CSP-586 UML FINAL PROJECT
TEAM#9

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1) Brief project overview statement.

The project mainly focuses on datasets in finance domain. The project extends implementation of chart.js and dataset.js libraries. The dashboard enables user to select required dataset. On selection user can view the dataset in tabular format. Moreover, user can view the data in different charts. User can filter the rows and columns of choice while plotting the data in charts. Additionally, user can download the populated charts as an image.

2) Requirements/Features List (All Requirements and Features must be numbered)

Requirements

User should be allowed to:

- ₹ to select dataset.
- ₹ to visualize the data using different types of chart.
- ₹ to filter the data by rows (horizontal slicing) and columns (vertical slicing)
- ₹ to download/print chart as an JPEG/PNG image.
- ₹ to export the data in JSON/CSV format.

Features List

- ₹ Selecting and displaying various finance related datasets from City of Chicago data portal.
- ₹ Filtering the datasets based on different columns and rows.
- ₹ Viewing dataset using various visualization chart techniques such as:
  1. Bar
  2. Line
  3. Pie
  4. Doughnut
- ₹ Downloading the chart as an image.
- ₹ Exporting the data into JSON/CSV format file.

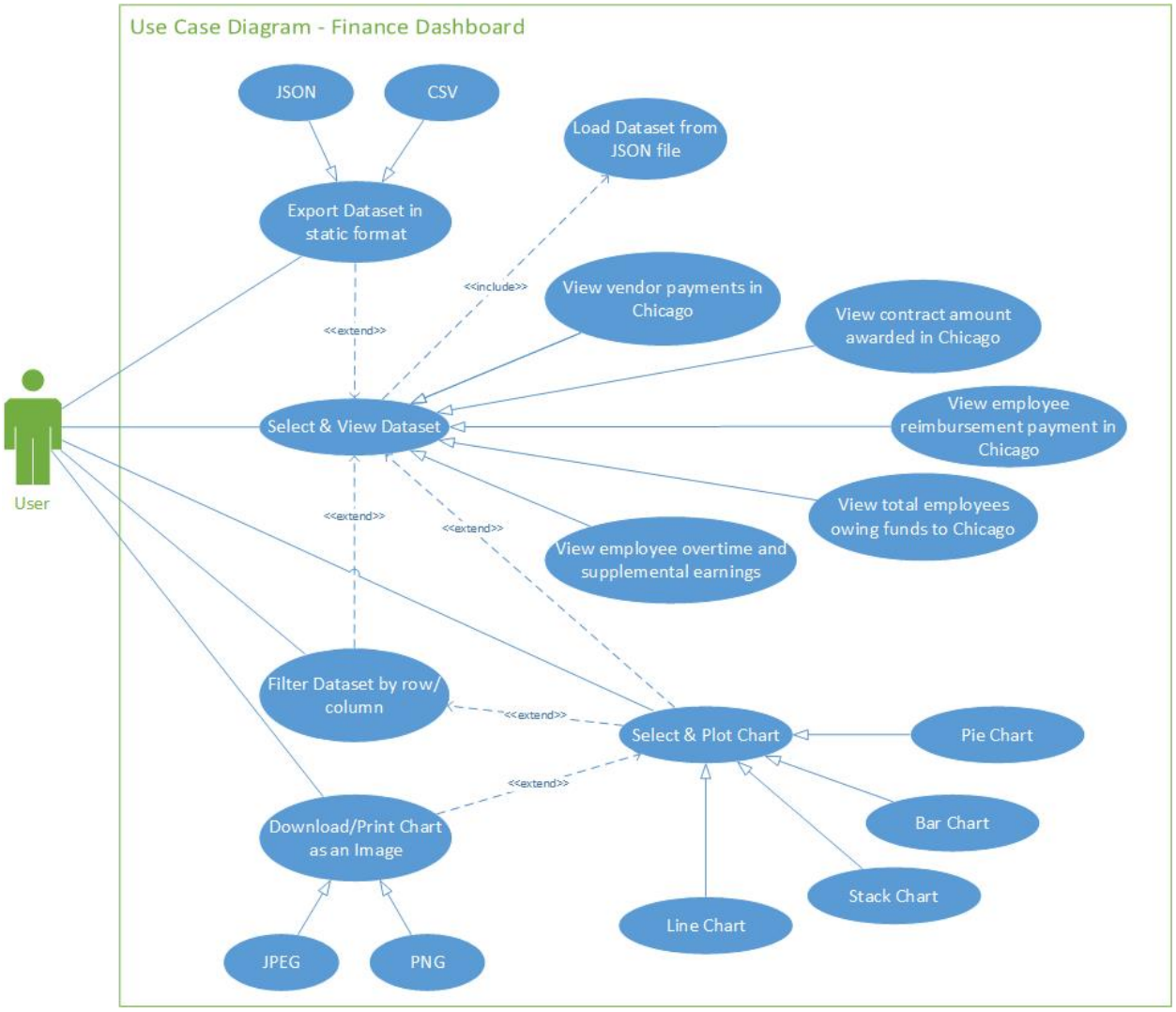
3) Use Cases and Use Case Diagram

Use Cases

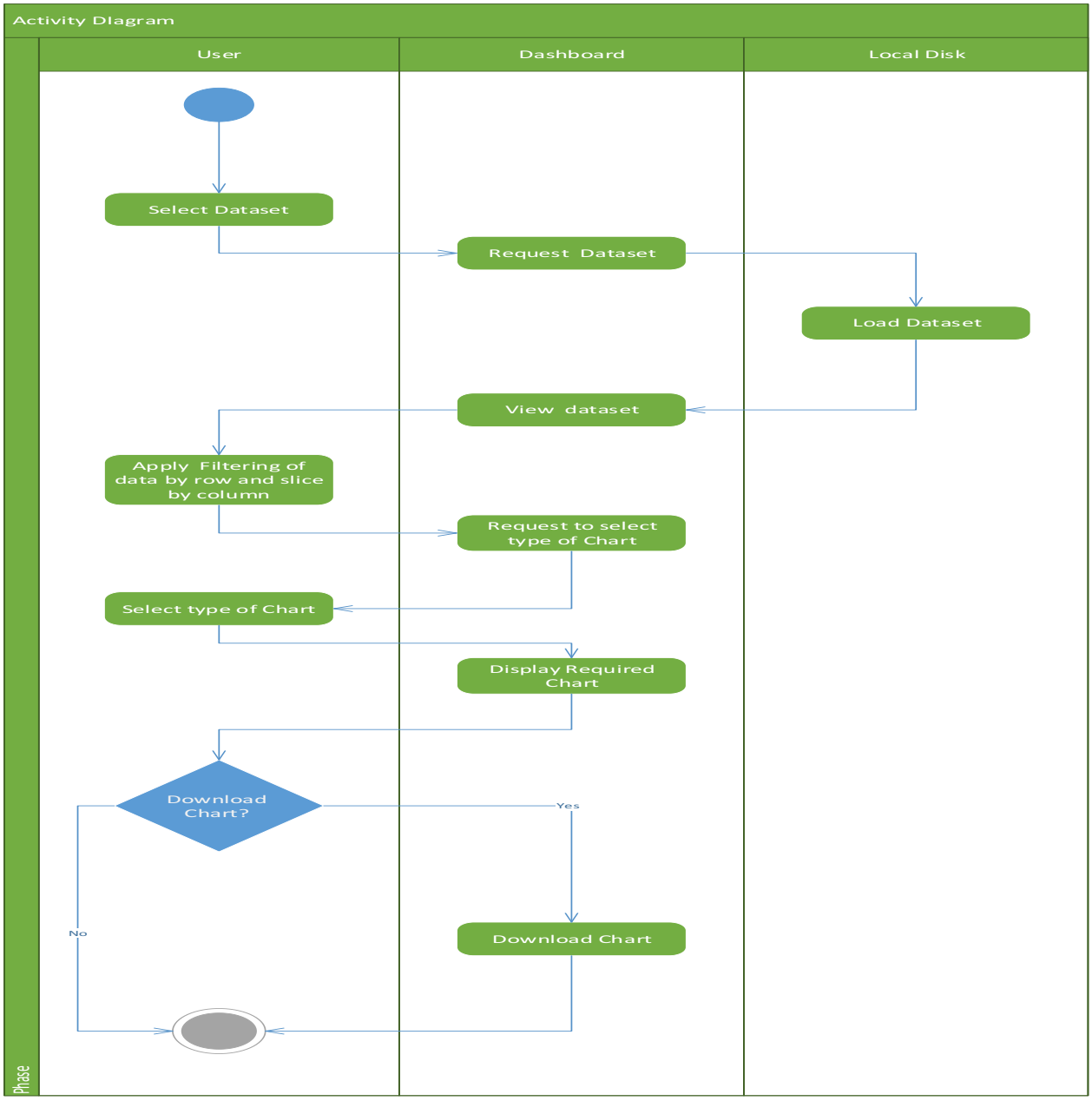
Actor: User
Use Cases:

- ₹ Select & view dataset
  - ✓ View vendor payments in Chicago
  - ✓ View contract amount awarded in Chicago
  - ✓ View employee reimbursement payment in Chicago
  - ✓ View total employees owing fund to Chicago
  - ✓ View employee overtime and supplemental earnings in Chicago
- ₹ Export dataset in static format
  - ✓ CSV format
- ₹ Select & plot chart
  - ✓ Bar chart
  - ✓ Line chart
  - ✓ Pie chart
  - ✓ Doughnut chart
- ₹ Filter dataset by row and column
- ₹ Download/print chart as an image
  - ✓ JPEG
  - ✓ PNG

Use case diagram

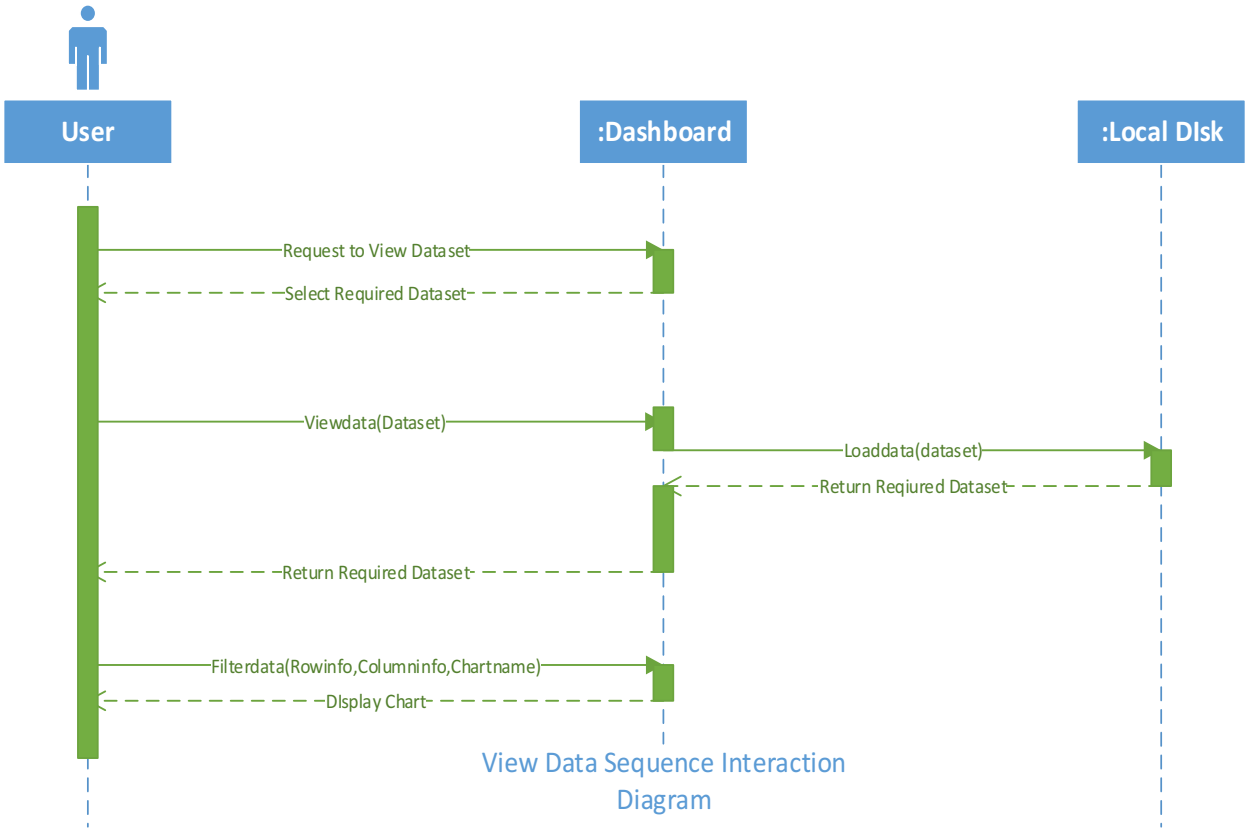


4) Activity Diagrams



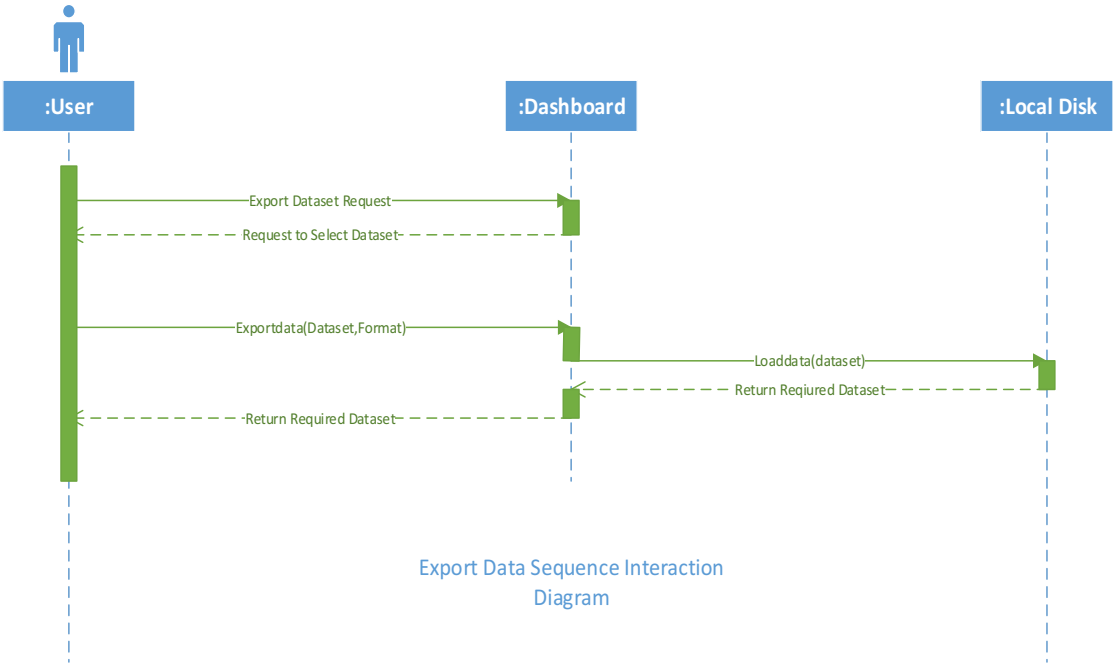
5) Sequence Diagrams

1. View Data



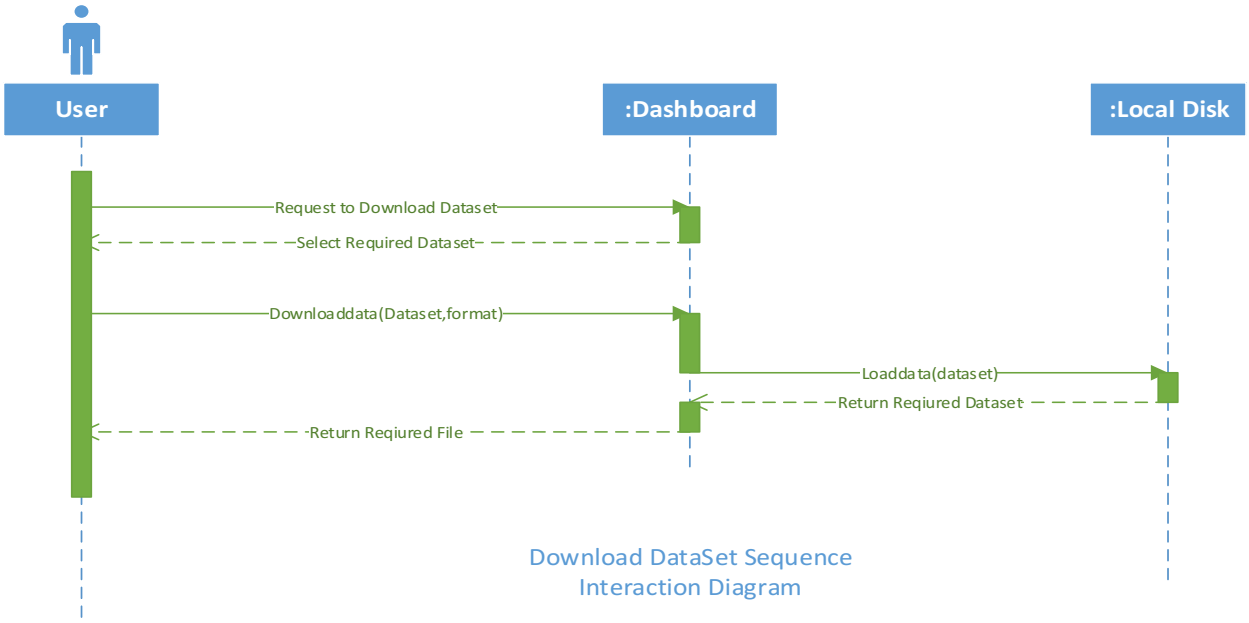
View Data Sequence Interaction Diagram

2. Export Data



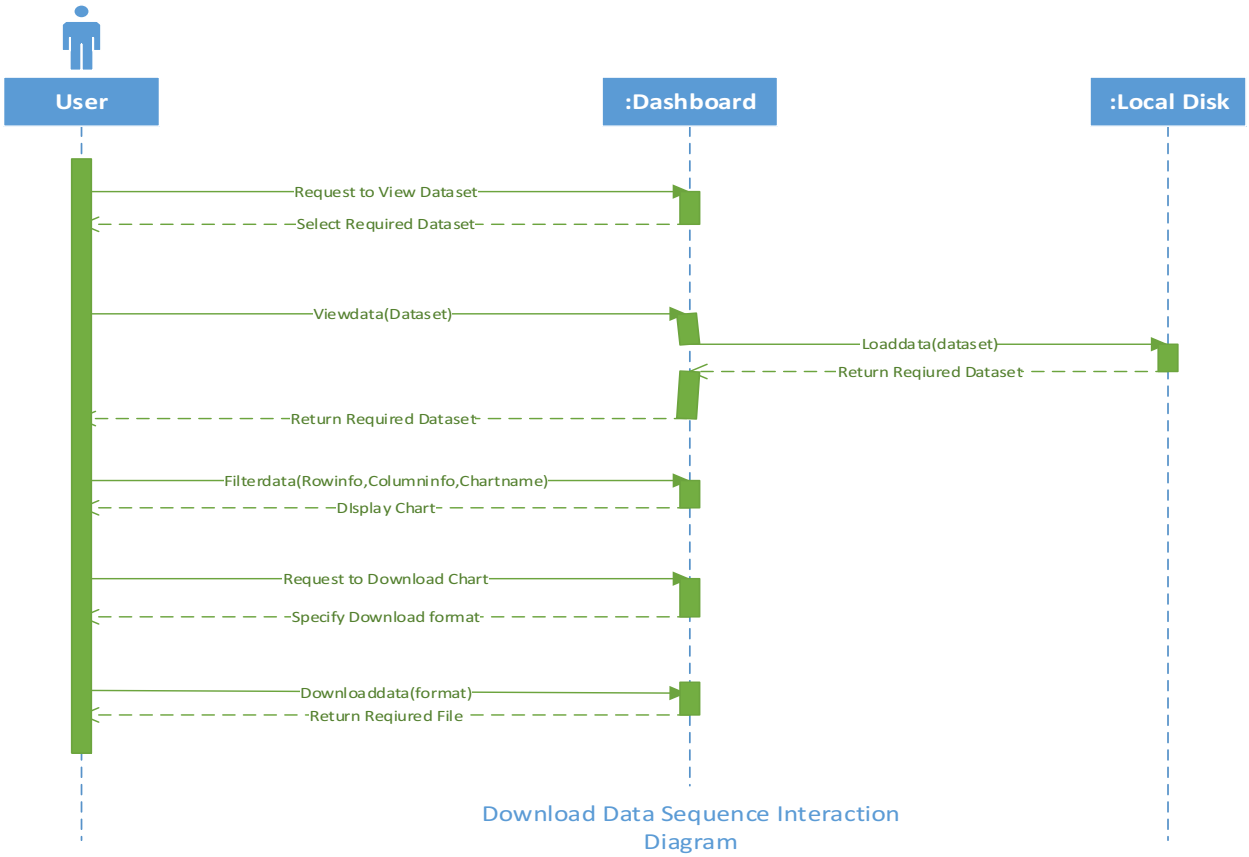
Export Data Sequence Interaction Diagram

3. Download Dataset



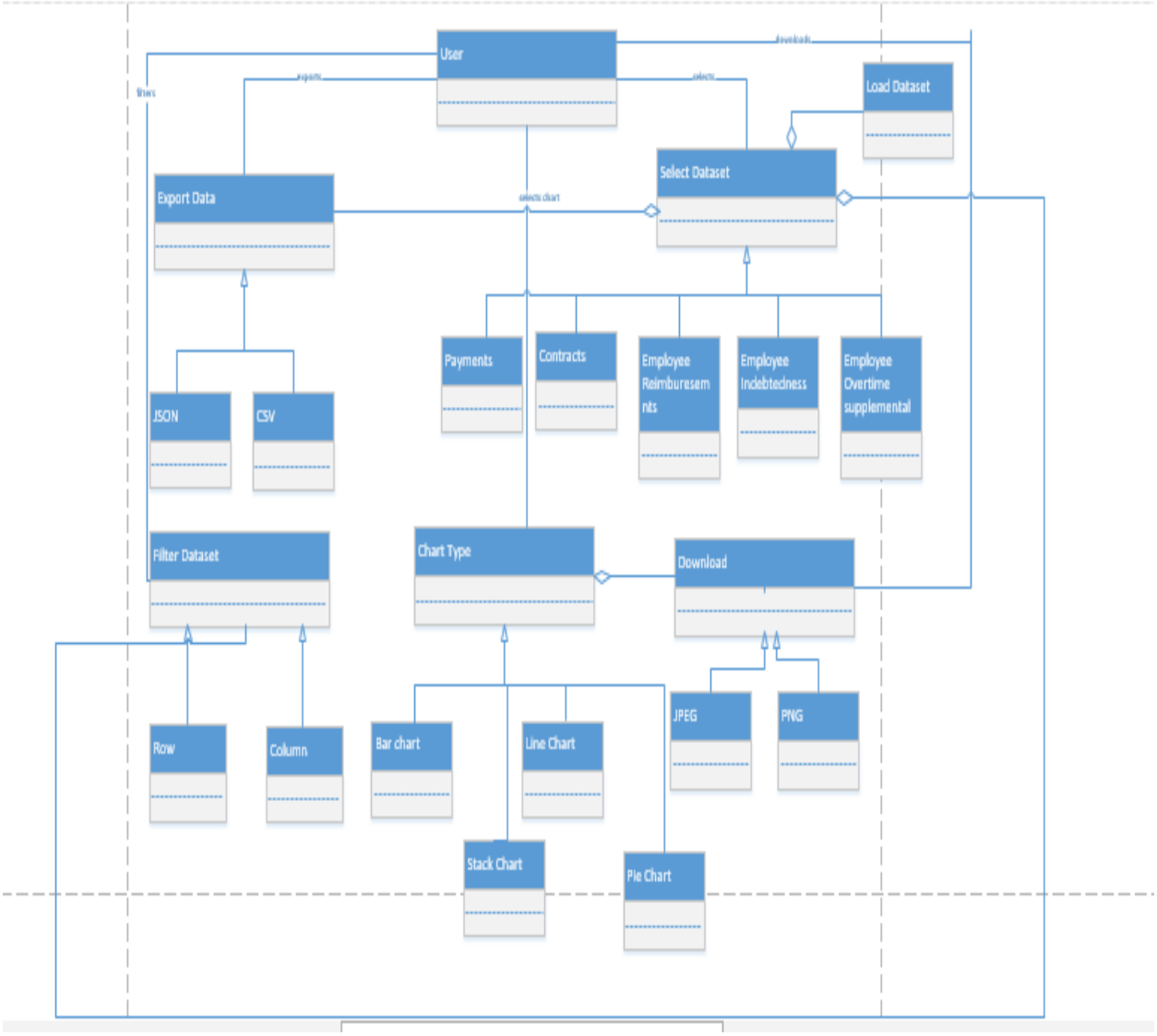
Download DataSet Sequence Interaction Diagram

4. Download Data

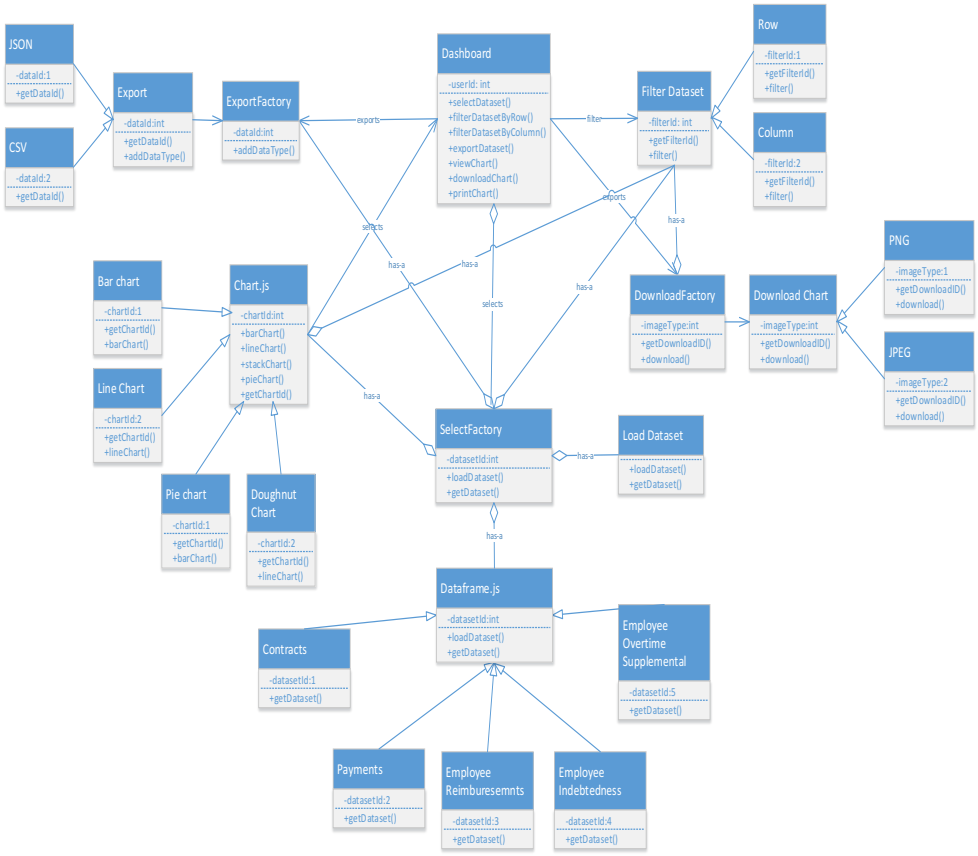


Download Data Sequence Interaction Diagram

6) Domain Model Class Diagram

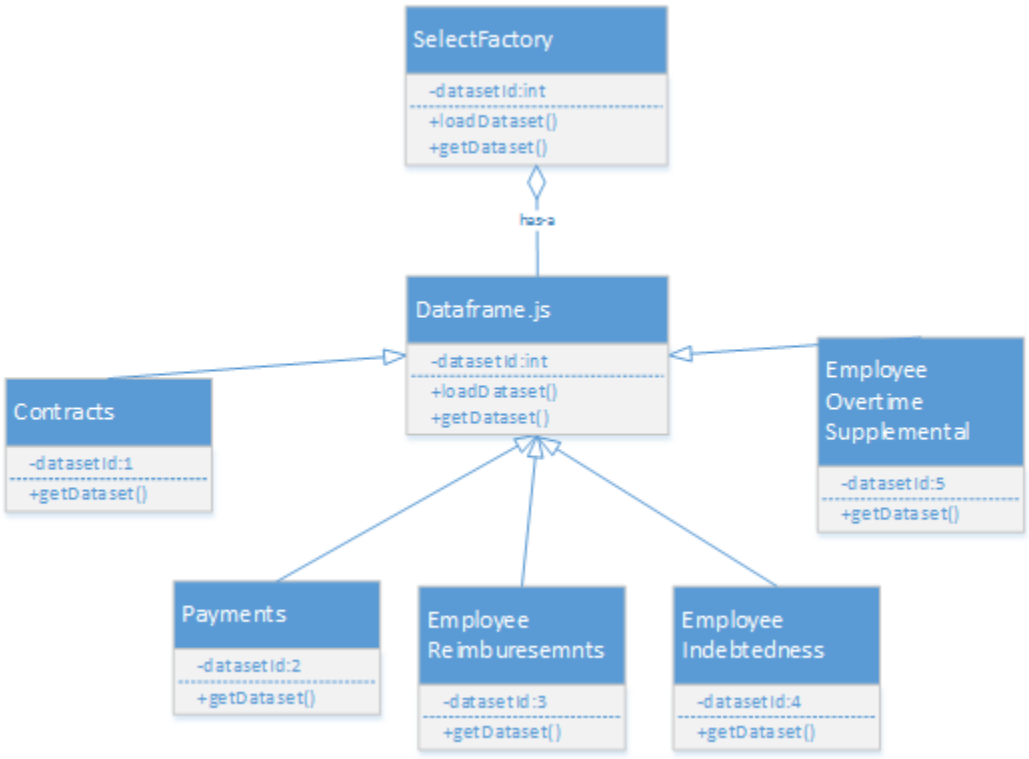


7) Design Model Class Diagram

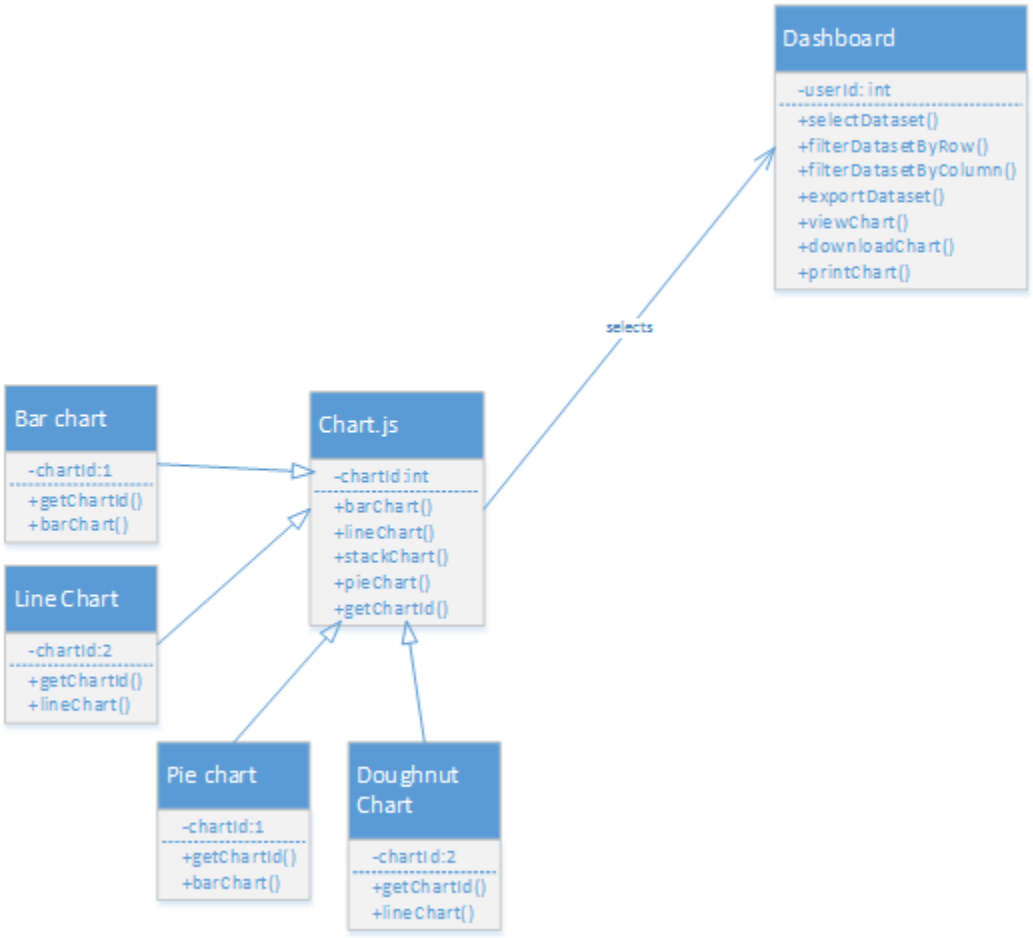


8) Documentation and class diagrams for Design Patterns used.

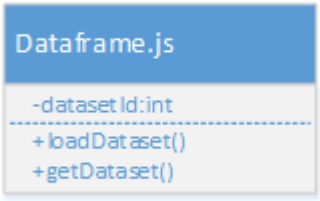
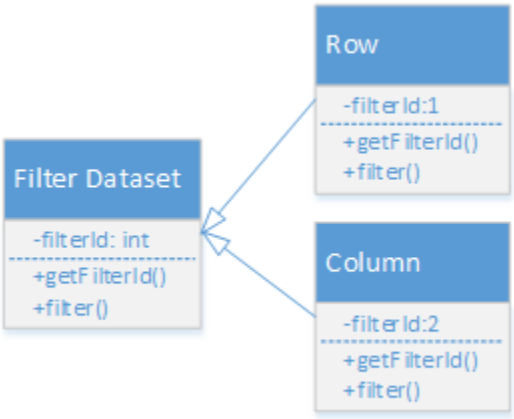
1. Abstract Factory



2. Strategy Pattern



3. Singleton pattern



4. Composite Pattern