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# Software Requirements Specification

for

*StonkBuddies*

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# **1. Introduction**

## **1.1 Purpose**

StonkBuddies is a platform that enables its users to create collaborated watchlists for stocks that have the potential to be financially rewarding and thus helps all the members of a particular group in investing in these stocks in conjunction.

## **1.2 Document Conventions**

The Documentation follows specific guidelines which are as follows:

- Indexing of the Documentation has been mentioned on the 1st Page excluding the Cover Page.
- The Headings are written using Bold Font Times of size 18
- The Subheadings are written using Bold Font Times of size 14
- The Content is written using Font Arial of size 12

## **1.3 Intended Audience and Reading Suggestions**

The Documentation is meant for the following categories of People:

- Project Developers
- Project InCharge Faculty
- Project Maintainers
- End Users

## 1.4 Product Scope

The Product allows users to join groups / channels, view the stocks that are added to the watchlist by the members of that group/channel and add / remove stocks from the watchlist of groups that they are members of.

The vision of the Product is to gain Maximum User Base and profit using Ad based Marketing and sponsorships. First and foremost goal of the Product is optimum user engagement and satisfaction.

**From the perspective of the developers,** the goal of

StonkBuddies is to be reliable, scalable and bug-free.

**From the perspective of the end users,**

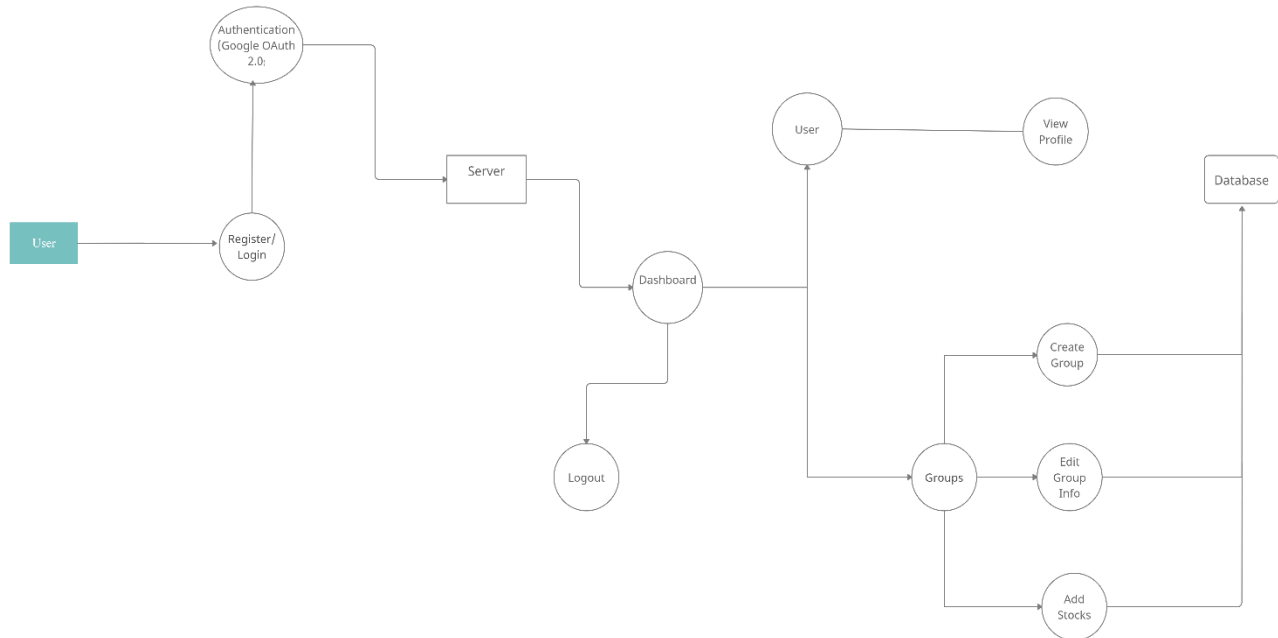
The goal of StonkBuddies is to help users collaborate effectively and satisfy other requirements without any hassle or security concerns

## 2. Overall Description

### 2.1 Product Perspective

Investment clubs have been around for several decades and are simply groups of people who get together and pool their money to invest. While the primary motivation is to make as much money as possible, clubs are also a great way for investors to share ideas and learn about the market from others.

*Our product serves as a medium for people to create and join virtual investment clubs with their trading buddies, in order to maximise their profits.*



## 2.2 Product Functions

- **Authentication System:** The user can authenticate on our platform using a standard Google account (implemented using google OAuth 2.0 and passportJS)
- **Group System:** The user is allowed to join groups / channels, view the stocks that are added to the watchlist by the members of that group/channel.
- **Add or Remove System:** The user is allowed to add / remove stocks from the watchlist of groups that they are members of.
- **Stock Chart / Tracking:** The user is allowed to track the latest updates on Indian financial markets. It covers multiple assets from BSE, NSE, MCX, and NCDEX exchanges, so you can track Indices (Sensex & Nifty), Stocks with ease.

## 2.3 User Classes and Characteristics

Types of Expected Users:

- People new to Trading
- Finance Students
- Adult Seasoned Traders

## 2.4 Operating Environment

'Stonk Buddies' is a platform independent web app that can be accessed using any latest Browser that includes but not limited to, Google Chrome, Mozilla Firefox, Microsoft Edge etc.

It has no specific requirements for its operating Environment apart from the fact that it requires a stable internet connection and a Javascript enabled browser.

## 2.5 Design and Implementation Constraints

No constraints have been observed in the development of the product.

Based on the amount of users/ usage of the product, the dependencies might require upgradation. Database might require expansion.

## 2.6 User Documentation

- *Authentication System:* The user can authenticate on our platform using a standard Google account (implemented using google OAuth 2.0 and passportJS)
- *Group System:* The user is allowed to join groups / channels, view the stocks that are added to the watchlist by the members of that group/channel.
- *Add or Remove System:* The user is allowed to add / remove stocks from the watchlist of groups that they are members of.
- *Stock Tracking:* The user is allowed to track the latest updates on Indian financial markets. It covers multiple assets from BSE, NSE, MCX, and NCDEX exchanges, so you can track Indices (Sensex & Nifty), Stocks with ease.

## 2.7 Assumptions and Dependencies

The dependencies that will be used are as follows:

### Package Manager:

- Node Package Manager (NPM)

### Frontend Development:

- MaterializeCSS

**Backend Development:**

- NodeJS
- ExpressJS
- Passport Authentication Manager, Google OAuth2.0
- Mongoose

**Database Management System:**

- MongoDB (NoSQL)

**Middleware:**

- Handlebars

**Data Interchange Format:**

- Javascript Object Notation (JSON)

**3<sup>rd</sup> Party API:**

- Stock market API

## **3. External Interface Requirements**

This section provides a detailed description of all inputs into and outputs from the system. It also gives a description of the hardware, software and communication interfaces.

### **3.1 User Interfaces**

- Front-end software: HTML/CSS and Materialize CSS
- Back-end software: NodeJS, ExpressJS, mongoose, handlebar

Aspects: The system shall have content that will only be viewable to the user if they are logged in correctly. Members of a particular group are the only ones who can add or remove a company in the concerned group.



### **3.2 Hardware Interfaces**

An internet connection to allow the browser software interfaces to connect to the internet to access the files of the website.

A browser which supports Javascript and cookies.

### **3.3 Software Interfaces**

Any popular operating system that will allow the use of a modern browser to view and download web pages.

Operating Systems: Windows, MacOS and Linux OS

DataBases: MongoDB (NoSQL Database)

Purpose: To allow remote access of the website via the internet.

- Name: Google Chrome  
Mnemonic: Chrome  
Version number: 6 or more
- Name: Mozilla Firefox  
Mnemonic: Firefox
- Name: Apple Safari Mnemonic:  
Safari  
Version number: 5.0.2

### **3.4 Communications Interfaces**

The communication between the different parts of the system is important since they depend on each other. However, in what way the communication is achieved is not important for the system and is therefore handled by the underlying operating systems for the web portal.

Internet Protocol (IP) shall be used by the software interfaces to connect to the internet.

This project supports all types of web browsers.

## **4. System Features**

Following are the System Features that are the core of Stonk Buddies

### **4.1 Authentication System**

#### **4.1.1 Description and Priority**

The User is allowed to authenticate on Stonk Buddies Platform using a standard Google Account. All the details regarding the user are obtained from Google Authentication Services.

It is a primary priority system feature.

#### **4.1.2 Functional Requirements**

- Google OAuth 2.0
- Google Credentials

### **4.2 Group System**

#### **4.2.1 Description and Priority**

The User is allowed to join groups / channels, view the stocks that are added to the watchlist by the members of that group/channel.

#### **4.2.2 Functional Requirements**

- Database Management System and Backend Processing
- Atomic, Consistent, Isolated and Durable Transactions

### **4.3 Add or Remove System**

#### **4.3.1 Description**

The User is allowed to add / remove stocks from the watchlist of groups that they are members of.

### **4.3.2 Functional Requirements**

- Database Management System and Backend Processing
- Atomic, Consistent, Isolated and Durable Transactions

## **4.4 Stock Chart / Tracking**

### **4.4.1 Description and Priority**

The User is allowed to track the latest updates on Indian financial markets. It covers multiple assets from BSE, NSE, MCX, and NCDEX exchanges, so you can track Indices (Sensex & Nifty), Stocks with ease.

### **4.4.2 Functional Requirements**

- Third Party API calls for Latest Updates on every Stock
- Database Management System and Backend Processing
- Atomic, Consistent, Isolated and Durable Transactions

## **5. Other Nonfunctional Requirements**

### **5.1 Performance Requirements**

For Optimum Performance, the following System Requirements are necessary: RAM: 4GB or above DDR4

Processor: Intel Core i3 5th Gen or Above (1.6 GHz)

HardDisk Space: No Additional Requirements apart from OS

Application: Google Chrome, Mozilla Firefox, Microsoft Edge, Brave

## **5.2 Safety Requirements**

- We care deeply about the safety of the database of the website.
- We regularly consult data securing organizations to help protect our database from external attacks.

## **5.3 Security Requirements**

- Use Secure HTTPS connection while using StonkBuddies
- Logout from your Account when using StonkBuddies at a Local Cafe or at a Public Location
- Store your Credentials carefully and in a secure manner (Don't share it with strangers)
- Profits / Losses are liable to the End User. StonkBuddies is not responsible for any losses incurred due to it.

## **5.4 Software Quality Attributes**

- Availability: StonkBuddies should support multiple users accessing simultaneously and stock data should be available at all times.
- Correctness: The updation of watchlists and stock price data should be correctly displayed.
- Usability: StonkBuddies should support maximum functionality and should be easy to navigate through so that even illiterate people should be able to use it without any difficulty.

## **5.5 Business Rules**

- Users cannot edit watchlists unless they are members of that group / channel.
- Users should keep their password confidential.

## 6. Other Requirements

### Appendix A: Glossary

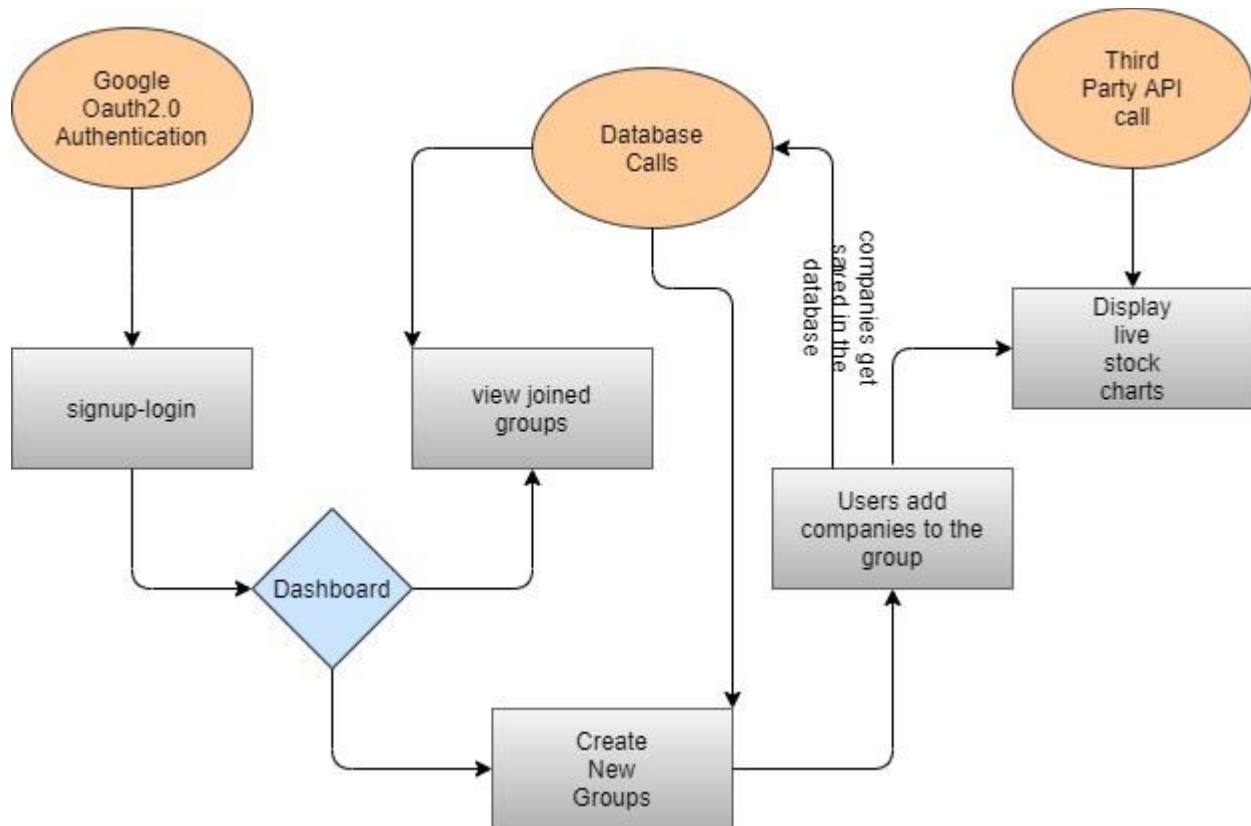
- **Application Programming Interface (API):** A system of tools and resources (e.g., subroutine definitions, protocols) in an operating system that enables developers to create software applications.
- **HyperText Markup Language (HTML):** The standard markup language for creating web pages and web applications in accordance with ISO/IEC 15445 and W3C HTML5.
- **HyperText Transfer Protocol (HTTP):** An application protocol for distributed, collaborative, and hypermedia information systems in accordance with RFC 7230 and RFC 7540.
- **JavaScript Object Notation (JSON):** An open-standard file format that uses human-readable text to transmit data objects consisting of attribute-value pairs and array data types.

## Appendix B: Analysis Models

### Specifications

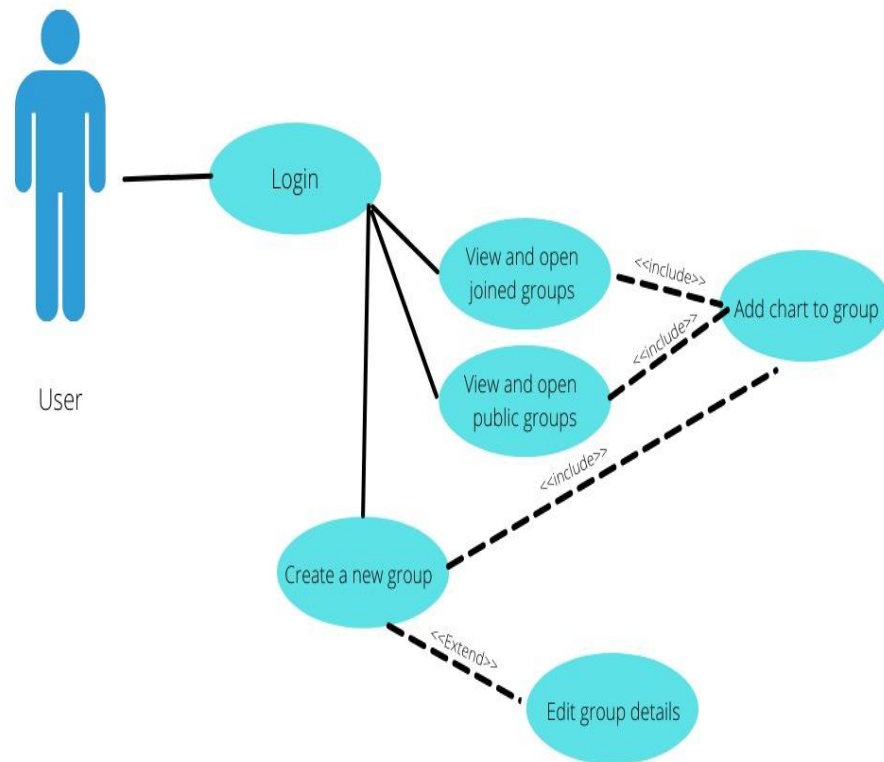
#### ➤ Operational

##### • Data Flow Diagram

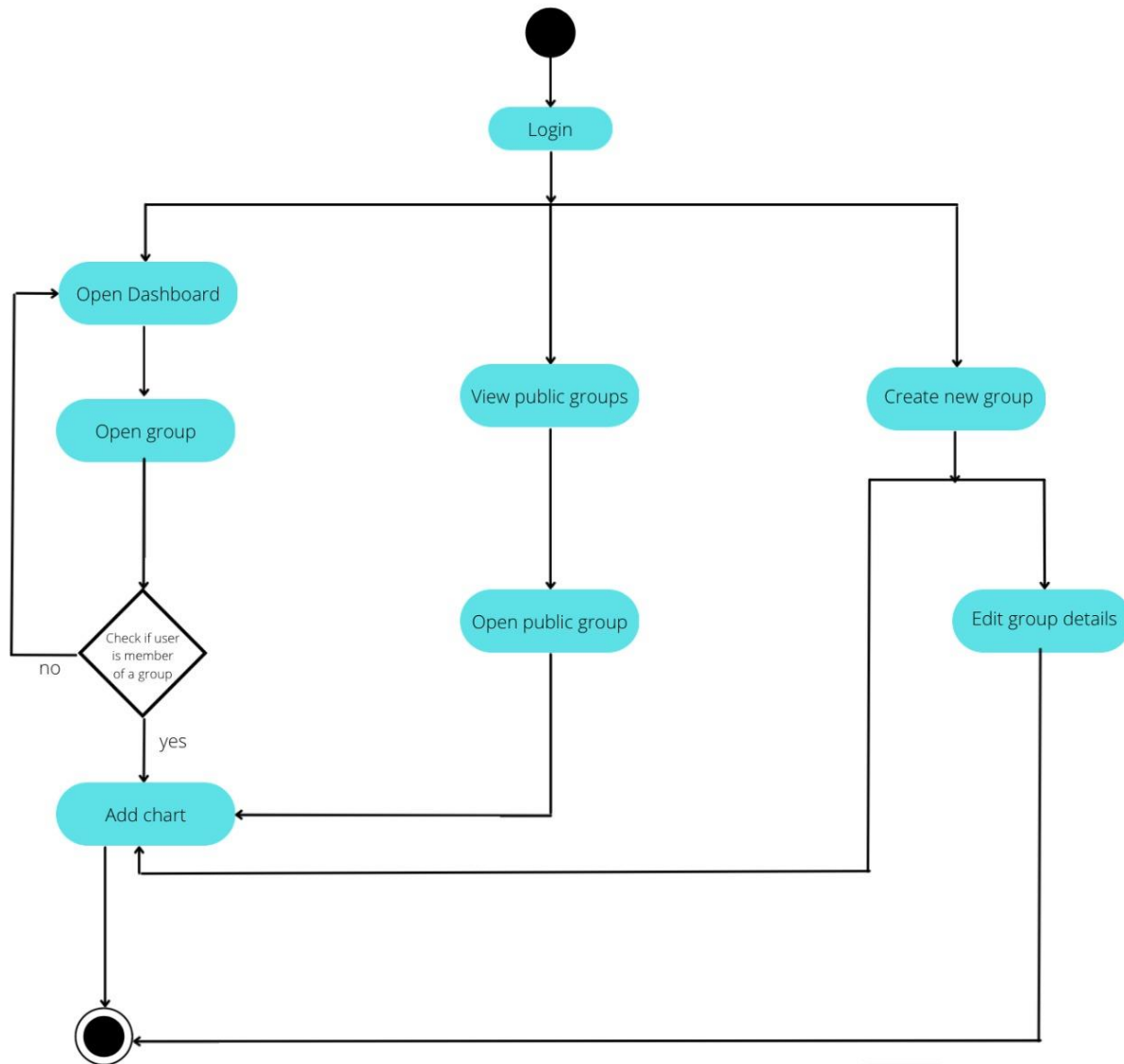


- **UML Diagrams**

1. **Use Case Diagram**

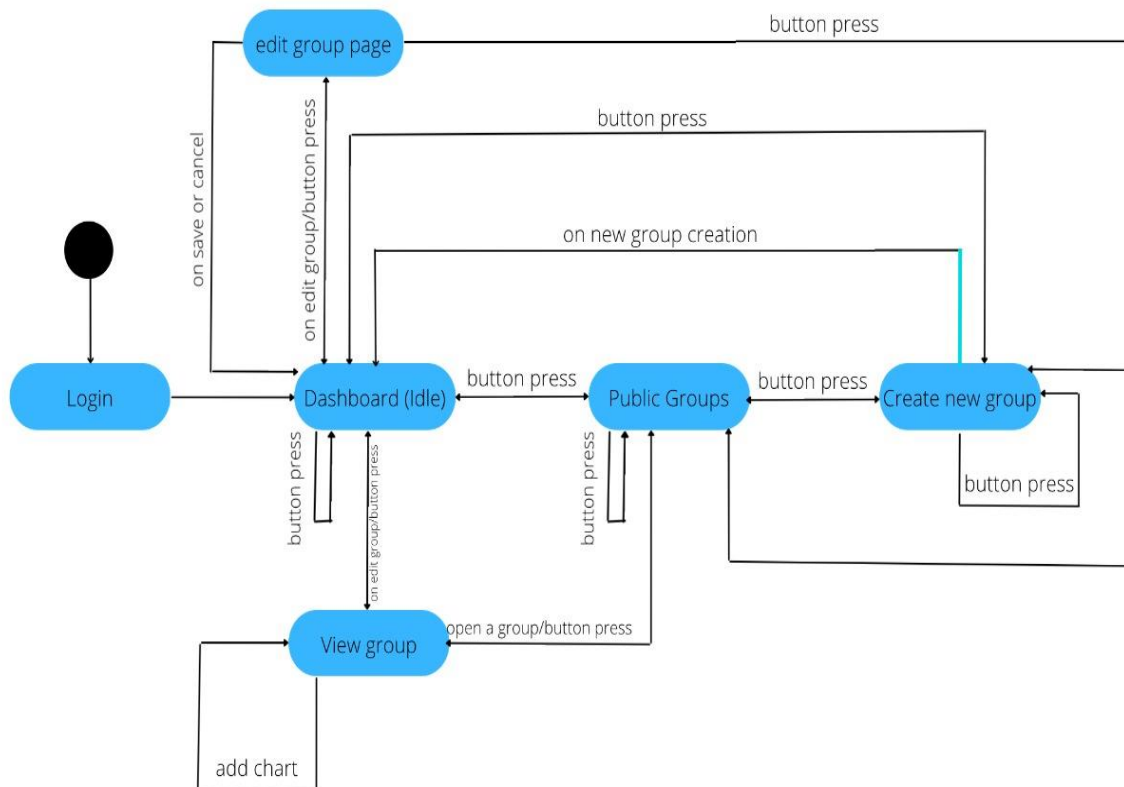


## 2. Activity Diagram





- **Finite State Machine**



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