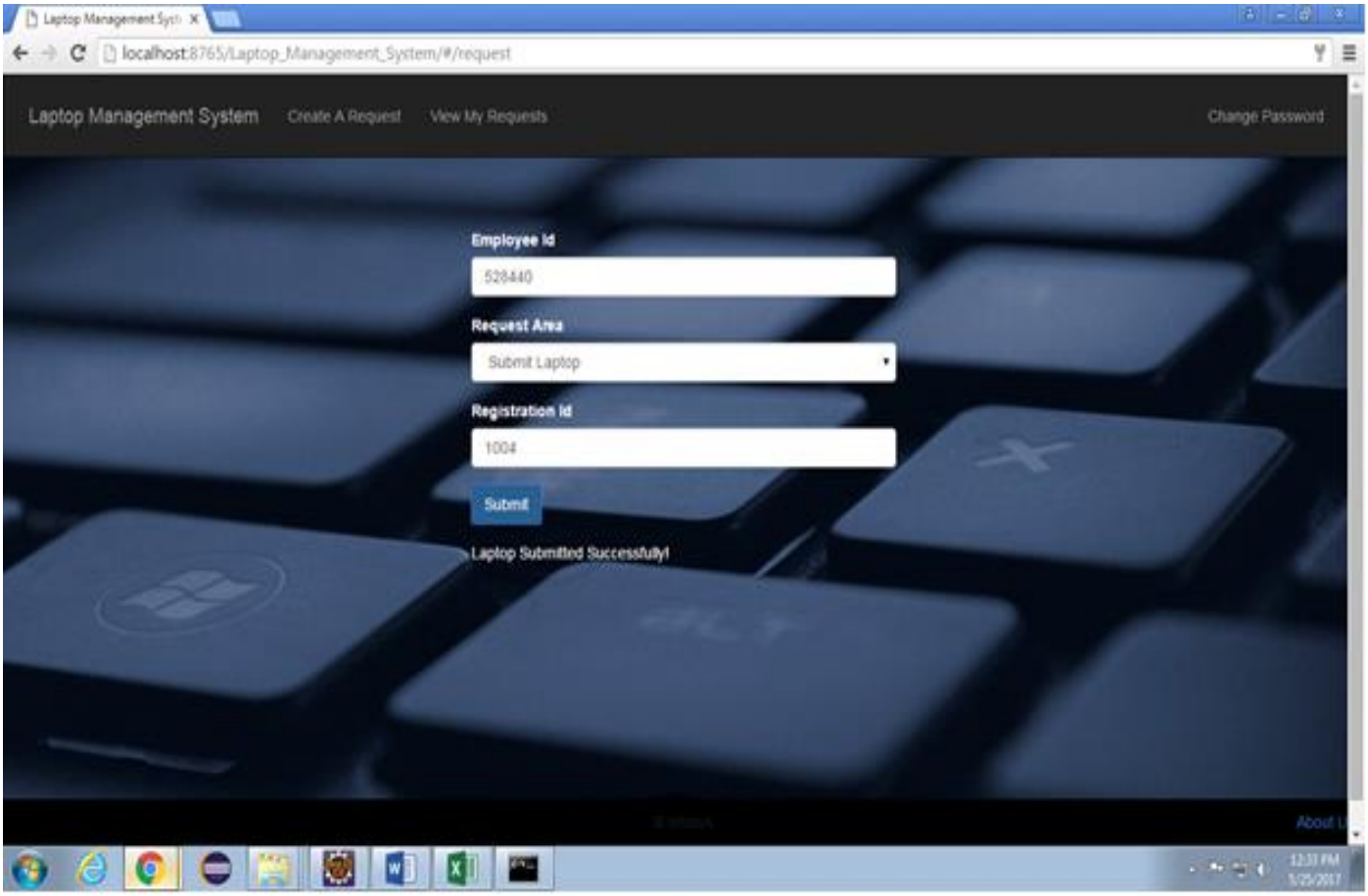

Figure 24 Laptop Submission Page -2

To submit a laptop being assigned to particular employee that employee has to fill in its employee id and select the request area as “Submit Laptop” and then also provide the registration id. After filling in all these details employee has to submit the request and after clicking on submit button a successful message will be displayed saying “Laptop Submitted Successfully!”

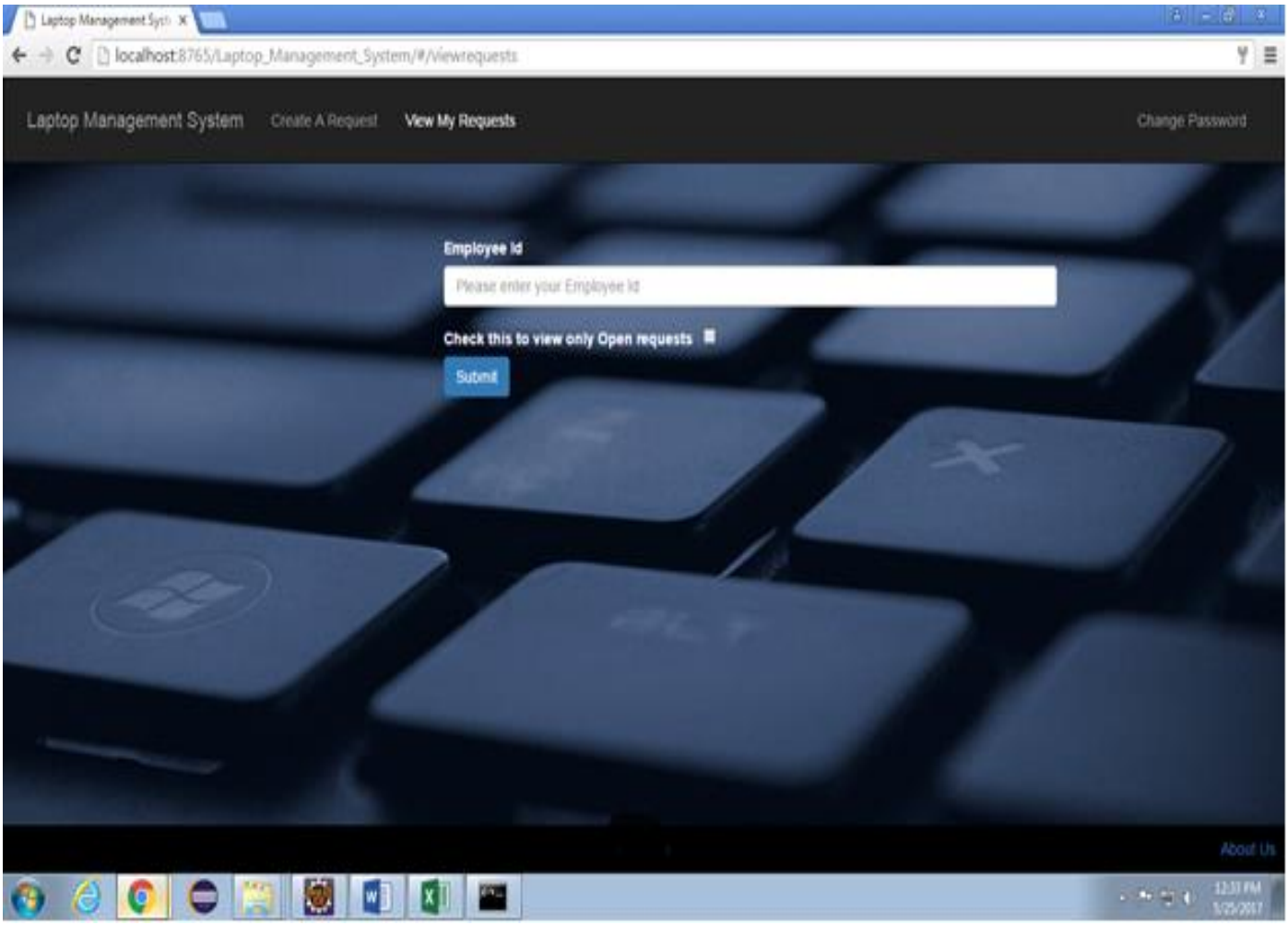

Figure 25 View My Requests Page -1

If an employee after logging into the system wants to view the requests already raised by that employee then he has to click on the “view my requests ” field. After which the above page will be displayed. Employee has to enter his employee id and then submit.

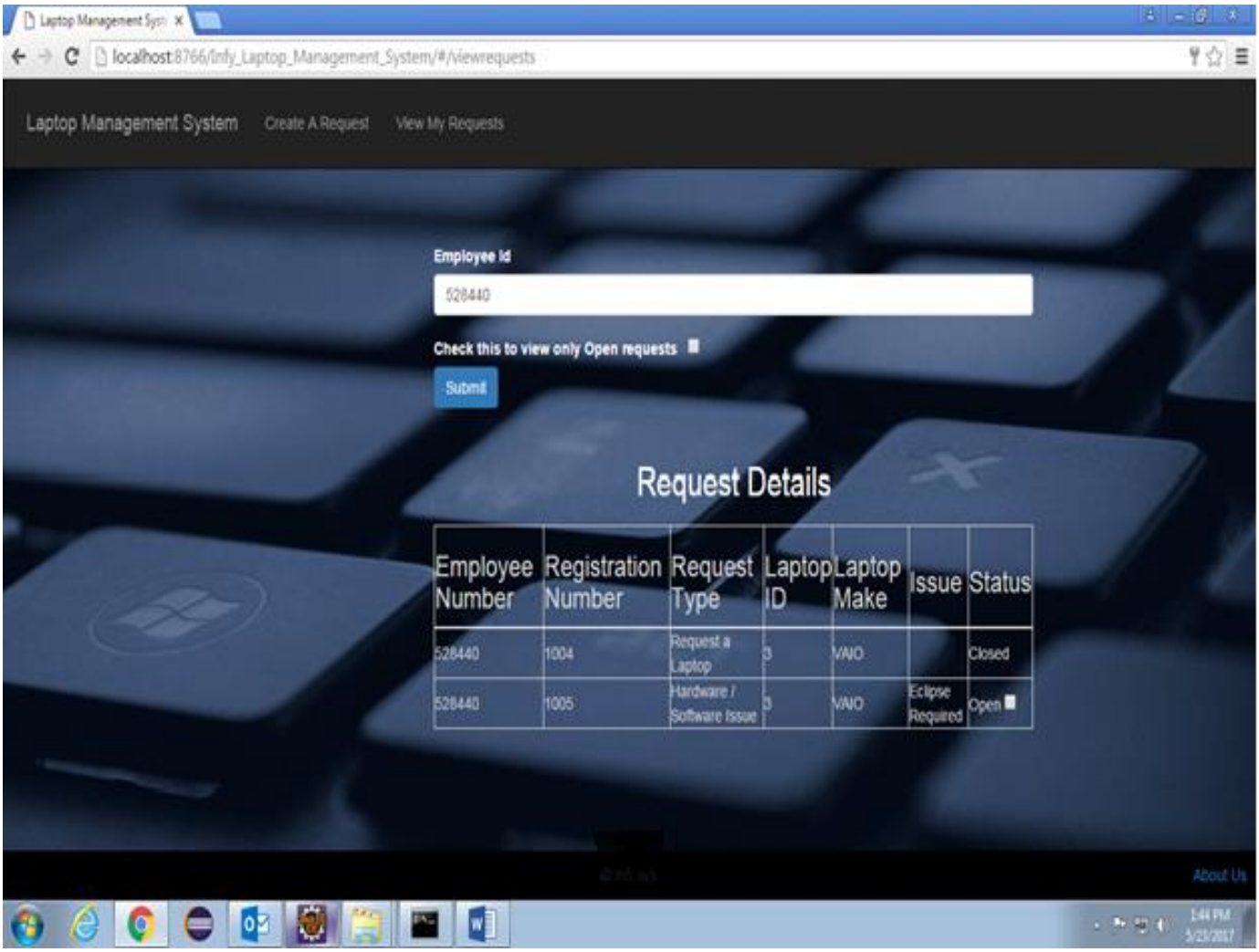

Figure 26 Page Displaying Raised Requests

When employee submits his employee id to view all the requests raised by him thenn the page will look like as above.A table named request details will be displayed having the records of all the requests been raised by that employee till date either closed or open.

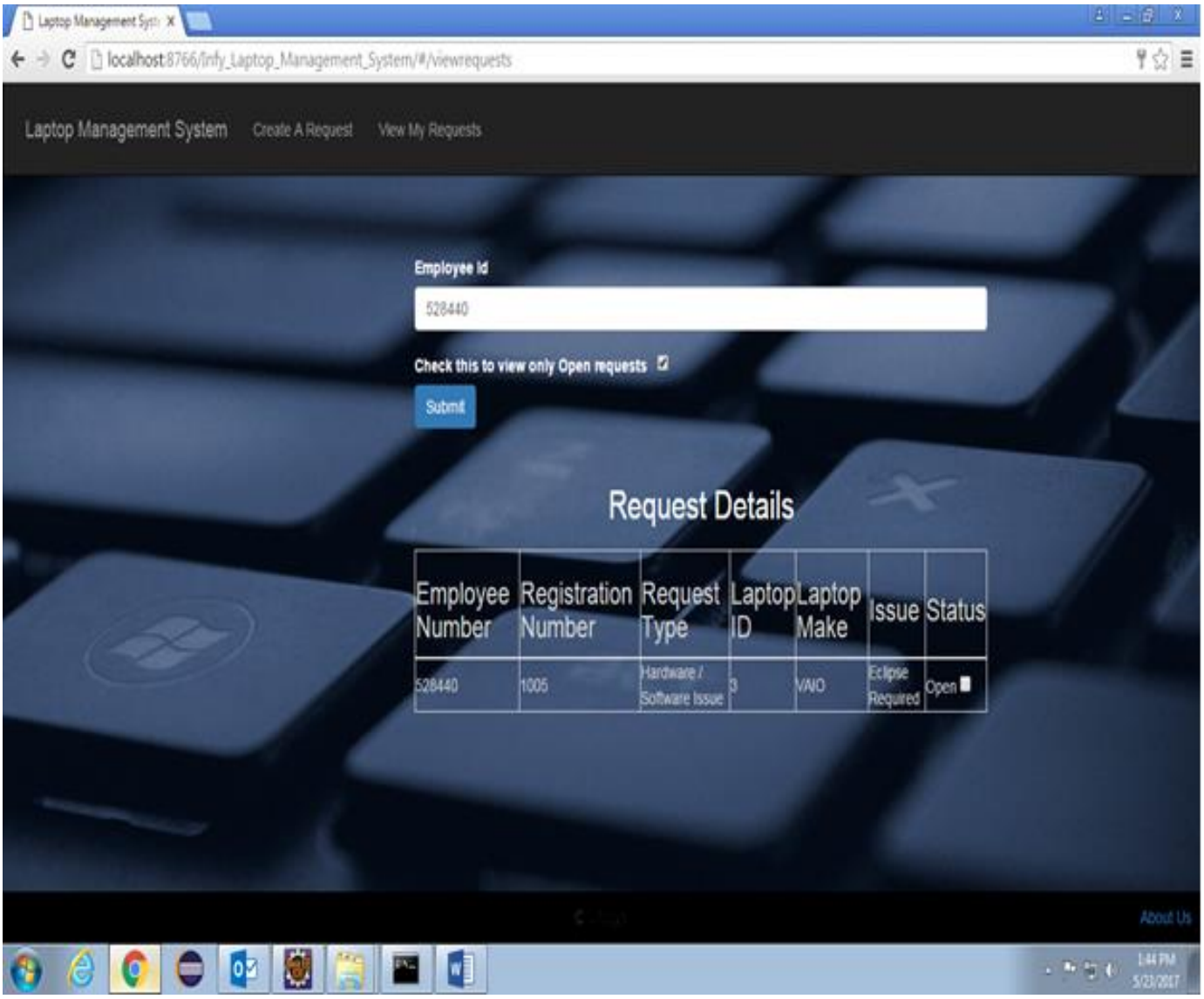

Figure 27 Page Displaying Open Requests

The employee can also use the filter which will filter the request details table rows depending on the status of the request. If the employee check the checkbox “check this to view only open requests” then only whose requests will be shown whose status is still open and the ones with the closed status will be filtered out automatically.

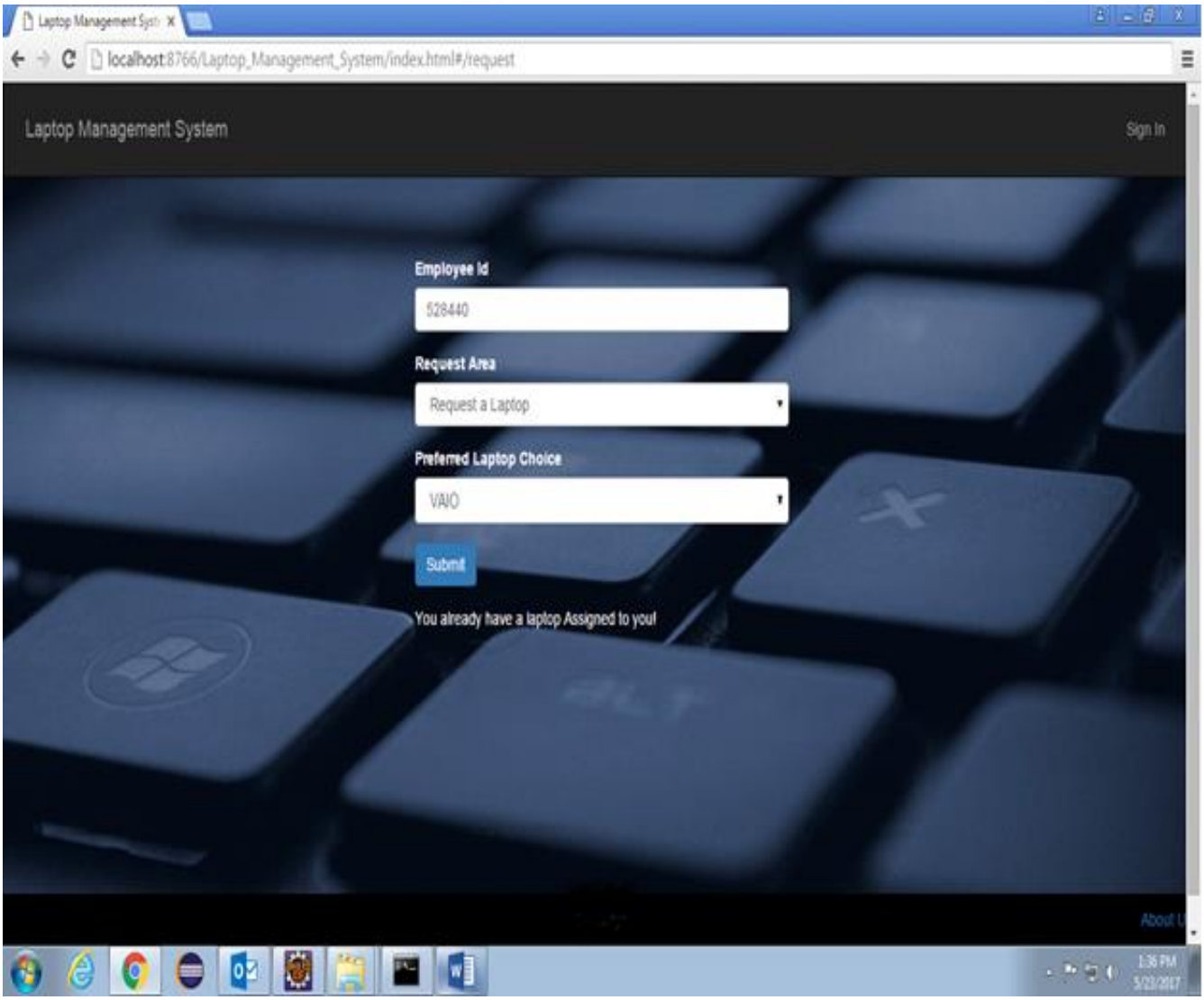

Figure 28 Laptop Already Assigned Error Message Page

If an employee for a particular employee id request for an laptop which that employee is already having then a meassage will be displayed saying “You already have a laptop Assigned to you!”. This means at any time only one laptop will be assigned to a particular employee id at a time. One can’t have more than one laptop

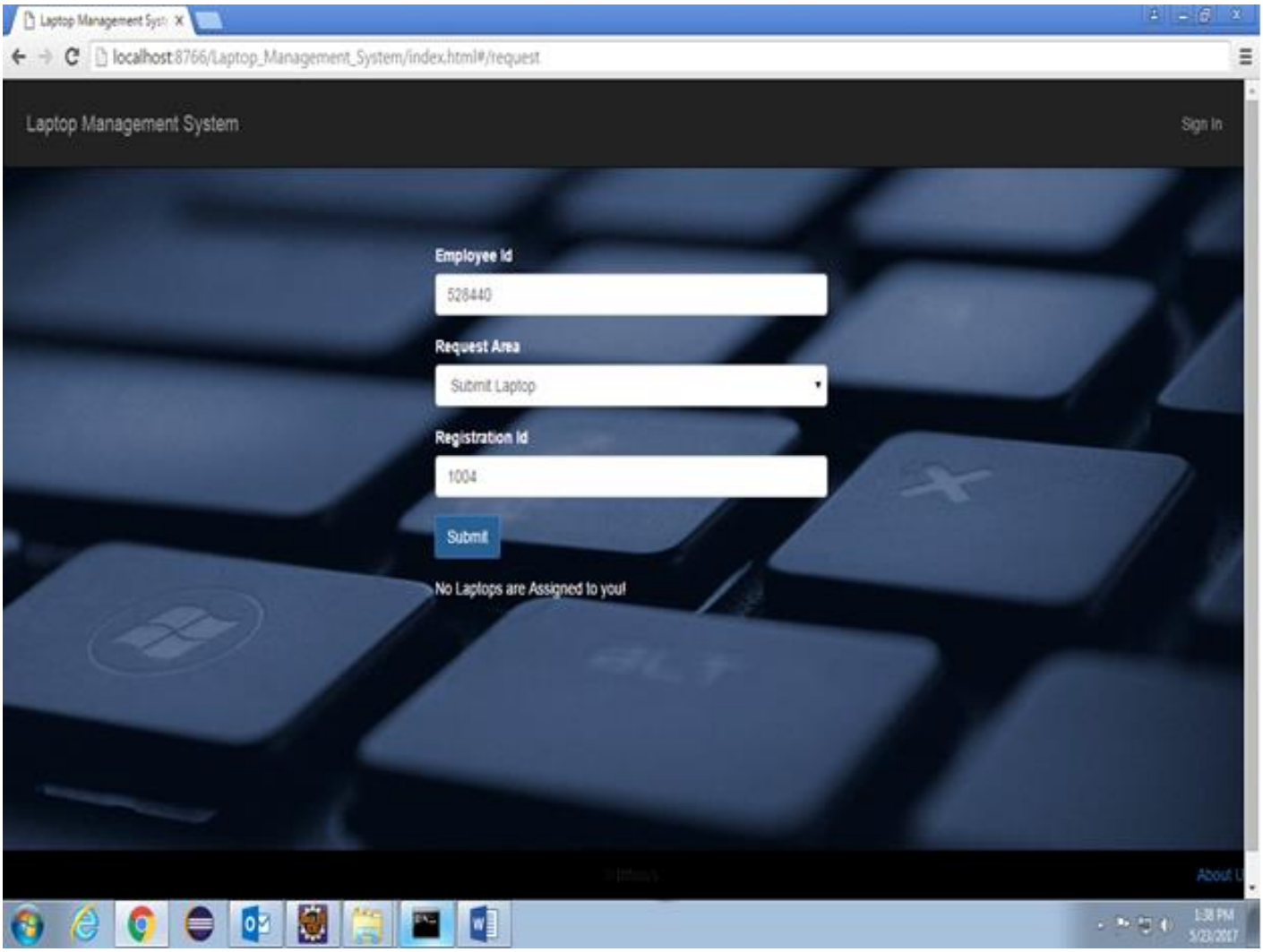

Figure 29 No Laptop Assigned Error Message Page

If an employee want to submit a laptop assigned to him/her which is already been submitted then an error message will be displayed saying “No laptops are assigned to you!”

Figure 30 Admin Page After Signing In

This is the admin page which will be shown when Admin login to the system and can add a new employee or a new laptop. For adding anything new admin has to click the particular field and then fill in the required information about it. The information provided of the particular field will be stored in database.

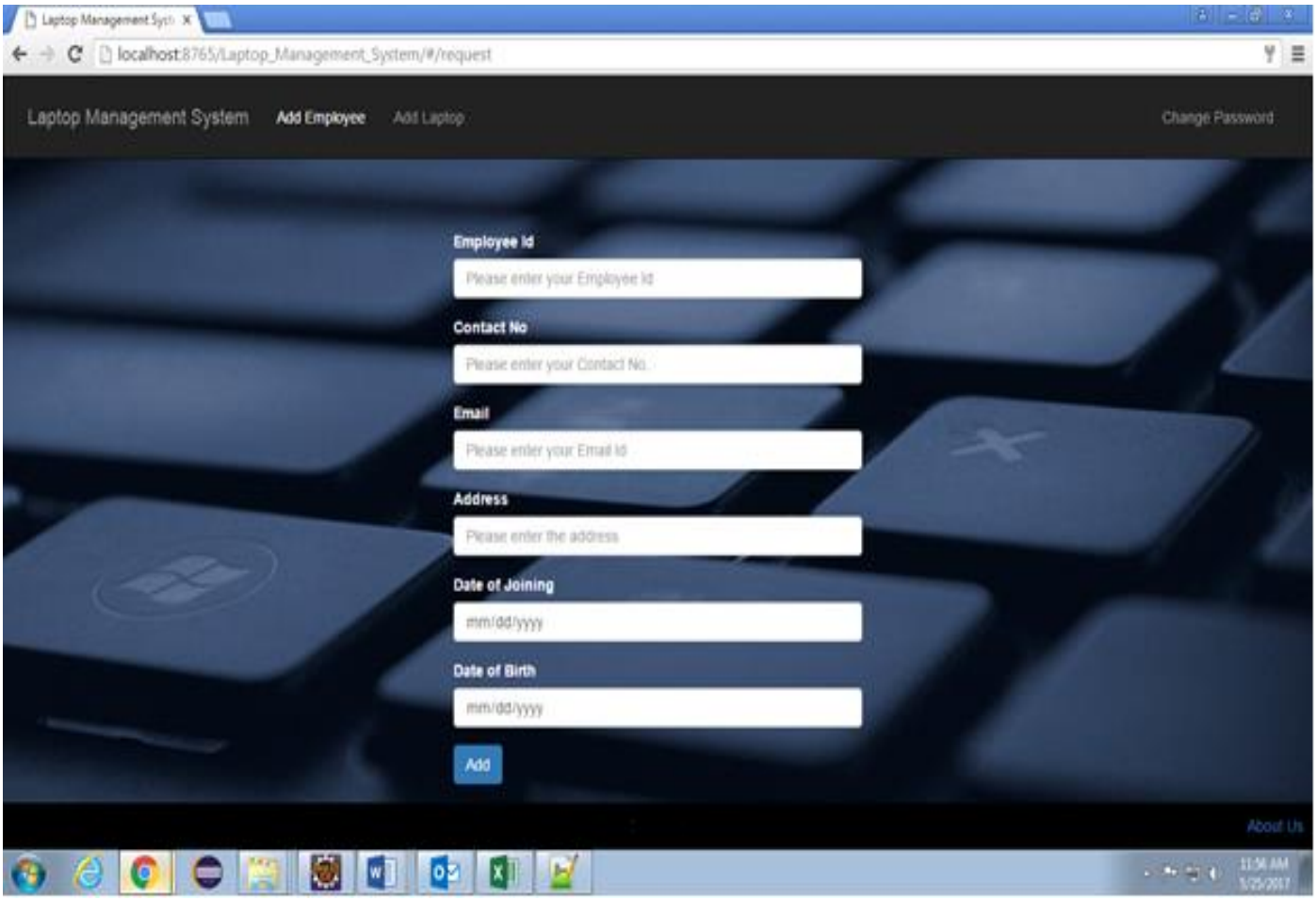

Figure 31 Add Employee Page

Let say after logging into system admin wants to add the details of an employee. Here admin will fill in the employee id, employee's contact number, employee's email address, employee's address, employee's date of joining and employee's date of birth. After filling all this information admin will submit the page and the data will be stored in the database.

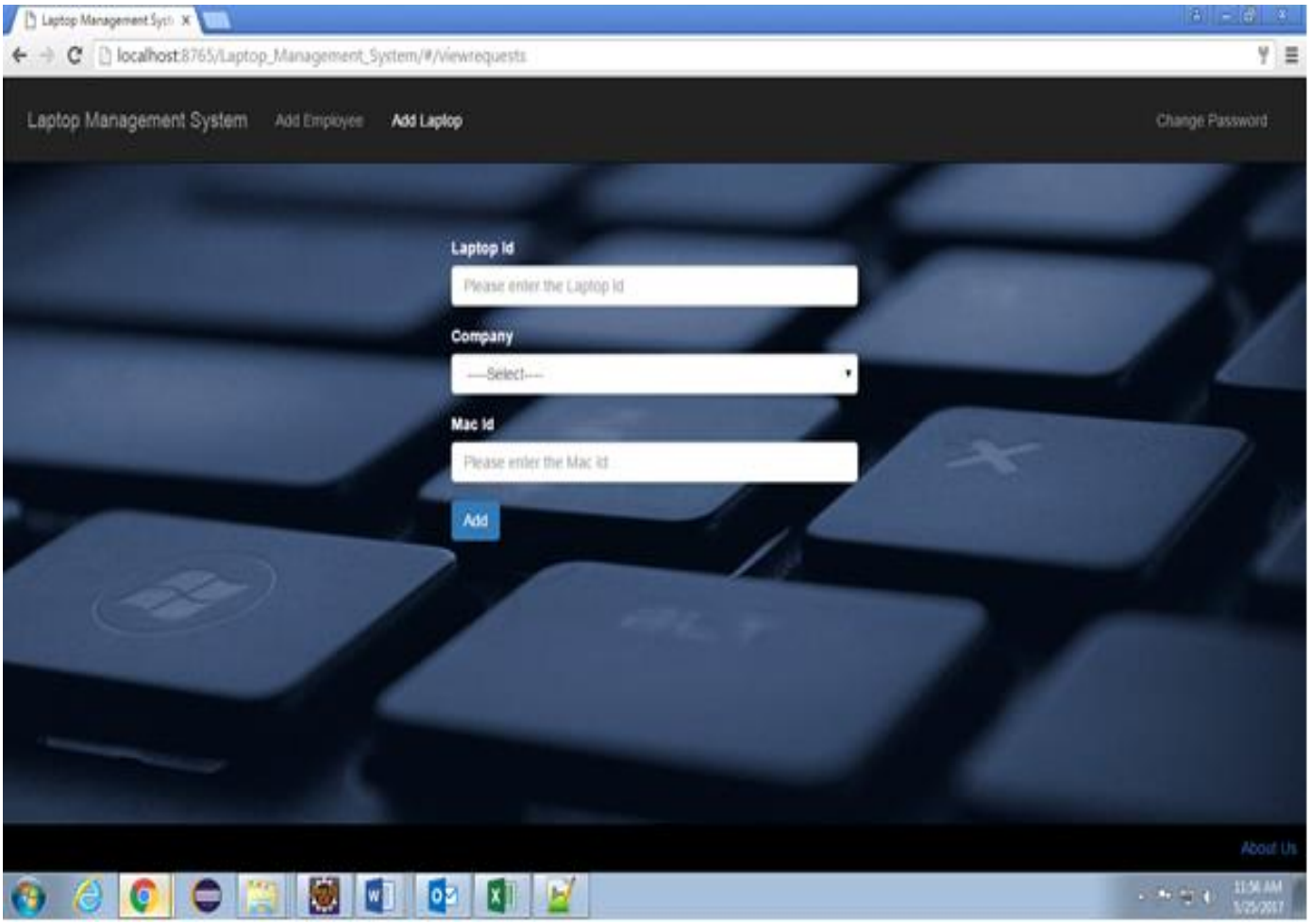

Figure 32 Add Laptop Page

Let say after logging into the system admin now wants to add a new laptop. Here admin will fill in the details related to the laptop admin wants to add. He has to assign a laptop id to the new laptop being added. Then provide the company to which the laptop belongs and finally the mac id. When admin will click on the add button after providing all the above information the details will be added into the database.

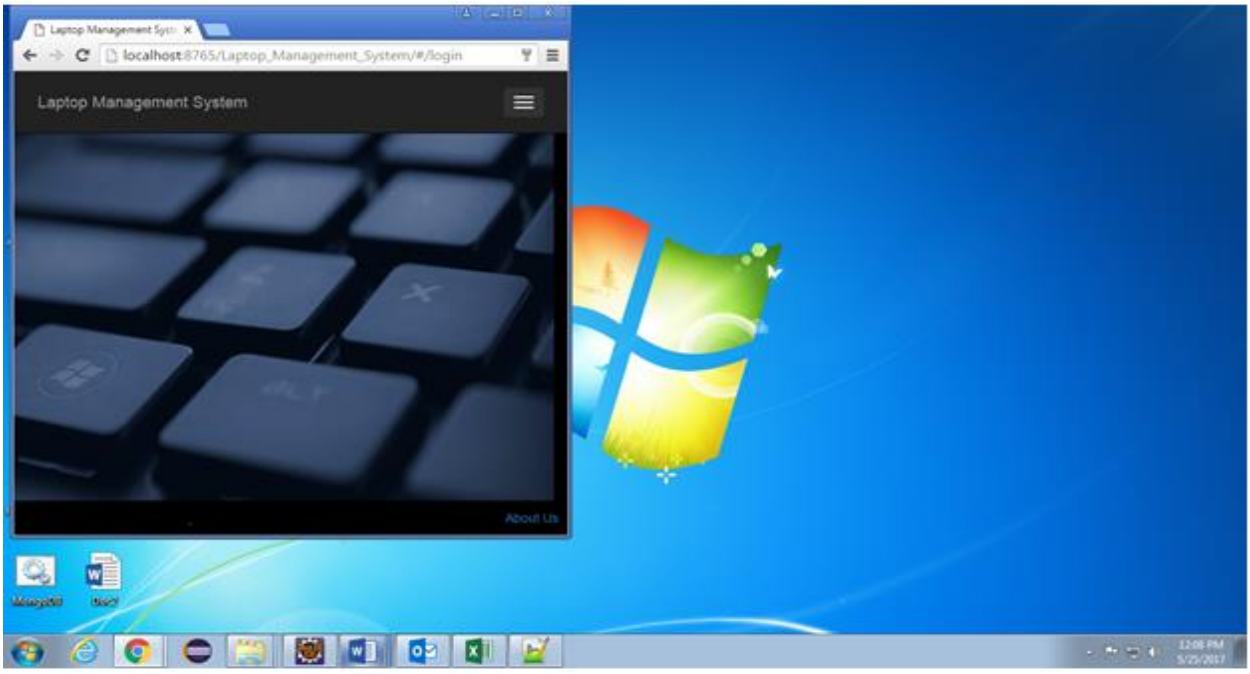

Figure 33 Responsive Home Page

This shows the use of bootstrap that is responsiveness, the homepage adjusts according to the window size and the navigation bar changes accordingly.

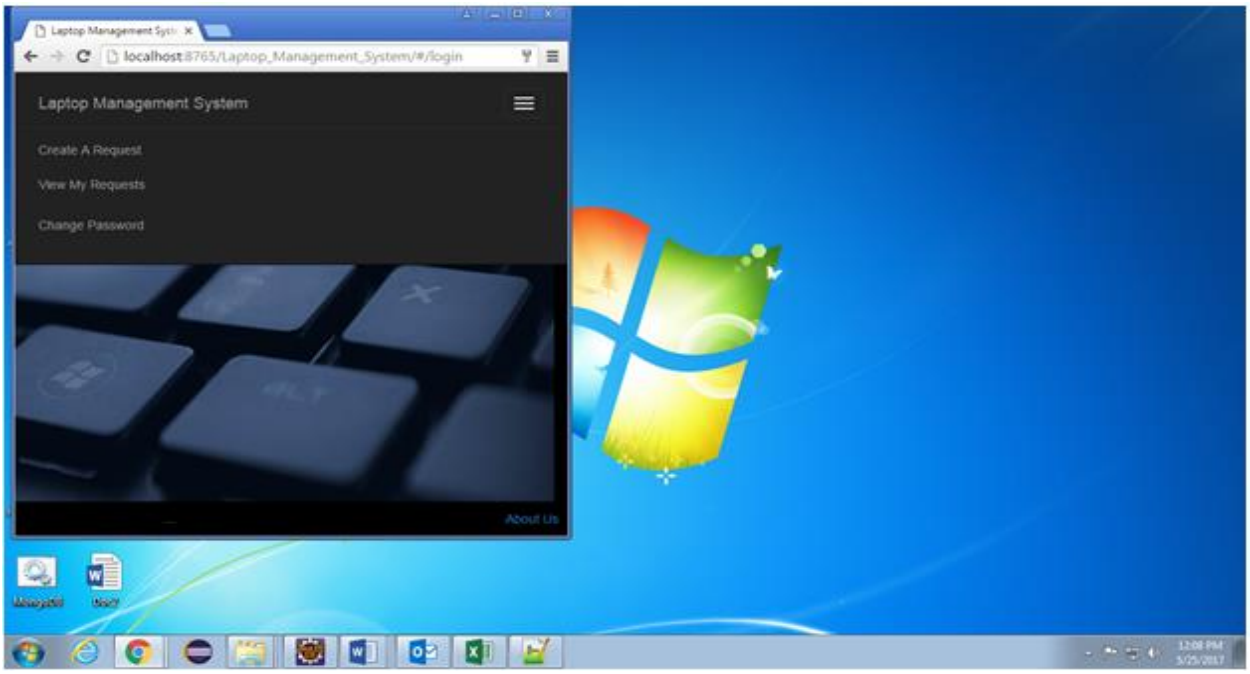

Figure 34 : Toggle Button Content Page

This shows the change in navigation bar, we get the choices in the form of a dropdown.

Chapter 3

CONCLUSION

3.1 Conclusion

The project entitled LAPTOP MANAGEMENT SYSTEM is done in an efficient manner. Laptop Management System is an effective, time saving and easy way to assign, submit, record issues relating to a laptop on a fully operational online platform thus reducing paper work and managing data easily. All the operations are done efficiently. The work for the admin is to register new employees by entering their personal info and similarly registering new laptop details .The employees can raise a request to get a laptop of their preferred brand and submit it after the completion of their work, they can raise a ticket in case of some software/hardware requirements

3.2 Future Scope

This application can be exploited in various organizations like educational sector as laptops are a must in engineering colleges. As a future venture, it is suggested to make some changes to provide more services and information at right time in right manner like forums for the users where they can add the issues they are facing and others can help to resolve and others can vote for the best solution for that issue. The issues can be sub-categorized to get a clarity of the problem faced by the employees. In case of a large organization the work can be divided with the help of location of the employees to reach to them easily in case of some issue.