Key Features and Design Decisions:

Getting Data from API & Loading:

- Retrieved the movie data from the provided JSON endpoint.
- Used useEffect to simulate data fetching with a 1-second delay. In a real-world scenario, this would involve fetching data from an API.
- Utilized useState to manage the loading state and display a spinner while data is being fetched.
- The fetched data to convert it into a structured format suitable for consumption by the React components.

Component Structure:

- Developed a component-based architecture for building the dashboard.
- Created separate React components for each widget.
  - OscarOverview: Displays Oscar-related statistics.
  - TopPerformers: Shows a list of top-performing movies.
  - SearchFilter: Allows users to filter movies based on various criteria.
  - LanguageInsights: Provides insights into movie languages.
  - CountryInsights: Provides insights into movie countries.
  - MovieDetailsCard: Displays detailed information about a selected movie.
- Used a layout component to structure the overall dashboard layout and arrange the widgets in a visually appealing manner.

State Management & Filtering:

- Used useState to manage the filtered data and the selected movie.
- handleFilterUpdate is a useCallback function to efficiently update the filtered data and manage side effects.
- Passed filtered data to child components for rendering.
- Components can access and update the state using appropriate hooks (e.g., useState for local state).

Data Visualization Libraries:

- Incorporated charting libraries like React Chartjs 2 to create visually compelling charts and graphs for widgets like OscarOverview, LanguageInsights and CountryInsights.

Search and Filter Functionality:

- Designed a SearchFilter component that allows users to filter movies based on various attributes like genre, year, imdb rating.
- Updated the application state based on user selections in the filter panel.
- Re-render relevant components (e.g., OscarOverview, SearchFilter, TopPerformers, LanguageInsights, CountryInsights, MovieDetailsCard) to reflect the filtered data.

Responsive Design:

- Used a responsive UI library like Bootstrap to ensure the dashboard adapts seamlessly to different screen sizes and devices.
- Includes a basic UI with a search filter, dashboard sections, and a footer.
- Displayed a simple user profile with an image and name in the top right corner.

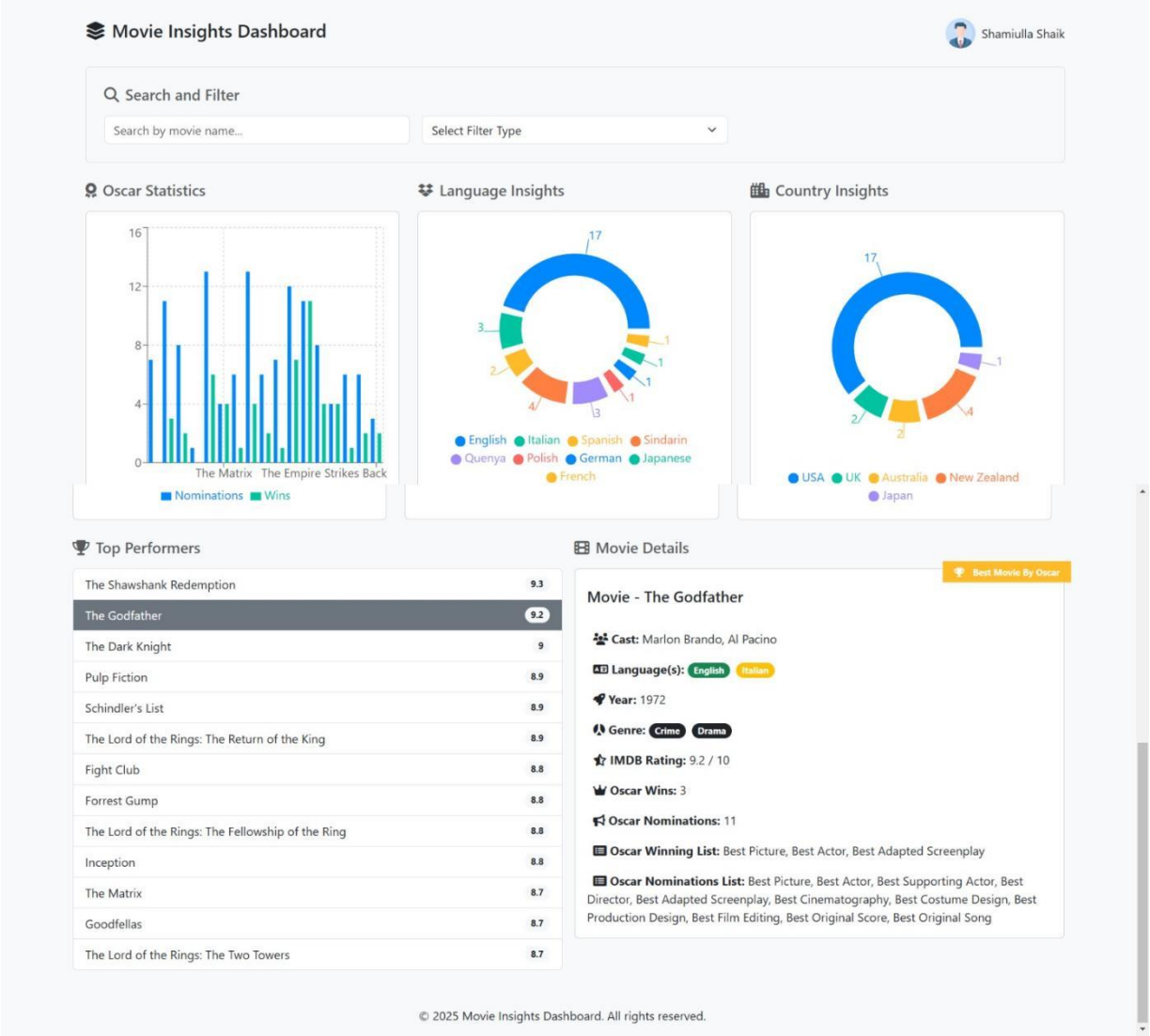
Testing:

- Wrote unit tests for components to ensure their functionality and catch regressions during development.

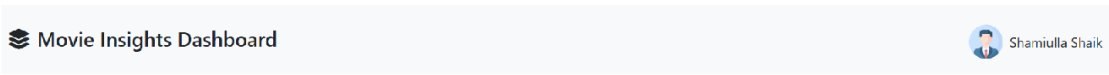
Deployment:

- Considered deployment options like hosting the React application on a platform like Firebase for demoing purpose.
- Demo can be found here - https://glance-care-dashboard.firebaseapp.com/

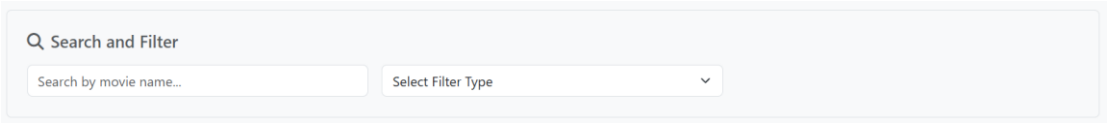
The Application View



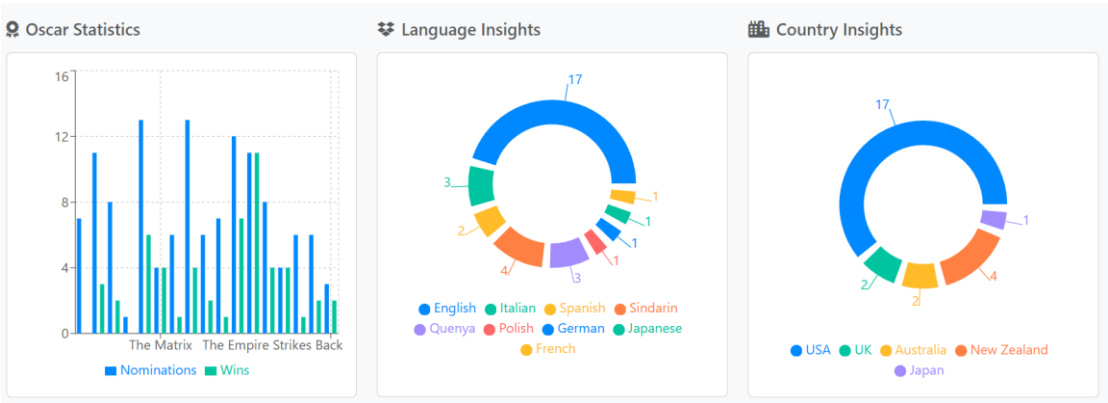
The Header Menu



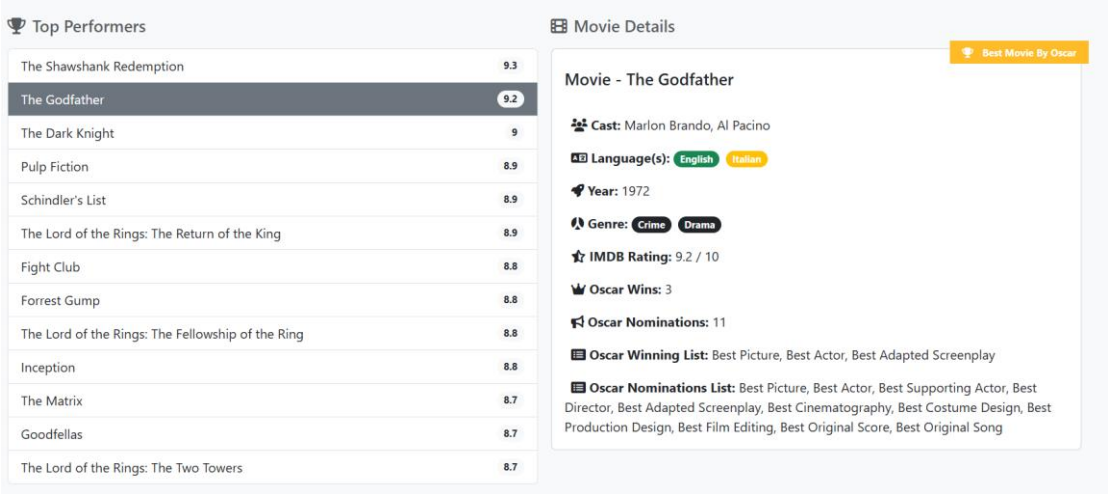
The Search & Filter Panel



The Various Insights (Data Visualization Charts)



Other Widgets



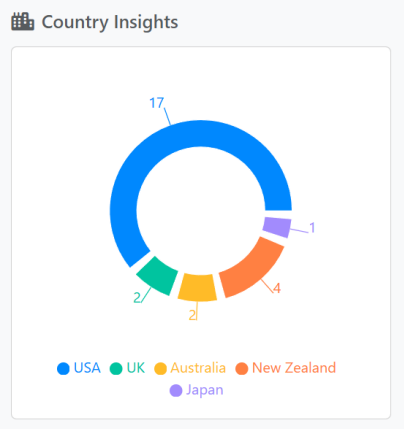
Functionality of Each Component:

1. **Country Insights:**

CountryInsights component effectively processes movie data and displays a pie chart visualizing the distribution of countries.

- The countryData object is created using reduce to accumulate the number of movies for each country.
- The countryChartData array is then constructed by converting the object into an array suitable for the PieChart component.

Pie Chart Configuration:



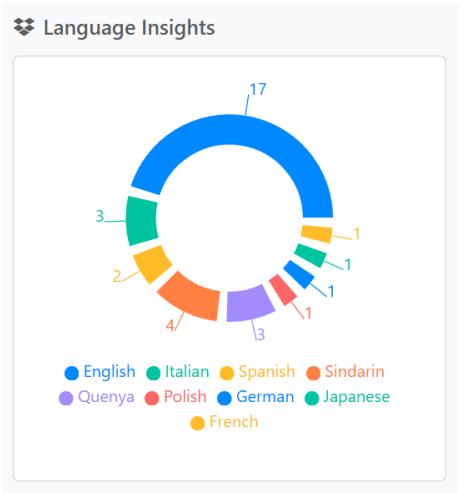
- A PieChart component from recharts is used to render the pie chart.
- The Pie component defines the data, data key, animation, and other visual properties.
- Cell components are used to define the color of each pie slice.
- Tooltip and Legend components enhance user interaction by providing hover information and labels for data slices.

2. **Language Insights:**

LanguageInsights component effectively processes movie data and displays a pie chart visualizing the distribution of languages.

- The languageData object is created using reduce to accumulate the number of movies for each language.
- The languageChartData array is then constructed by converting the object into an array suitable for the PieChart component.

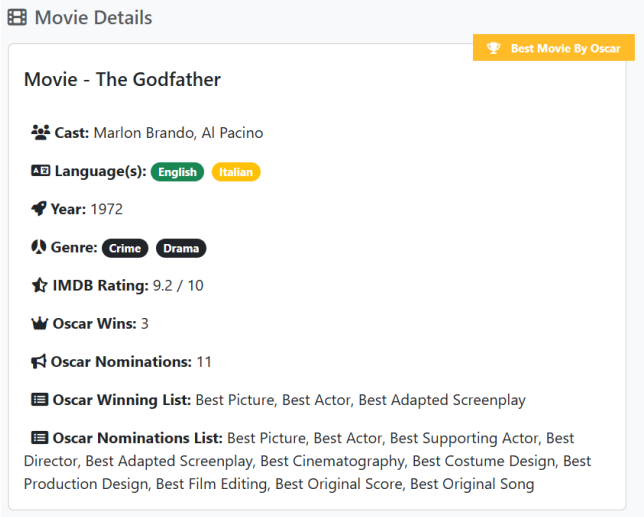
Pie Chart Configuration:



- A PieChart component from recharts is used to render the pie chart.
- The Pie component defines the data, data key, animation, and other visual properties.
- Cell components are used to define the color of each pie slice.
- Tooltip and Legend components enhance user interaction by providing hover information and labels for data slices.

3. **Movie Details Card:**

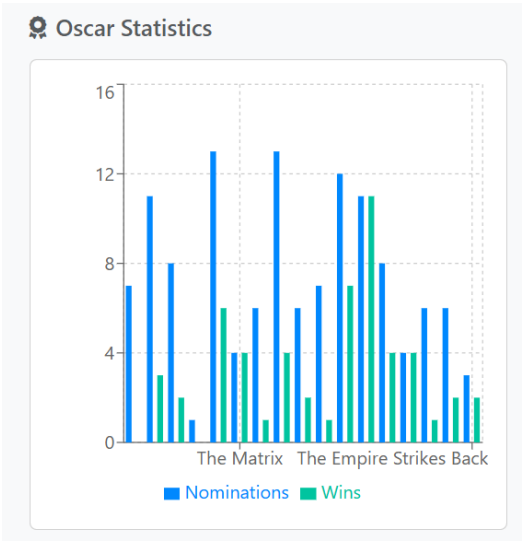
MovieDetailsCard component effectively displays movie details in a visually appealing card format.



- Takes a movie object as a prop containing movie details.
- Displays movie title, cast, languages, year, genre, IMDB rating, Oscar wins, nominations, and winning/nominated categories.
- Conditionally renders a "Best Picture" ribbon if the movie won the award.
- Uses Bootstrap classes for styling and layout.

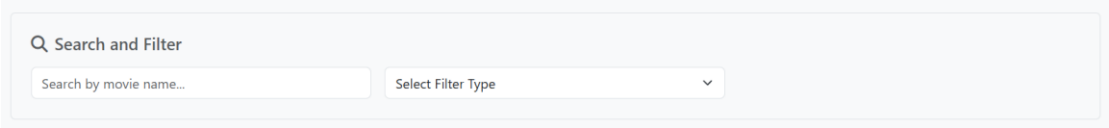
Oscar Overview:

OscarOverview component effectively creates a bar chart visualizing Oscar nominations and wins for each movie in the data set.



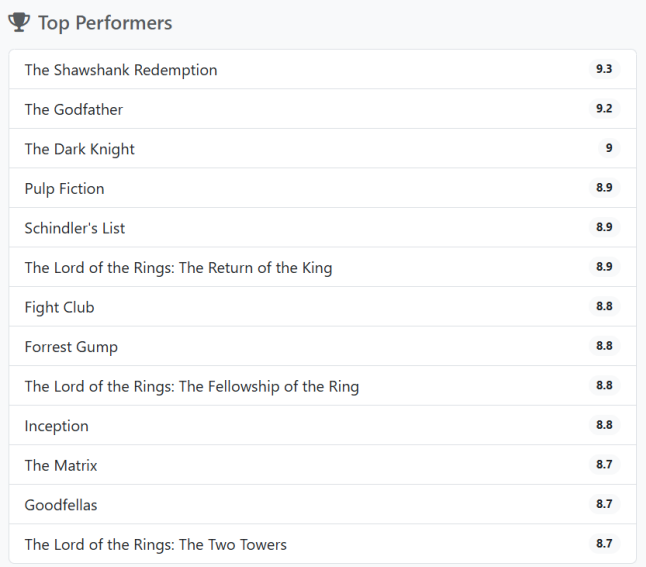
- Processes movie data to create chartData with movie titles, nominations, and wins.
- Renders a BarChart using recharts components.
- Configures the chart with gridlines, axes, tooltips, legend, and colored bars for nominations and wins.

Search Filter: SearchFilter component effectively creates a search and filter bar for a movie database application.



- Provides search and filter functionality for movie data.
- Offers options to filter by year, genre, and IMDB rating.
- Updates filtered data based on user input and selections.

Top Performers: TopPerformers component effectively displays a list of top-rated movies with the following key features:



- Sorting: Sorts the input data by imdb_rating in descending order to find the top-rated movies.
- Display: Displays a list of the top movies with their titles and ratings.
- Highlighting: Highlights the currently selected movie by changing its background color and text color.
- Click Handling: Handles click events on each movie title to update the selected movie state and pass it to the parent component.

Deployment Options to run the application locally:

- Install **NodeJS (v18.20.5)** or any latest version
- Navigate to **glance-care-dashboard**
- To install - **npm install**
- To run application - **npm run dev**
- To run tests - **npm test**
- To build - **npm run build**