Project Documentation

Project Title - Online Trading

On fulfillment of

Digital Internship in

Exavalu

BY - **Group A**

Team Member - **Jaydeep Das**

Abhineet Mishra

Aditya Joarder

Rituparna Bhattacharya

Gullapalli Rajashekar

Suraj Kumar

Introduction

Online trading is a fairly popular method of transacting in financial products online. Brokers have gone online, with their platforms providing all kinds of financial instruments like stocks, commodities, bonds, ETFS, and futures.

- Traditionally, when a buyer wanted to invest money in stocks, he used to call his brokerage firm and asked for putting in a request to buy stocks of a given company for a specified amount.
- The broker would then let him know the market price of the stocks and would confirm the order.
- After the user confirmed his trading account, the broker's fees, and the time period required for the order, the order would get placed on the stock exchange.

Key Points

1. When a user places the order for buying any particular stock on an online platform, his order gets saved in the database of the trading member platform and the exchange platform.
2. If the price matches with the user’s demands and he confirms the order, then the process is validated by both parties.
3. Online platforms provide a far more inexpensive experience, which attracts a majority of traders and investors.

As is obvious, this method had multiple steps and was pretty long drawn. Not surprisingly, online trading platforms have taken over the entire trading landscape because of their advantages:

- The users can open, manage and close accounts sitting at their homes, working on a device with the internet.
- Transactions can be made much more easily.
- Multiple financial products, which earlier needed to be bought from specific places or banks, can now be bought and sold online, which also reduces the the role of an intermediary and saves time.
- The money used is real and the user gets to analyze and choose from the various options of stocks and products available.

Objective

Online trading allows you to make your own decision with regards to trading without any interference from the broker. You can buy shares or invest in IPO or buy mutual funds as well. Online trading can be done by simply opening a demat and trading account with any SEBI registered broker. So our Objective is that to make a simple and comfortable web application for the users .

Benefits of Online Trading

Unless you've been living under a rock, you'd know we now trade securities such as stocks, bonds, mutual funds, ETFs, options, futures and currencies almost entirely online. It's easy, and efficient. But that's a high level perspective. In this post, we'll zoom in the lens on online trading to bring you a clear picture about how it works, its benefits and how to trade online. After you learn about the basics and benefits of trading online, you can do it hassle-free through your brokerage's internet-based proprietary trading platform.

Key Points:

1. Before the era of online trading, traders had to call and give 'buy' and 'sell' order to their brokerage firms to trade for them.
2. With the advent of the internet in this digital era, the vast majority of traders have moved to online trading platforms.
3. One of the most important advantages of online trading is that it gives you greater control over your investments.

Features

Our Online trading web application has following key features

- ★ People can easily register on our website using his/her Email Id
- ★ Registered users can log in on website using his/her Email and Password
- ★ Users can see all the available stocks with their relative prices
- ★ Registered users can easily buy or sell any stock with few clicks
- ★ If any user forgets his/her password he/she can easily retrieve it using his/her registered Email Id
- ★ Admin can easily add or delete stocks of any company
- ★ Admin can update the availability and price of any stock
- ★ Admin can upload complete table of stocks
- ★ Admin can promote any user as Admin

THEORETICAL BACKGROUND

The Project is comprised of the following :-

1. **HTML**:-The **HyperText Markup Language**, or **HTML** is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.
2. **CSS**:-**Cascading Style Sheets** (**CSS**) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML.[1] CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.
3. **JSP:-**JSP technology is used to create web application just like Servlet technology. It can be thought of as an extension to Servlet because it provides more functionality than servlet such as expression language, JSTL, etc.
4. **JS:-JavaScript** is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. Over 97% of websites use JavaScript on the client side for web page behavior, often incorporating third-party libraries.All major web browsers have a dedicated JavaScript engine to execute the code on users' devices.
5. **jQUERY:-**jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.
6. **AJAX:-**is a set of web development techniques that uses various web technologies on the client-side to create asynchronous web applications. With Ajax, web applications can send and retrieve data from a server asynchronously (in the background) without interfering with the display and behaviour of the existing page. By decoupling the data interchange layer from the presentation layer, Ajax allows web pages and, by extension, web applications, to change content dynamically without the need to reload the entire page.[3] In practice, modern implementations commonly utilize JSON instead of XML.
7. **JAVA:-**Java is a programming language and a platform. Java is a high level, robust, object-oriented and secure programming language.

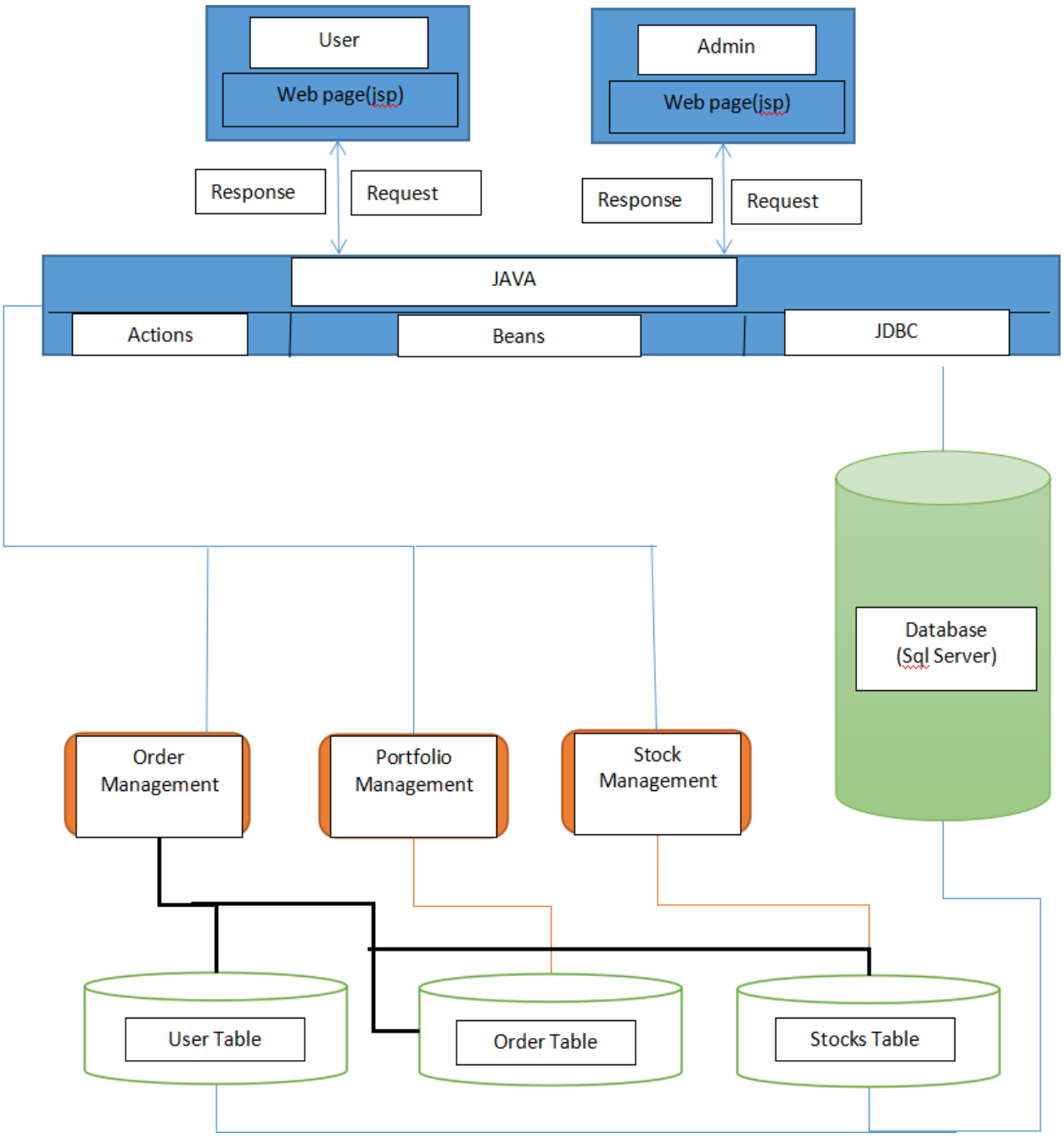
   Java was developed by *Sun Microsystems* (which is now the subsidiary of Oracle) in the year 1995. *James Gosling* is known as the father of Java. Before Java, its name was *Oak*. Since Oak was already a registered company, so James Gosling and his team changed the name from Oak to Java.

8. **MODULE USED :-**
   a. **STRUTS2**
   b. **BOOTSTRAP**

9.DATABASE USED:-

   a. **MySql**

System Architecture



Software Model

In this project, we are using Iterative waterfall model as our software model. We are using Iterative waterfall model as it is the extension of Waterfall model. The iterative waterfall model provides feedback path from each phase to its previous phase, which make the project handling easy. For every new version of the application, we can iterate through the beginning and make changes wherever there is needed. Every release of the Iterative Model finishes in an exact and fixed period that is called iteration.

There are different phases of Iterative model and they are as follow : -

1. **Requirement gathering & analysis:** In this phase, we gathered the requirements, according to the project need. After requirement gathering we move ahead with the next steps

2. **Design:** In the design phase, we design the software by the different diagrams like Data Flow diagram, activity diagram, class diagram, state transition diagram, etc.

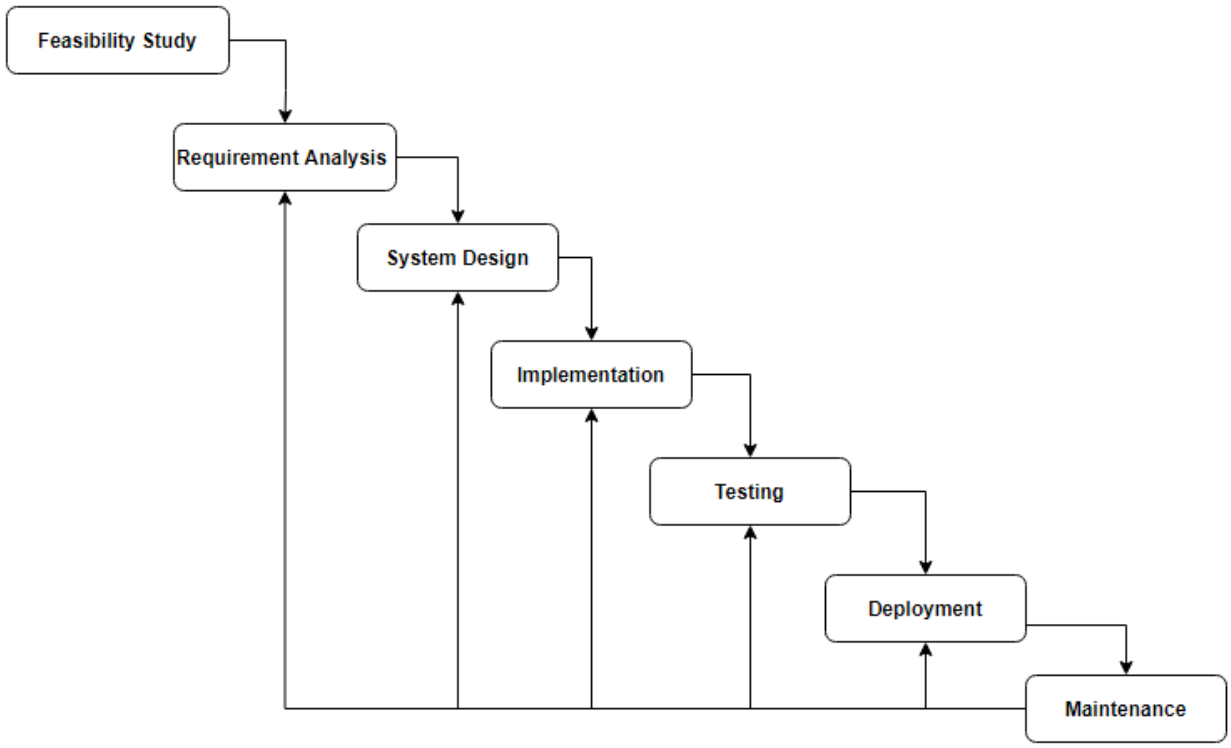
3. **Implementation:** In the implementation, we write the requirements in the coding language and transformed into computer programmes which are called Software.

4. **Testing:** After completing the coding phase, software testing starts using different test methods. We are using Junit for testing.

5. **Deployment:** After completing all the phases, software is deployed to its work environment.

6. **Review:** In this phase, after the product deployment, we started review phase in which we check the behaviour and validity of the developed product. And if there are any error found then the process starts again from the requirement gathering.

7. **Maintenance:** In the maintenance phase, after deployment of the software in the working environment there may be some bugs, some errors or new updates are required



Iterative Waterfall model diagram

Why we are using Iterative model : -

- **Feedback Path** – In the classical waterfall model, there are no feedback paths, so there is no mechanism for error correction. But in the iterative waterfall model feedback path from one phase to its preceding phase allows correcting the errors that are committed and these changes are reflected in the later phases.
- **Simple** –Iterative waterfall model is very simple to understand and use.
- **Cost-Effective** –It is highly cost-effective to change the plan or requirements in the model.
- **Well-organized** –In this model, less time is consumed on documenting and the team can spend more time on development and designing.

Database Structure

We have used 3 database table for our project namely **user,stocks and order.** The table structure looks like this : -

user table : -

userId (PK)	**name**	**email**	**phoneNumber**	**age**	**password**	**address**	**status**
1							Admin
2							Admin
3							Customer
4							Customer

User table will consist of all the details given by the user at the time of registration. In this table, we are using userId as primary key, and will be auto incremented for every new user

stocks table :-

stockId (PK)	**stockName**	**price**	**availability**

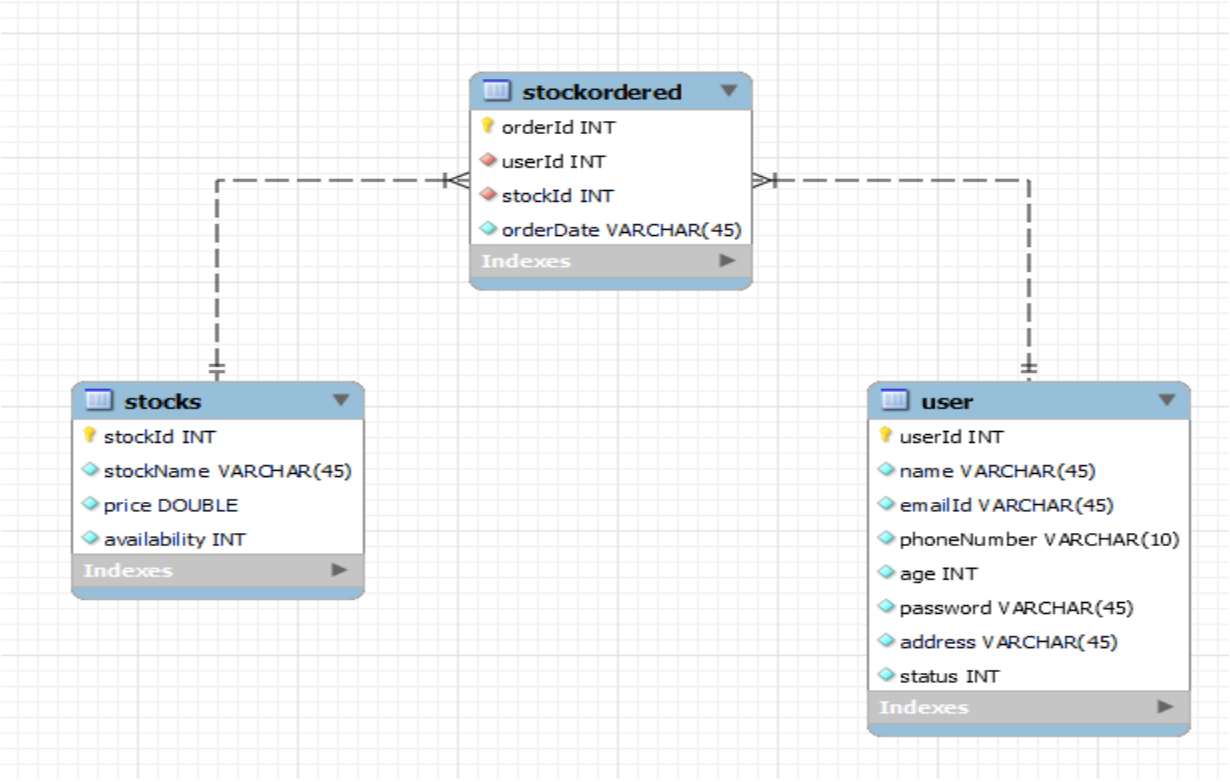
Stocks table will consist of all the stocks available for buying. Where, stockId is primary key, and will be auto incremented for every new stock

stockoredered table :-

orderId (PK)	stockId (FK)	userId (FK)	orderDate

Stockordered table will consist of all the stock ordered by the user. Here, orderId is primary key, and will be auto incremented for every new order. And stockId is a Foreign Key from stocks table and userId is foreign key from user table

This is the database diagram for the following tables :



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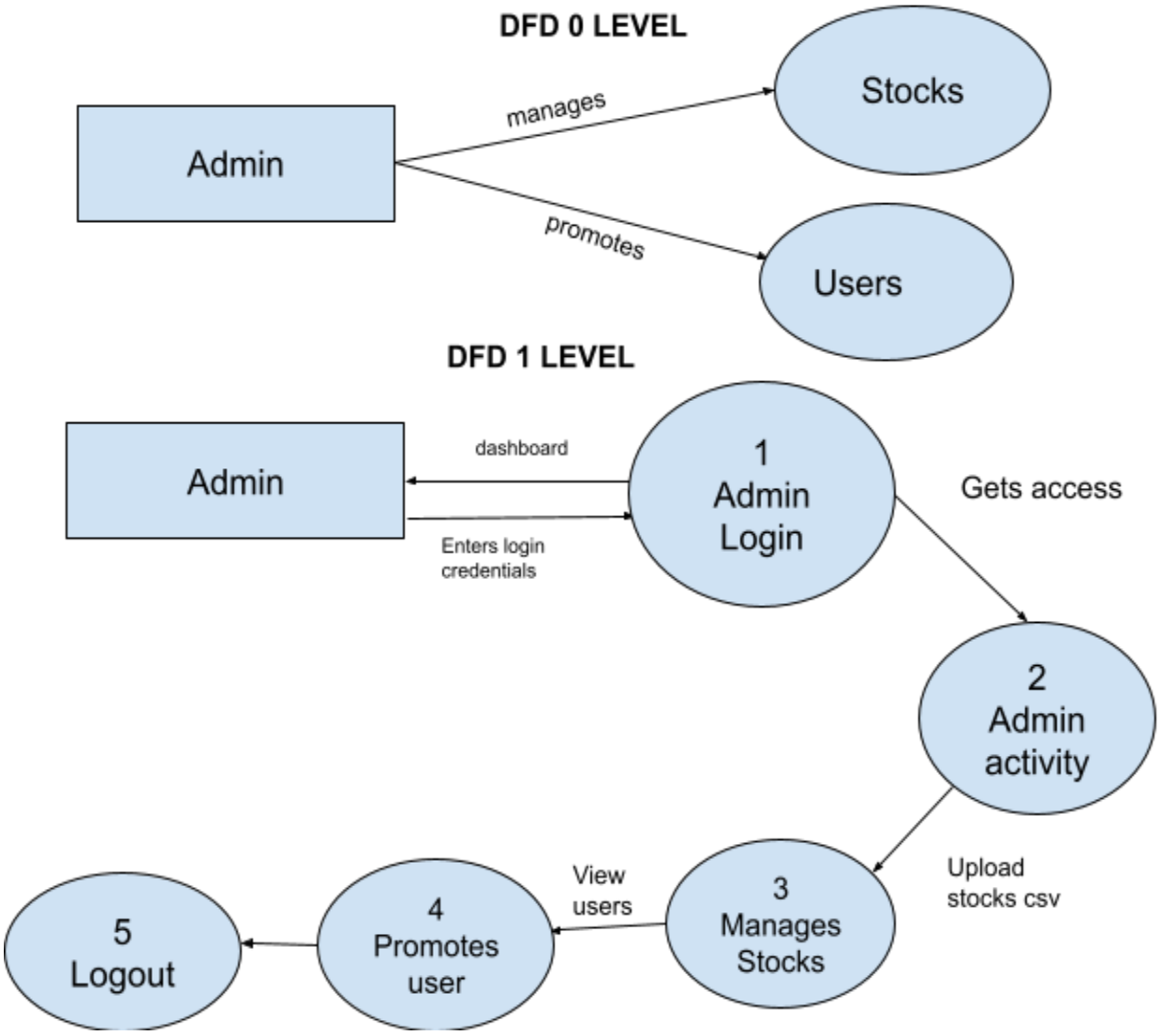
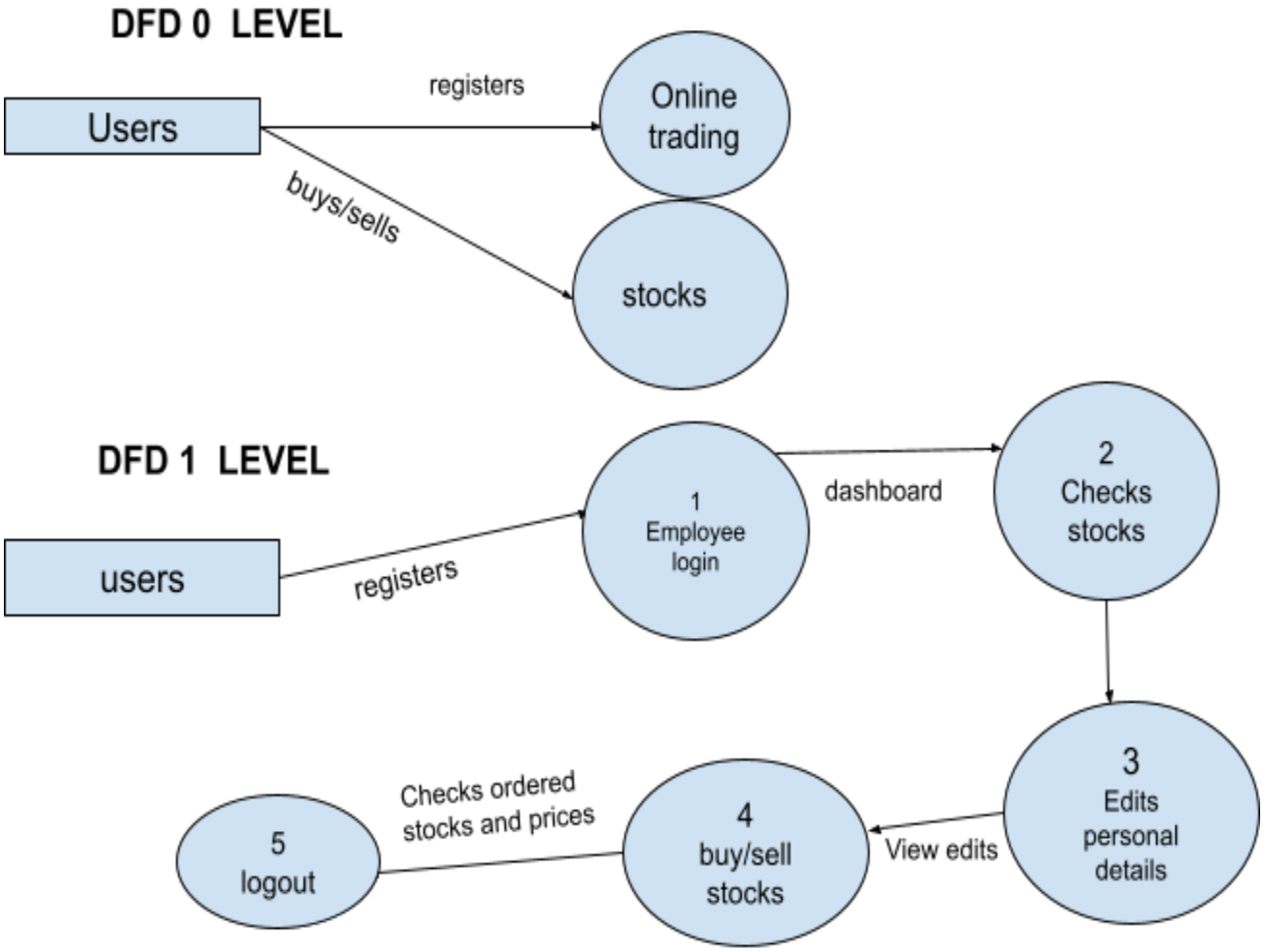
Admin Portal



User Portal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3 Edits personal details
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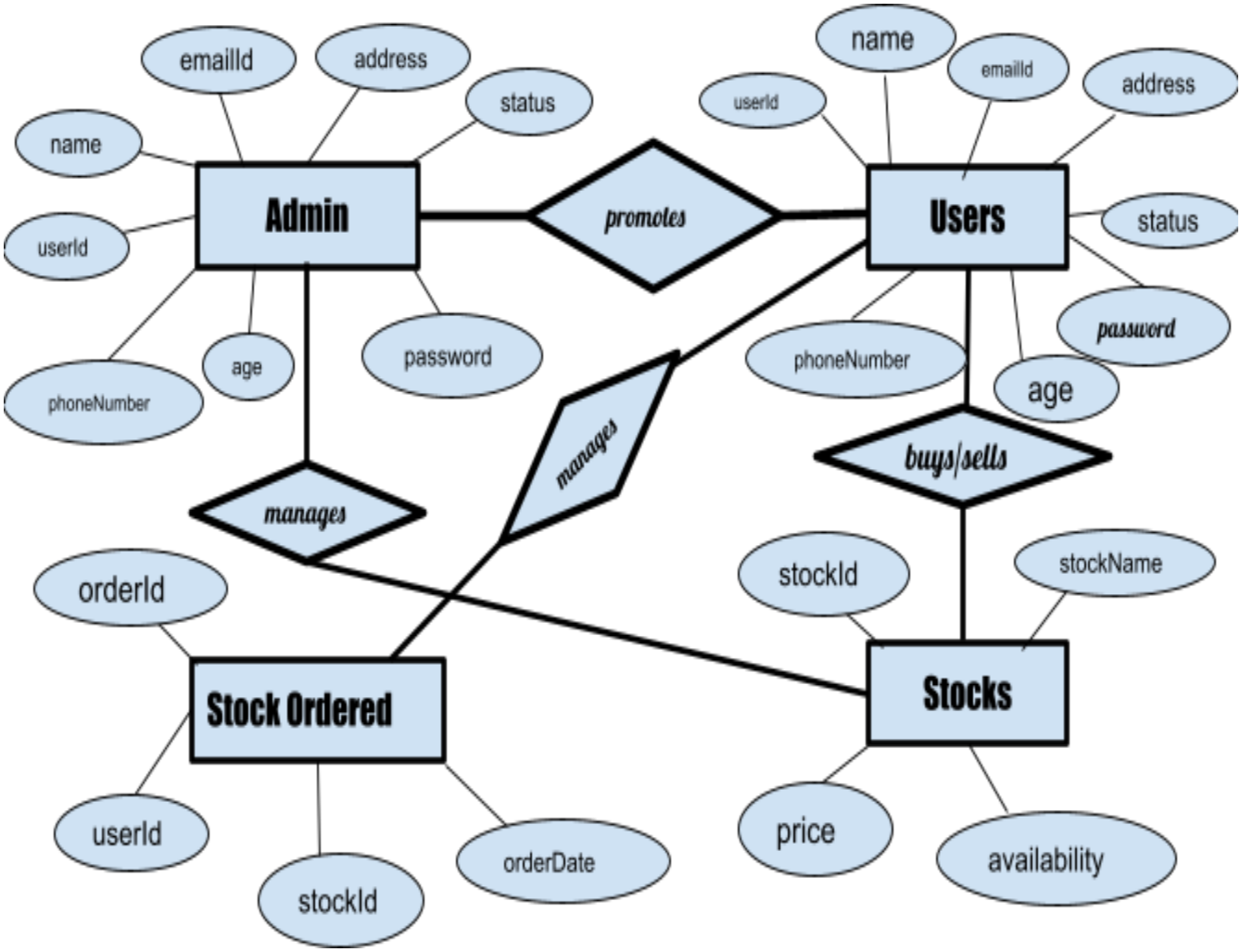
Checks ordered stocks and prices
5 logout

ERD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manages
buys/sells
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userId
stockId
orderDate
stockId
stockName
Stocks
price
availability

Future Scope

The User interaction with the application can be made more user friendly by providing virtual assistant using latest technologies like AI(like siri for apple).

In future we can enhance our application to support Cryptocurrency which will have huge scope in upcoming future.

Stock brokers will have to provide e-trading in accordance with e-money to remain competetive.

Advances in software will increase efficiency of electronic trade executions.

Conclusion

Now a days manual process for the citizens to buy or sell products like mobile phone,computer,Stock etc..has become a huge task.the main objecitve Of this project is to reduce the effort by the candidate and save his/her time.

Online Trading is the new concept in the stock market.In india,online trading is at very initial stage.Online trading has made it easy to trade in the stock market as now people can trade while sitting at their home.Now stock market is easily accessible by the people.

This project Mainly includes flexibility,reducing manual work in an efficient manner convenient,reliable, Easily Understandable and effective way to apply for their online trading market committee records.