CHAPTER 1:

PROFILE OF THE ORGANIZATION

1.1 ABOUT THE COMPANY

Dell is a US multinational computer technology company that develops, sells, repairs, and supports computers and related products and services. Named after its founder, Michael Dell, the company is one of the largest technological corporations in the world, employing more than 145,000 people in the U.S. and around the world (Annual report 2018).

1.2 PRODUCT AND SERVICES

Dell sells personal computers (PCs), servers, data storage devices, network switches, software, computer peripherals, HDTVs, cameras, printers, MP3 players, and electronics built by other manufacturers. The company is well known for its innovations in supply chain management and electronic commerce, particularly its direct-sales model and its "build-to-order" or "configure to order" approach to manufacturing delivering individual PCs configured to customer specifications. Dell was a pure hardware vendor for much of its existence, but with the acquisition in 2009 of Perot Systems, Dell entered the market for IT services.

1.3 COMPANY MARKETING

Dell advertisements have appeared in several types of media including television, the Internet, magazines, catalogs and newspapers. Some of Dell Inc's marketing strategies include lowering prices at all times of the year, free bonus products (such as Dell printers), and free shipping to encourage more sales and stave off competitors. In 2006, Dell cut its prices in an effort to maintain its 19.2% market share. This also cut profit margins by more than half, from 8.7 to 4.3 percent. To maintain its low prices, Dell continues to accept most purchases of its products via the Internet and through the telephone network, and to move its customer-care division to India and El Salvador.In 2007, Dell switched advertising agencies in the US from BBDO to Working Mother Media. In July 2007, Dell released new advertising created by Working Mother to support the Inspiron and XPS lines. The ads featured music from the Flaming Lips and Devo who re-formed especially to record the song in the ad "Work it Out". Also in 2007, Dell began using the slogan "Yours is here" to say that it customizes computers to fit customers' requirements.

1.4 TOTAL PATENTS AND R&D INVESTMENT

- 27,234 patents and patent applications
- Combined No. 2 position (Dell, Dell EMC, VMware) in IEEE's Patent Power 2017 scorecard
- IPO reported that Dell had 2,136 patents issued by the U.S. Patent and Trademark Office in 2018, ranking #12 in the world.
- Over the past five fiscal years, cumulative Dell Technologies investments in R&D have totaled more than $20B2

1.5 KEY AREAS OF TECHNOLOGY AND INDUSTRY EXPERTISE

- Infrastructure Solutions Group
- Client Solutions Group
- Dell Digital Way
- Dell Services (supporting ISG and CSG)
- VMware
- Pivotal

CHAPTER 2:

INTRODUCTION

Agriculture is the backbone of the Indian Economy"- said Mahatma Gandhi six decades ago. Even today, the situation is still the same, with almost the entire economy being sustained by agriculture, which is the mainstay of the villages. It contributes 16% of the overall GDP and accounts for employment of approximately 52% of the Indian population. Rapid growth in agriculture is essential not only for self-reliance but also to earn valuable foreign exchange.

Farming has become an unreliable sector. Farmers are always unsure of the yield they'll reap but strive to draw the maximum benefits out of their investments and effort. Often farmers might be at the receiving end, with natural calamities like droughts and floods affecting their yield adversely. To resolve the problem of unpredictable nature of farming and prevent farmer suicides in the country, the Government launched many schemes that fund the farmers financially.

It is felt that with the provision of timely and adequate inputs such as fertilizers, seeds, pesticides and by making available affordable agricultural credit /crop insurance, Indian farmers are going to ensure food and nutritional security to the Nation.

Many farmers are illiterate in India. Our farmers are unaware of all these provisions/benefits that are made to them. This problem aroused due to the lack of information flow from Government to Farmers. Farmers from villages have to concern to respective district officers regarding the available schemes for them. In this process, many farmers fail to get the proper information and also ignorance of farmer lead to this.

It is envisaged to make available relevant information and services to the farming community and private sector through the use of information and communication technologies, to supplement the existing delivery channels provided for by the department. Our Farmers' Notification System an endeavor in this direction to create a one-stop-shop for meeting all informational needs relating to Agriculture, With this Indian Farmer, will not be required to sift through the maze of websites created for specific purposes or visit the officers now and then. A farmer will be able to get all relevant information on specific subjects around his village/block /district or state about schemes. This information will be delivered in the form of text, SMS in the language he or she understands. Farmers will also be able to ask specific queries as well as give valuable feedback through the Feedback module specially developed for the purpose.

CHAPTER 3:

TOOLS AND TECHNOLOGIES

3.1 JSP:

JavaServer Pages (**JSP**) is a technology that helps software developers create dynamically generated web pages based on HTML, XML or other document types. Released in 1999 by Sun Microsystems, JSP is similar to PHP and ASP, but it uses the Java programming language.

To deploy and run JavaServer Pages, a compatible web server with a servlet container, such as Apache Tomcat or Jetty, is required.

Architecturally, JSP may be viewed as a high-level abstraction of Java servlets. JSPs are translated into servlets at runtime, therefore JSP is a Servlet; each JSP servlet is cached and re-used until the original JSP is modified.

JSP can be used independently or as the view component of a server-side model–view–controller design, normally with JavaBeans as the model and Java servlets (or a framework such as Apache Struts) as the controller. This is a type of Model 2 architecture.

JSP allows Java code and certain pre-defined actions to be interleaved with static web mark- up content, such as HTML, with the resulting page being compiled and executed on the server to deliver a document. The compiled pages, as well as any dependent Java libraries, contain Java byte code rather than machine code. Like any other Java program, they must be executed within a Java virtual machine (JVM) that interacts with the server's host operating system to provide an abstract, platform-neutral environment.

JSPs are usually used to deliver HTML and XML documents, but through the use of OutputStream, they can deliver other types of data as well.

The Web container creates JSP implicit objects like request, response, session, application, config, page, pageContext, out an exception. JSP Engine creates these objects during the translation phase.

3.2 JAVA SERVLET:

A **Java servlet** is a Java program that extends the capabilities of a server. Although servlets can respond to any types of requests, they most commonly implement applications hosted on Web servers. Such Web servlets are the Java counterpart to other dynamic Web

content technologies such as PHP and ASP.NET.

A Java servlet processes or stores a Java class in Java EE that conforms to the Java Servlet API, a standard for implementing Java classes that respond to requests. Servlets could in principle communicate over any client-server protocol, but they are most often used with the HTTP protocol. Thus "servlet" is often used as shorthand for "HTTP servlet". Thus, a software developer may use a servlet to add dynamic content to a web server using the Java platform. The generated content is commonly HTML, but maybe other data such as XML. Servlets can maintain state in session variables across many server transactions by using HTTP cookies, or URL rewriting.To deploy and run a servlet, a web container must be used. A web container (also known as a servlet container) is essentially the component of a web server that interacts with the servlets. The web container is responsible for managing the lifecycle of servlets, mapping a URL to a particular servlet and ensuring that the URL requester has the correct access rights.

The Servlet API, contained in the Java package hierarchy javax.servlet defines the expected interactions of the web container and a servlet.A Servlet is an object that receives a request and generates a response based on that request.

The basic Servlet package defines Java objects to represent servlet requests and responses, as well as objects to reflect the servlet's configuration parameters and execution environment. The package javax.servlet.http defines HTTP-specific subclasses of the generic servlet elements,including session management objects that track multiple requests and responses between the web server and a client. Servlets may be packaged in a WAR file as a web application.

Servlets can be generated automatically from JavaServer Pages (JSP) by the JavaServer Pages compiler. The difference between servlets and JSP is that servlets typically embed HTML inside Java code, while JSPs embed Java code in HTML. While the direct usage of servlets to generate HTML (as shown in the example below) has become rare, the higher level MVC web framework in Java EE (JSF) still explicitly uses the servlet technology for the low-level request/response handling via the FacesServlet. A somewhat older usage is to use servlets in conjunction with JSPs in a pattern called "Model 2", which is a flavor of the model–view–controller.

3.3 TOMCAT:

Apache Tomcat often referred to as **Tomcat Server**, is an open-source Java Servlet

Container developed by the Apache Software Foundation (ASF). Tomcat implements several Java EE specifications including Java Servlet, JavaServer Pages (JSP), Java EL, and WebSocket, and provides a "pure Java" HTTP web server environment in which Java code can run.

Tomcat started as a servlet reference implementation by James Duncan Davidson, a software architect at Sun Microsystems. He later helped make the project open source and played a key role in its donation by Sun Microsystems to the Apache Software Foundation. The Apache Ant software builds automation tool was developed as a side-effect of the creation of Tomcat as an open-source project.

Davidson had initially hoped that the project would become open sourced and, since many open source projects had O'Reilly books associated with them featuring an animal on the cover, he wanted to name the project after an animal. He came up with Tomcat since he reasoned the animal represented something that could fend for itself. Although the tomcat was already in use for another O'Reilly title, his wish to see an animal cover eventually came true when O'Reilly published their Tomcat book with a snow leopard on the cover in 2003.

Tomcat is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation, released under the Apache License 2.0 license, and is open-source software.

Tomcat 7.x implements the Servlet 3.0 and JSP 2.2 specifications. It requires Java version 1.6, although previous versions have run on Java 1.1 through 1.5. Versions 5 through 6 saw improvements in garbage collection, JSP parsing, performance, and scalability.

Tomcat 8.x implements the Servlet 3.1 and JSP 2.4 Specifications. Apache Tomcat 8.5.x is intended to replace 8.0.x and includes new features pulled forward from Tomcat 9.0.x. The minimum Java version and implemented specification versions remain unchanged.

3.4 JDBC:

Sun Microsystems released JDBC as part of Java Development Kit (JDK) 1.1 on February 19, 1997. Since then it has been part of the Java Platform, Standard Edition (Java SE). **Java Database Connectivity** (**JDBC**) is an application programming interface (API) for the programming language Java, which defines how a client may access a database. It is Java-based data access technology and used for Java database connectivity. It is part of the Java Standard Edition platform, from Oracle Corporation. It provides methods to query and update data in a database and is oriented towards relational databases. A JDBC-to-ODBC bridge

enables connections to any ODBC-accessible data source in the Java virtual machine (JVM) host environment.

JDBC allows multiple implementations to exist and be used by the same application. The API provides a mechanism for dynamically loading the correct Java packages and registering them with the JDBC Driver Manager. The Driver Manager is used as a connection factory for creating JDBC connections.

JDBC connections support creating and executing statements. These may be update statements such as SQL's CREATE, INSERT, UPDATE, and DELETE, or they may be query statements such as SELECT. Additionally, stored procedures may be invoked through a JDBC connection. JDBC represents statements using one of the following classes:

- Statement – the statement is sent to the database server every time.
- PreparedStatement – the statement is cached and then the execution path is pre-determined on the database server allowing it to be executed multiple times efficiently.

Update statements such as INSERT, UPDATE and DELETE return an update count that indicates how many rows were affected in the database. These statements do not return any other information.

3.5 PYTHON:

Python is an interpreted, high-level, general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace. Its language constructs and object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects.Python is dynamically typed and garbage-collected. It supports multiple programming paradigms, including procedural, object-oriented, and functional programming. Python is often described as a "batteries included" language due to its comprehensive standard library.

CHAPTER 4:

REQUIREMENT SPECIFICATION

Hardware Requirements:

Processor	- Pentium –III
Speed	- 1.1 GHz
RAM	- 256 MB (min)
Hard Disk	- 20 GB
Floppy Drive	- 1.44 MB
Key Board	- Standard Windows Keyboard
Mouse	- Two or Three Button Mouse
Monitor	- SVGA

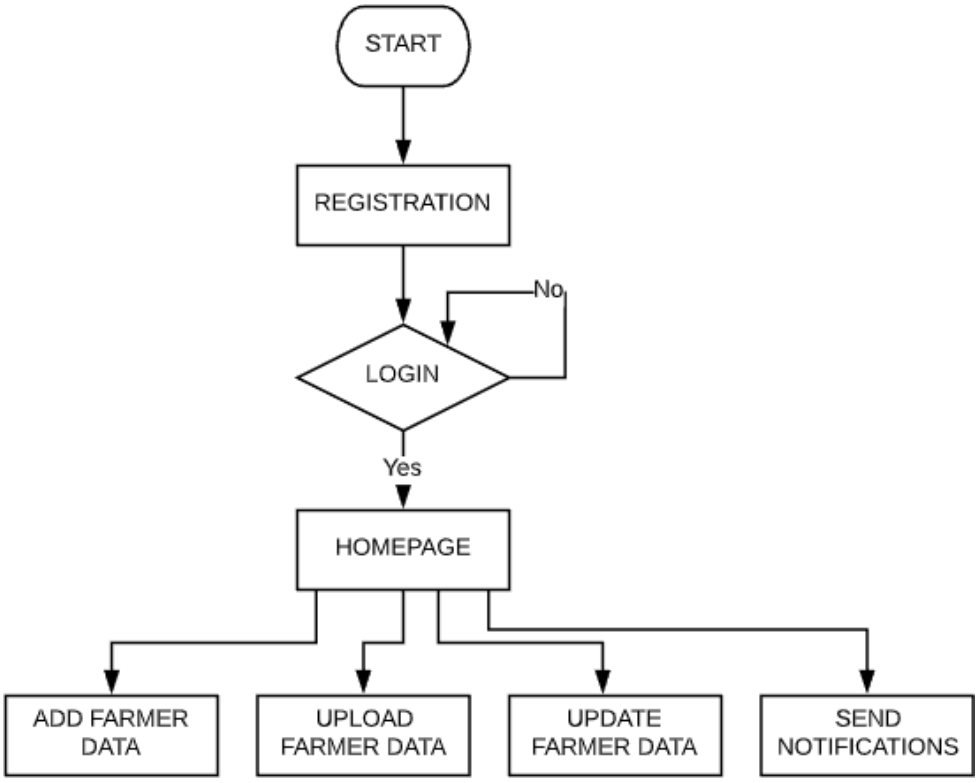
Software Requirements:

Operating System	- Windows 10/8
Application Server	- Tomcat7.0/8.5.X
Front End	- HTML, Java, Jsp
Scripts	- JavaScript
Server side Script	- Java Server Pages.
Database	- MySql
Database Connectivity	- JDBC.

CHAPTER 5:

DESIGN AND IMPLEMENTATION

5.1 FLOW CHART



5.2 **RESULTS**

Figure 5.2.1 Home page

Figure 5.2.1 is the picture of the home page with some basic service offered.

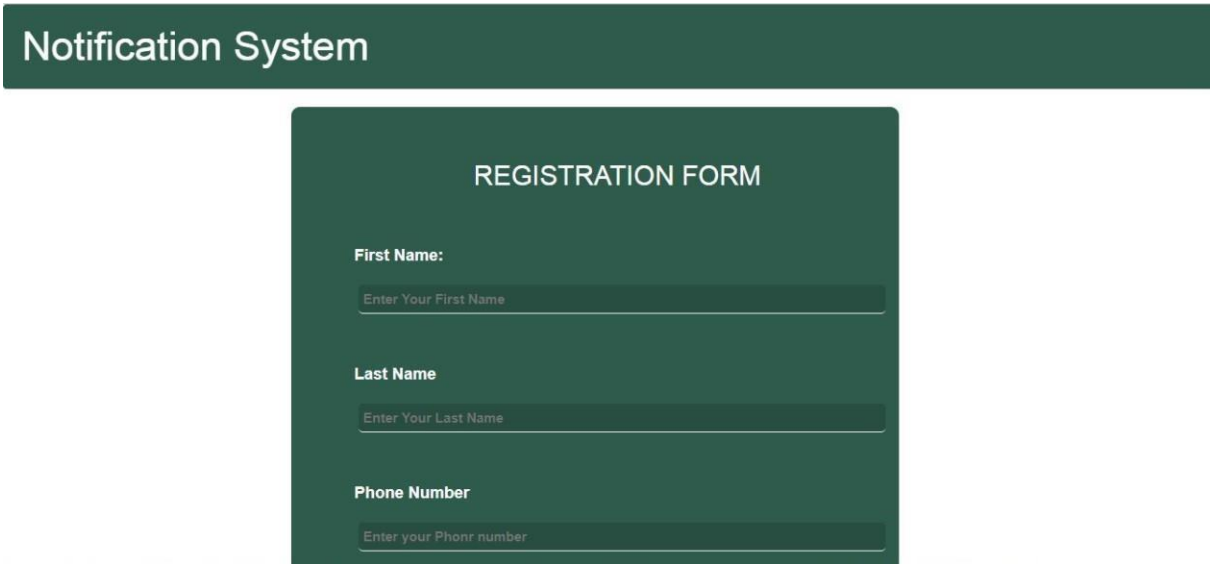


Figure 5.2.2 Registration form

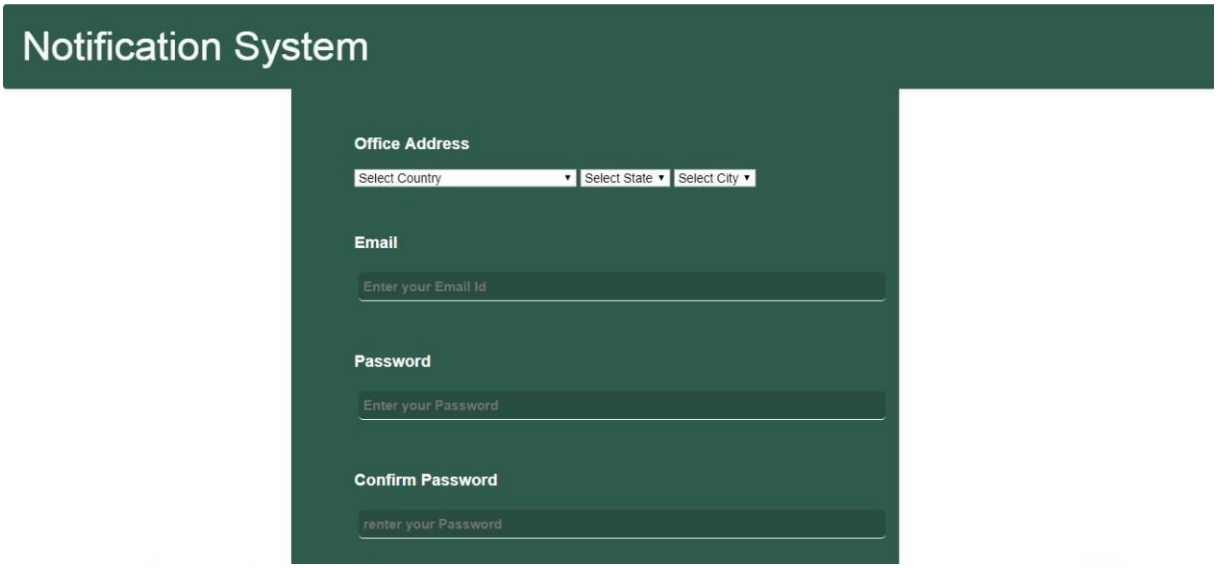


Figure 5.2.3 Registration form (continued…)

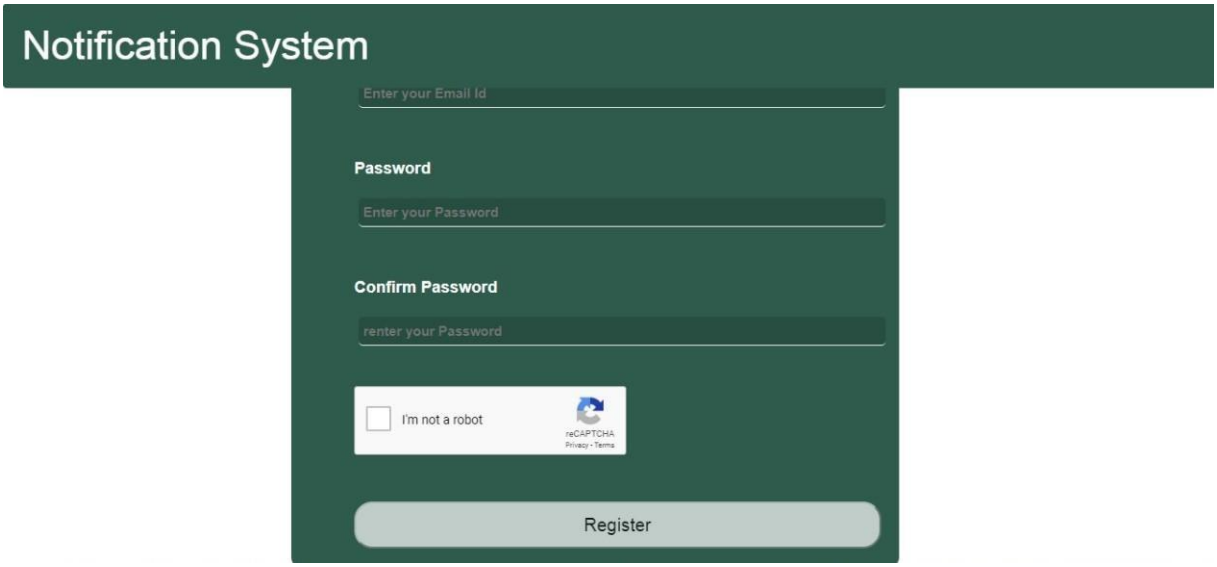


Figure 5.2.4 Registration form (continued…)

Figure 5.2.2, 5.2.3, 5.2.4 are the pictures of the registration form for ZP officer.

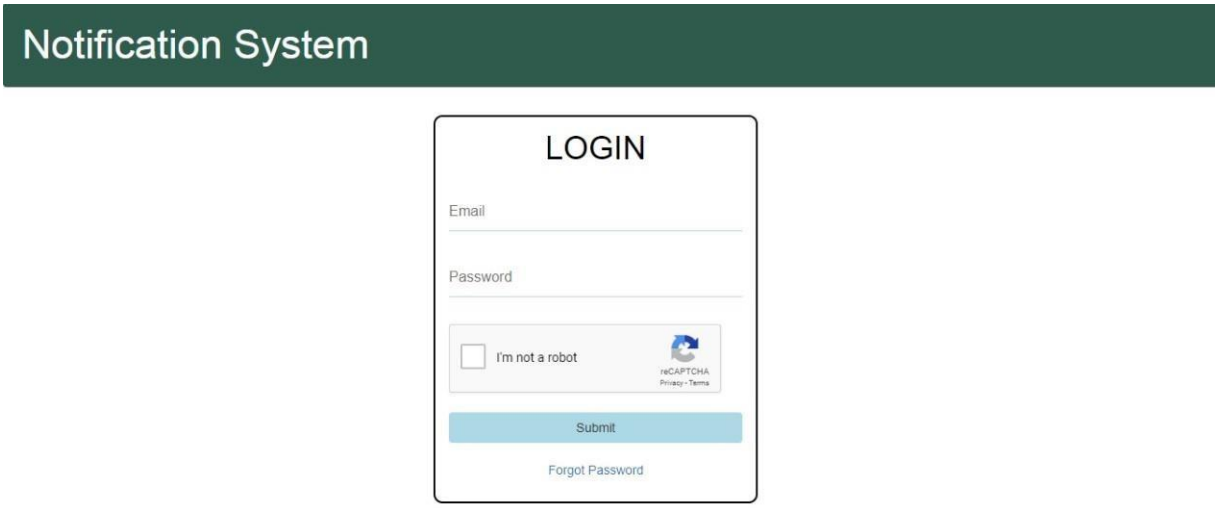


Figure 5.2.5 Login form

The above figure 5.2.5 is the login form for ZP officer

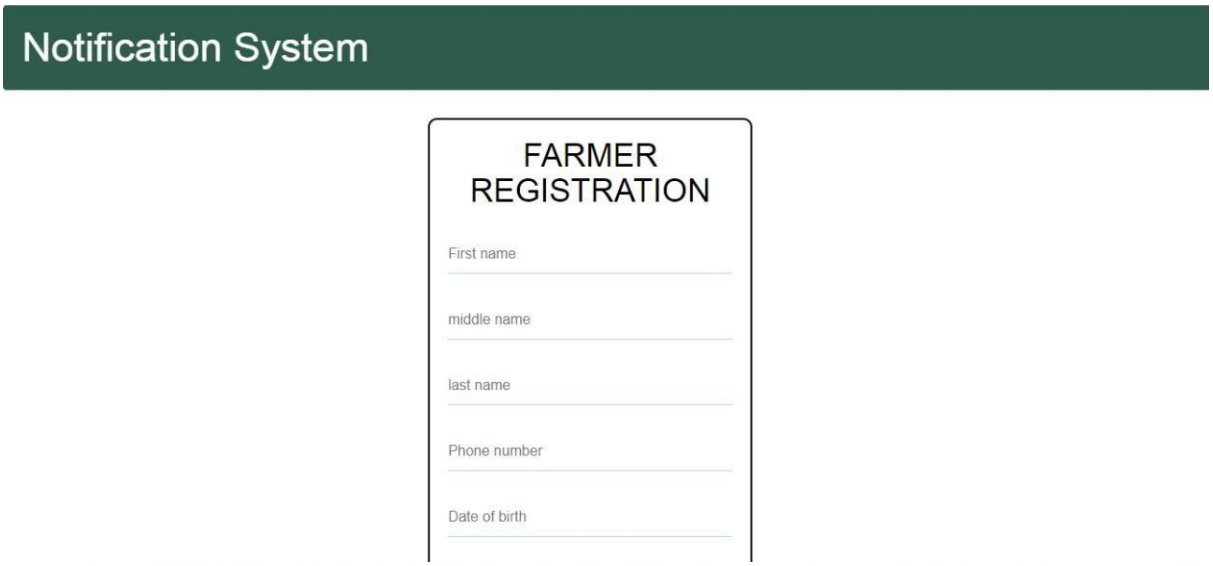


Figure 5.2.6 Form to add farmer details

Figure 5.2.7 Form to add farmer details

The above figures 5.2.6 and 5.2.7 displays the form to add single farmer details on to the database

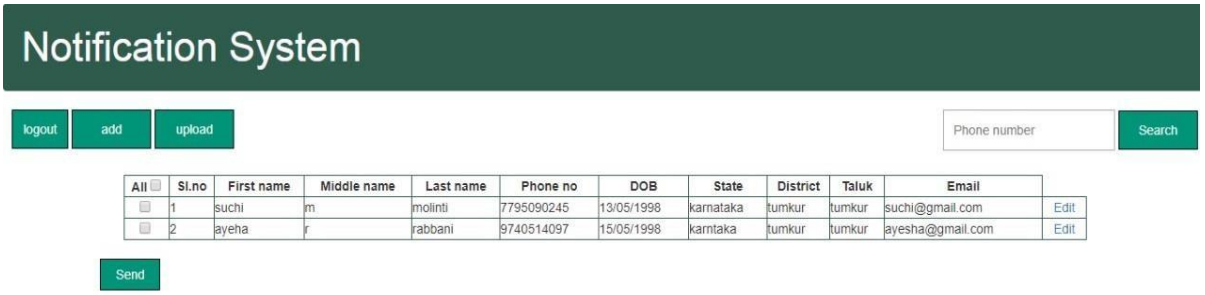


Figure 5.2.8 data of the farmers

The above picture displays the farmer details in the database. Also, we can add the data of farmers and we can search for particular farmer information in the database.

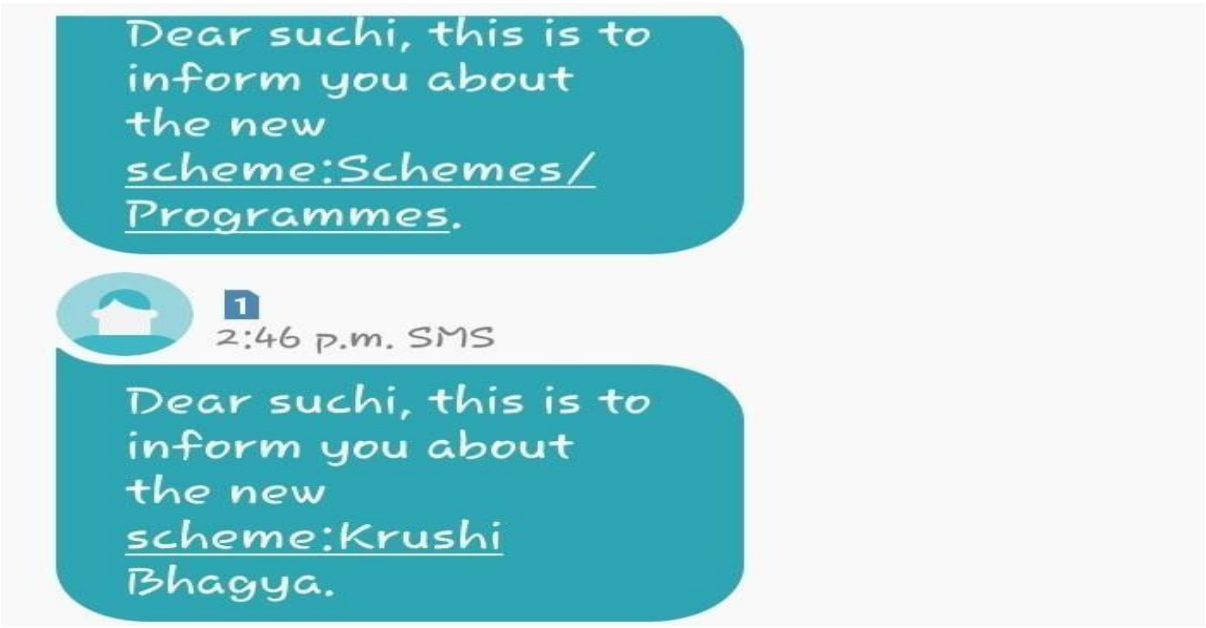


Figure 5.2.9 Message received by farmers

The above figure is the message received by the farmer about the new scheme.

CHAPTER 6

REFLECTIONS

During my internship at *DELL*, I was fortunate enough to get experience and learn the different sides of the working environment and I am thankful for having got the opportunity to work with them because I discovered a program that I would like to work with and at the same time gained fabulous ideas to develop various featured application using *web development* technology .The time I spent in *DELL* as an intern from 3rd June to 18th July 2019 provided me with a deeper insight into the different roles and responsibilities that I could perform, as a Computer Science Engineer. The hands-on experience gave me clear understanding and deep knowledge on various techniques. The *DELL* staff were very friendly and welcomed all my questions, opinions and ideas which made me feel comfortable and part of the company. Other academic lessons which I have learned during these 6 weeks were the different types of work an Engineer has to perform.

6.1 INDUSTRIAL TRAINING OUTCOMES

Industrial training outcomes are:

- Good hands on experience of solving a real world problem in the industry.
- Cost effective deployment strategy which helped me deploy the software free of cost and make it self sustainable.
- Get support from Amazon's technical team on different APIs and services by Amazon.
- Better understanding of python
- Working knowledge on pandas and numpy
- Learnt Django web framework which I can apply for full stack web applications
- Better understanding of web designing and frontend development using bootstrap , css and html.
- I was able to contribute to python mws library in fixing some bugs and improving its features.

6.2 NON-TECHNICAL OUTCOMES

The non-technical outcomes that an industrial training will teach are:

- Exercising Leadership

- Behaving Professionally.
- Behaving ethically.
- Listening effectively
- Addressing colleagues and superiors appropriately.
- Allocating time effectively.
- Teaching others.
- Adapting effectively to changing conditions.
- Participating as a member of a team.
- Developing appropriate workplace attitudes.
- Understanding and managing personal behavior and attitudes.

Teamwork: Teamwork is such an important aspect of running a successful company and my industrial training have taught me how to do this on a business level. Teamwork is the ability to work well with other people and be adaptable in order to deal effectively with the demands placed on team, which I have achieved to an expected extent. Employers will ask us to demonstrate this skill in our application by working with other people and cooperating with them to get the best result.

Verbal communication: - This is the basic requirement in all walks of life and is the heart of every organization. Interacting with various highly qualified staff made me understand how the communication plays an important role in clearing my doubts, gaining knowledge and understanding the various concepts.

Skills: Aim of the industrial training teaches us the skills we need to work in that field. I learned how to take a company's value, needs, and voice. I got the opportunity to learn new technologies like AWSA and I learnt a few languages like embedded c and python. I learnt about my strengths and weaknesses by creating learning objectives and receiving feedback from our senior's engineers.

How to behave at the office: I did not know exactly what to expect how office environment will be there. The environment here at the company is quite relaxed, yet it taught me how to behave in the workplace. Simple working in the office and getting used to everything her has definitely prepared me for whatever my next position may be. Art office everyday events has taught me more about teamwork, and how people can come together to get things done. Although, sometimes I have to remind myself to use my inside voice, I feel I've adapted to the office life relatively well.

6.3 TIME MANAGEMENT

Time management may be aided by a range of skills, tools, and techniques used to manage time when accomplishing specific tasks, projects, and goals complying with a due date. Time management is usually a necessity in any project development as it determines the project completion time and scope. So, it is necessary to come up with a technique to manage our time.

PRESENTATION SLIDES

Contents

About the company

- Dell is a US multinational computer technology company that develops, sells, repairs, and supports computers and related products and services.
- Named after its founder, Michael Dell, the company is one of the largest technological corporations in the world, employing more than 145,000 people in the U.S. and around the world (Annual report 2018).
- Dell sells personal computers (PCs), servers, data storage devices, network switches, software, computer peripherals, HDTVs, cameras, printers, MP3 players, and electronics built by other manufacturers.

Introduction to Project

Project titled "Farmer Notification System" is a web application which is developed to notify Indian citizens regarding the schemes released by the government for their benefits. This system includes benefits like:

- Gives the information regarding the schemes released by the government.
- Notifies the Indian citizens about the schemes that they are applicable to, either through email or through SMS in their respective regional languages.

Problem Statement

Most of the farmers are illiterates, they don't get the proper information about the schemes which are usually announced through any Government websites.

Problem Statement

Most of the farmers are illiterates, they don't get the proper information about the schemes which are usually announced through any Government websites.

Proposed Solution

- A Web application to provide information regarding all the government schemes provided for Indian citizen belonging to various fields like farmers, students, widows, girl children, women, etc. A system which facilitates to notify respective individuals regarding the schemes they are applicable to.

- In the feild of farmers,this sytem works as :

Initially collect details of the Farmers mainly unique phone numvers in the respective Zilla Panchayat offices by the zilla panchayat officer.

Once officers receive the information of any new schemes, they will send a normal auto generated text messages to the registered farmers.So as soon as farmers get to know about the schemes, they will make use of it in a proper way at a proper time.

Tools and Technologies

1.JSP : JavaServer Pages (JSP) is a technology that helps software developers create dynamically generated web pages based on HTML, XML or other document types.

2.Java Servlet : A Java servlet is a Java program that extends the capabilities of a server. Although servlets can respond to any types of requests, they most commonly implement applications hosted on Web servers.

3.Apache Tomcat : It is often referred to as Tomcat Server, is an open-source Java Servlet Container developed by the Apache Software Foundation (ASF). Tomcat implements several Java EE specifications including Java Servlet, JavaServer Pages (JSP), Java EL, and WebSocket, and provides a "pure Java" HTTP web server environment in which Java code can run.

4.JDBC : Java Database Connectivity (JDBC) is an application programming interface (API) for the programming language Java, which defines how a client may access a database.

Implementation

- A web application to provide information regarding all the government schemes provided for Indian citizen.
- A farmer will be able to get all relevant information on specific subjects around his village/block /district or state about schemes. This information will be delivered in the form of text, SMS in the language he or she understands.
- Farmers will also be able to ask specific queries as well as give valuable feedback through the Feedback module specially developed for the purpose.

Software details:

- For Modelling the project we have used MySQL database.
- For Viewing the project we have used HTML, CSS, JSP, JS, BOOTSTRAP.
- For Controlling the project we have used JAVA.
- Python for Web services.

Expected Results

Figure.1 Home page

Expected Results

Figure.2 Registration form

Figure.3 Login form for ZP officer

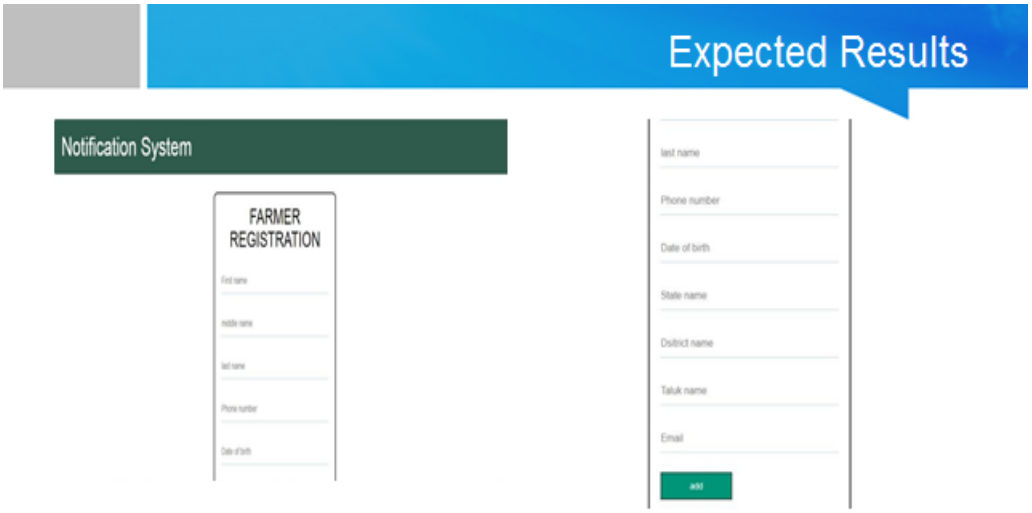


Figure.4 & 5 Registration form for farmers

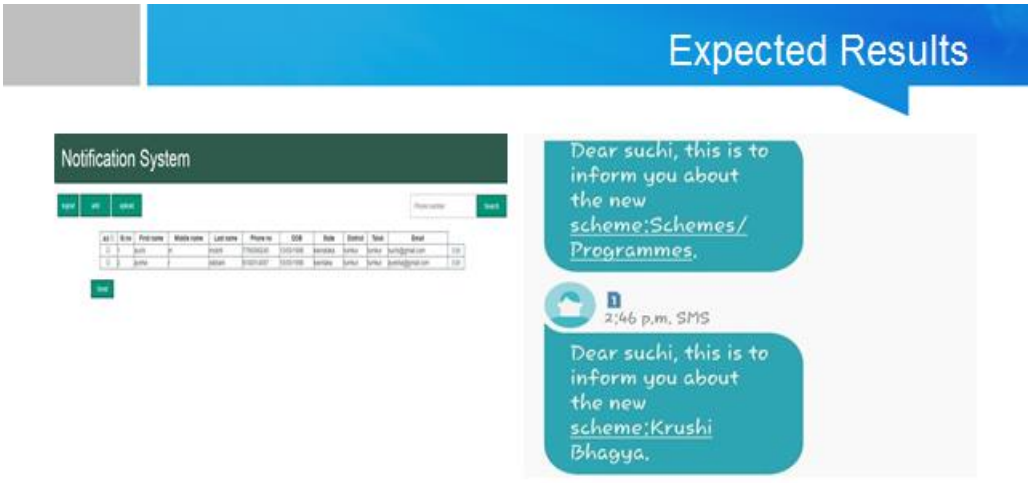


Figure.6 data of the farmers

Figure.7 message Received by the farmers

THANK YOU