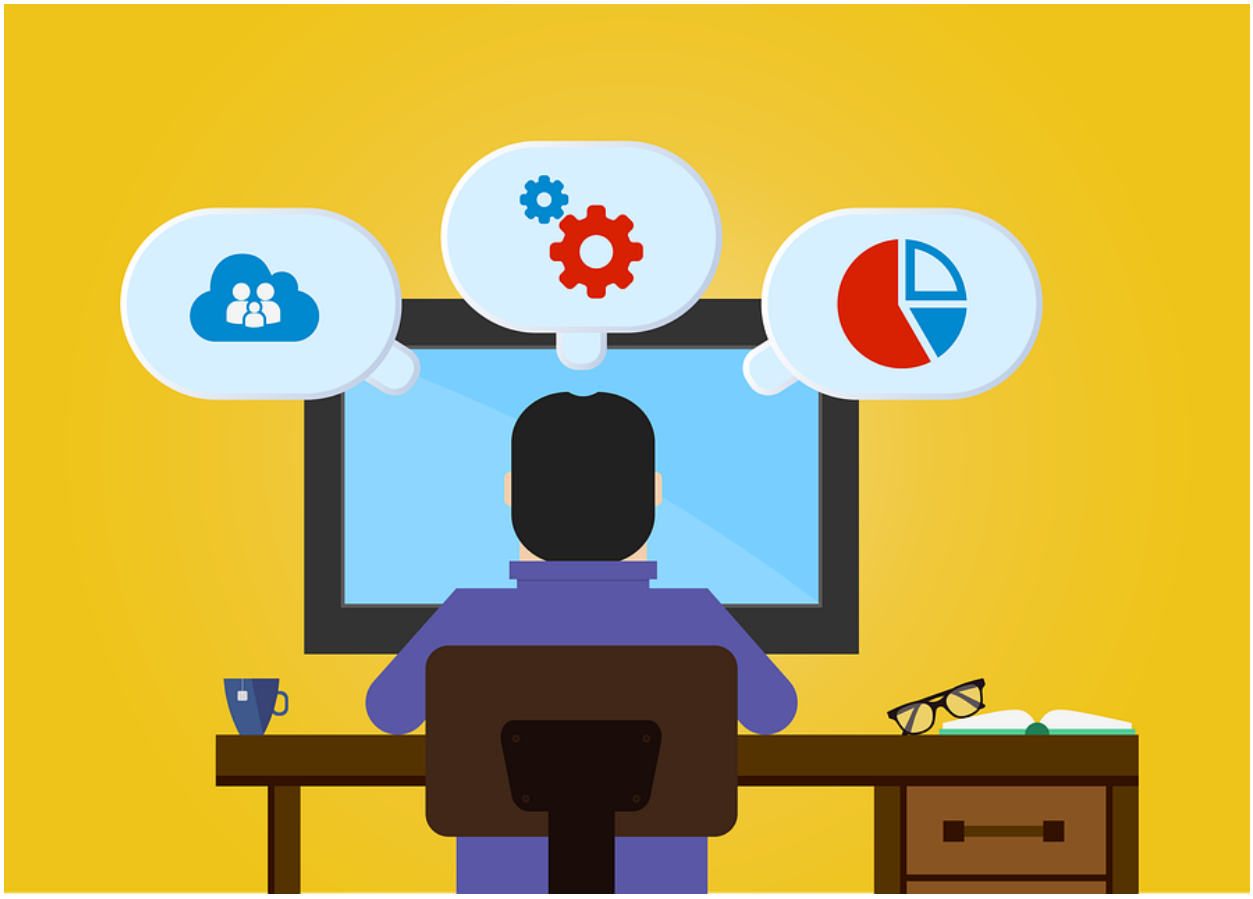
IDS 517

DATA ANALYSIS TOOL

PROGRAMMER'S GUIDE



- **GROUP 308**

HONEY SALVE

JATIN BANSAL

CONTENT

INTRODUCTION:

This document describes how online Data Analysis system is designed. This system is a web application which will allow user to access the database containing stock data and perform statistical analysis on it. This document provides requirement information for the web application. Project architecture and application design are also given in the Document . After reading this document the reader should be able maintain this application and fix bugs

REQUIREMENTS:

The system is designed and implemented based on following requirements:

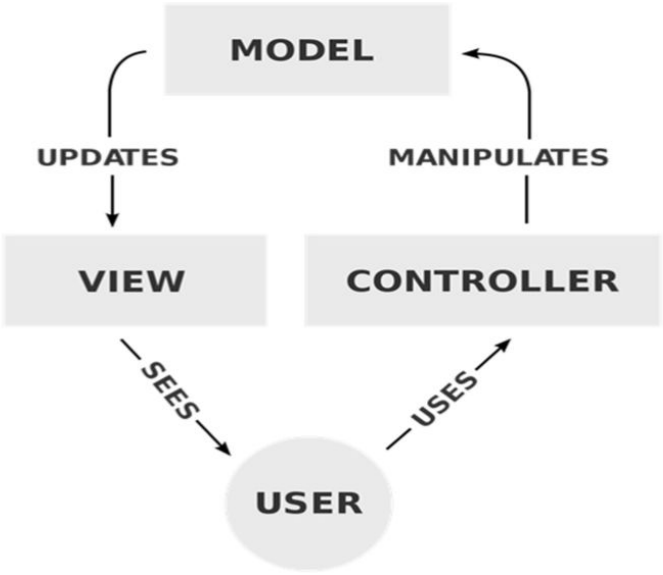
- Home page containing user's guide and programmer's documentation link.
- A Login page where user can input credentials to log into database.
- The Application should be able to perform following database operations:
    - Create a table of stock transactions
    - View and filter Data based on ticker and date
    - Allow user assisted query handling to view data
- Ability to upload Excel tab and comma delimited data into the database.
- Compute returns based on ticker.
- Display available data with summary of available data including ticker, start and end dates, and number of observations.
- Generate regression results, ANOVA
- Generate numeric and graphics report including time-series, scatter plot and histogram

TECHNOLOGIES:

- Java 1.8
- Eclipse IDE
- JSF 2.2
- Tomcat 8.5
- Jsp 2.0

PROJECT ARCHITECTURE:

MVC approach:



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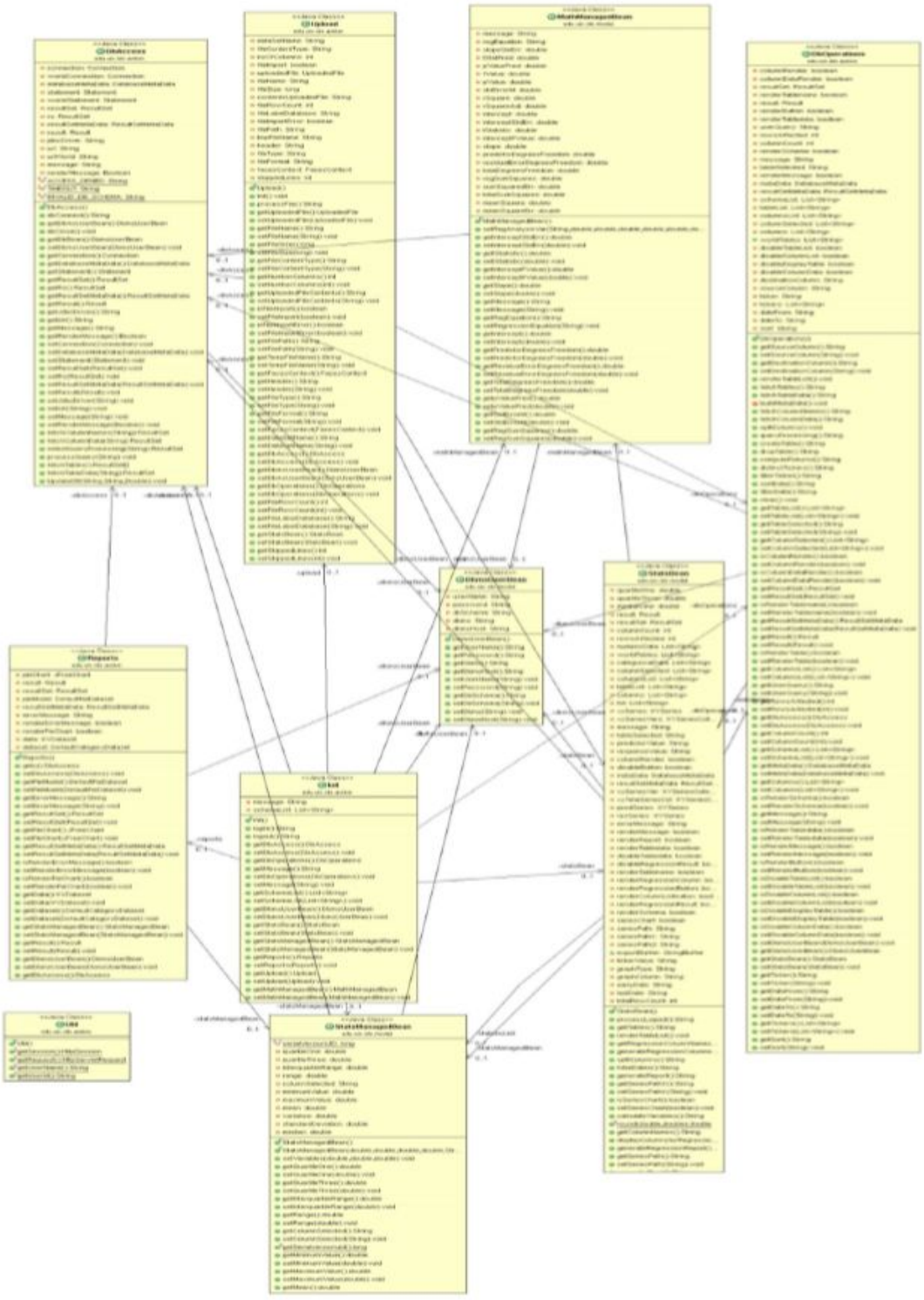
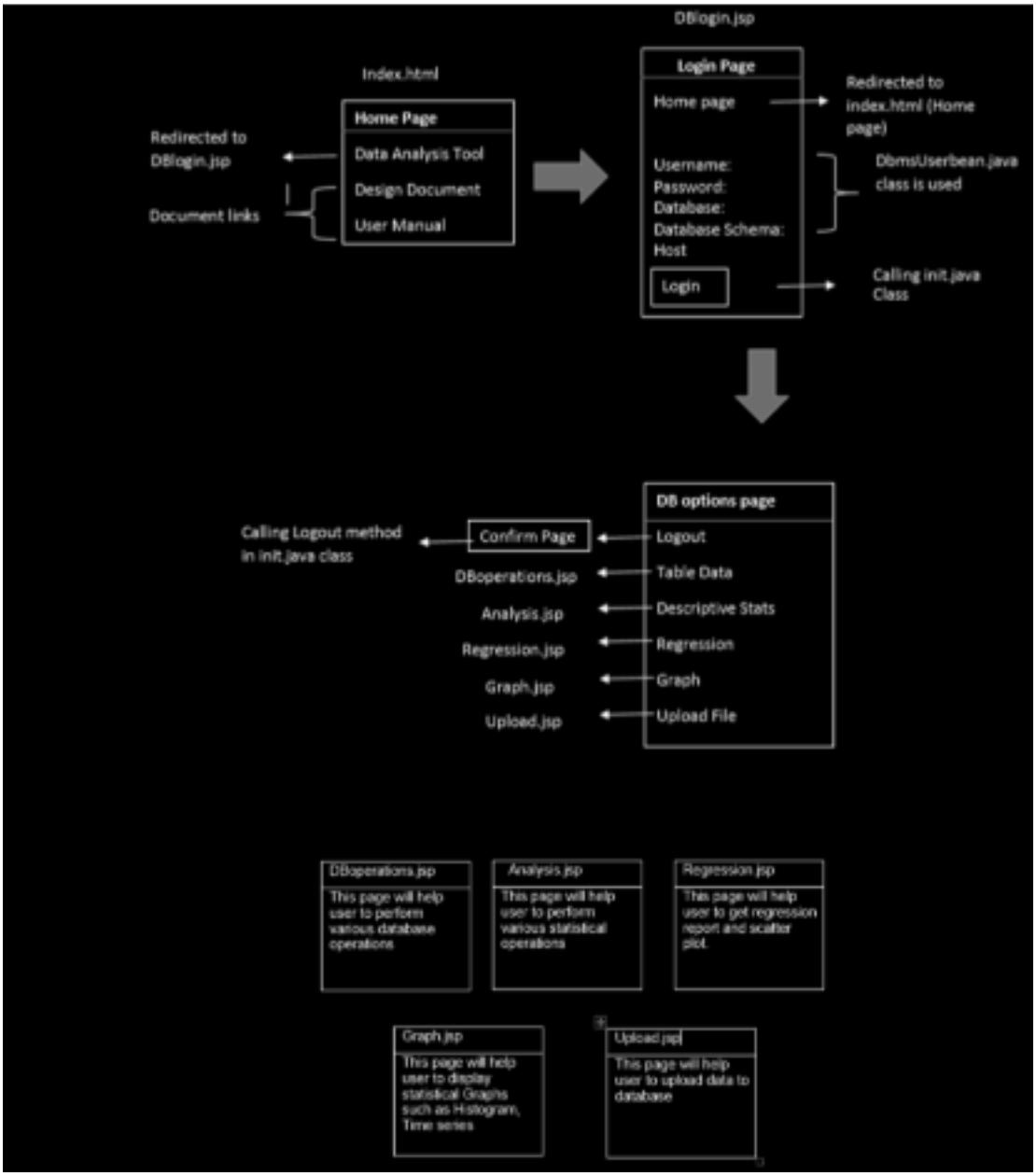


APPLICATION DESIGN:



JAVA CLASSES:

- DbAccess.java
    - Database connection
    - Fetching the column names from the database for given table
    - Fetching the Table Data from the database for given table
    - Processing SQL queries.
- DbOperations.java
    - To perform database operations such as create table, drop table.
    - filter data based on ticker and dates.
- Init.java
    - All class methods and class variables are initialized.
    - Database login and logout operations
    - faces creation session.
- Reports.java
    - supporting class
- Upload.java
    - Import data from the file and load it into database
    - process the file and fetch details such as file name, file size, and type of file.
- Util.java
    - Faces session binding with http
- DbmsUserBean.java
    - To access the database. As we are using MVC architecture.
- StatsManagedBean.java
    - To fetch statistical information about data such as standard deviation, mean , median etc.
    - create statistical graphs such as Histogram, Time series and scatter plot.
- MathManagedBean.java
    - supporting class
- StatsBean.java
    - supporting class