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Course Title:	MSc Information Systems with Computing
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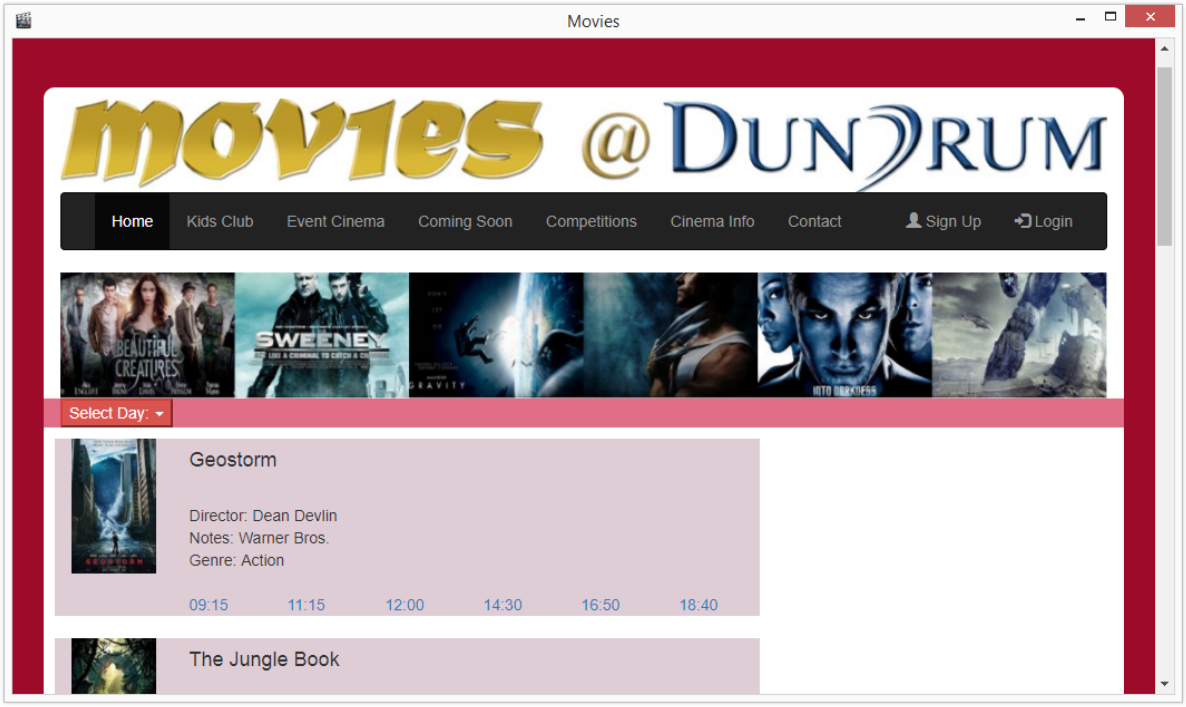
Module/Subject Title:	Web and Mobile Technologies (B9IS122)
Assignment Title:	Development of a Progressive Web Application (PWA)

Contents

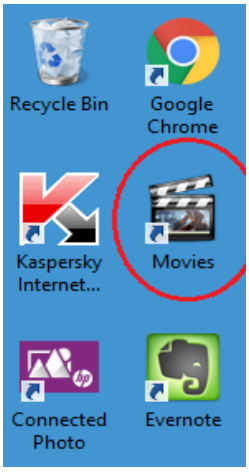
Introduction.

Objective of this assignment is to create a Progressive Web App (PWA) that connects to a third party movie api and handles offline and online access. It should simulate a movie booking application by using PWA guidelines.

Progressive Web Apps are experiences that combine the best of the web and the best of apps. As the user progressively builds a relationship with the app over time, it becomes more and more powerful. It loads quickly, even on flaky networks, sends relevant push notifications, has an icon on the home screen, and loads as a top-level, full screen experience.



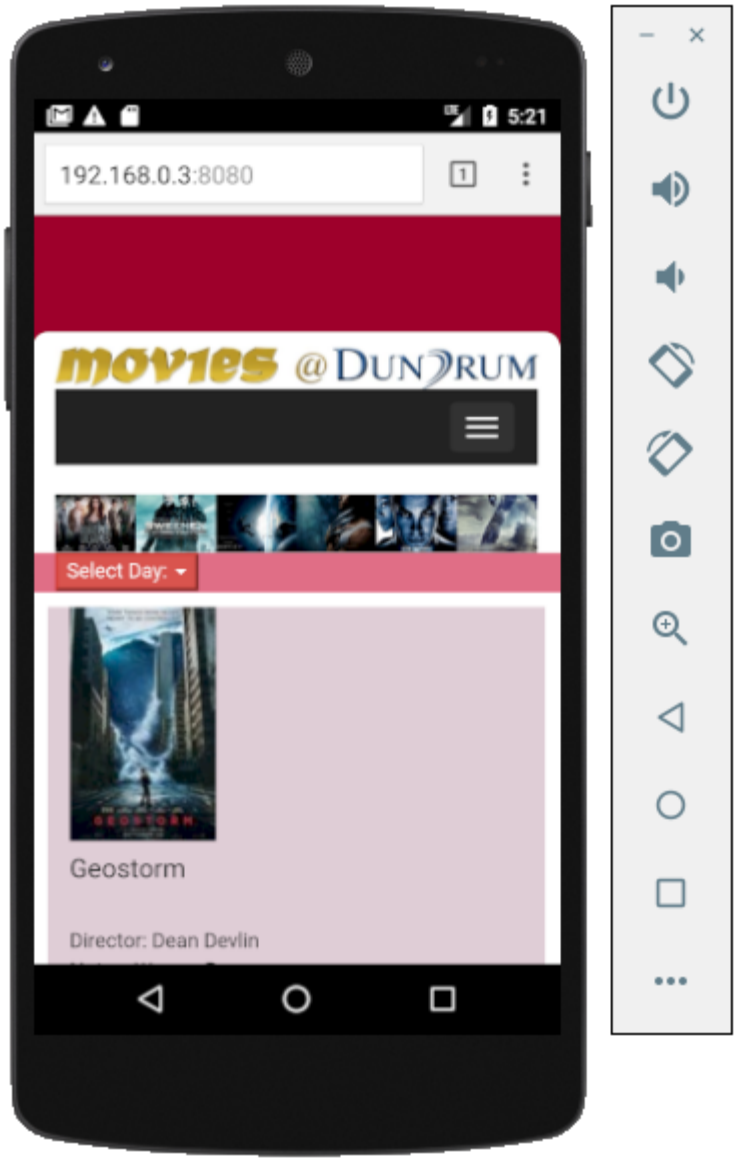
It will behave like a web app and can be launched through a desktop icon.



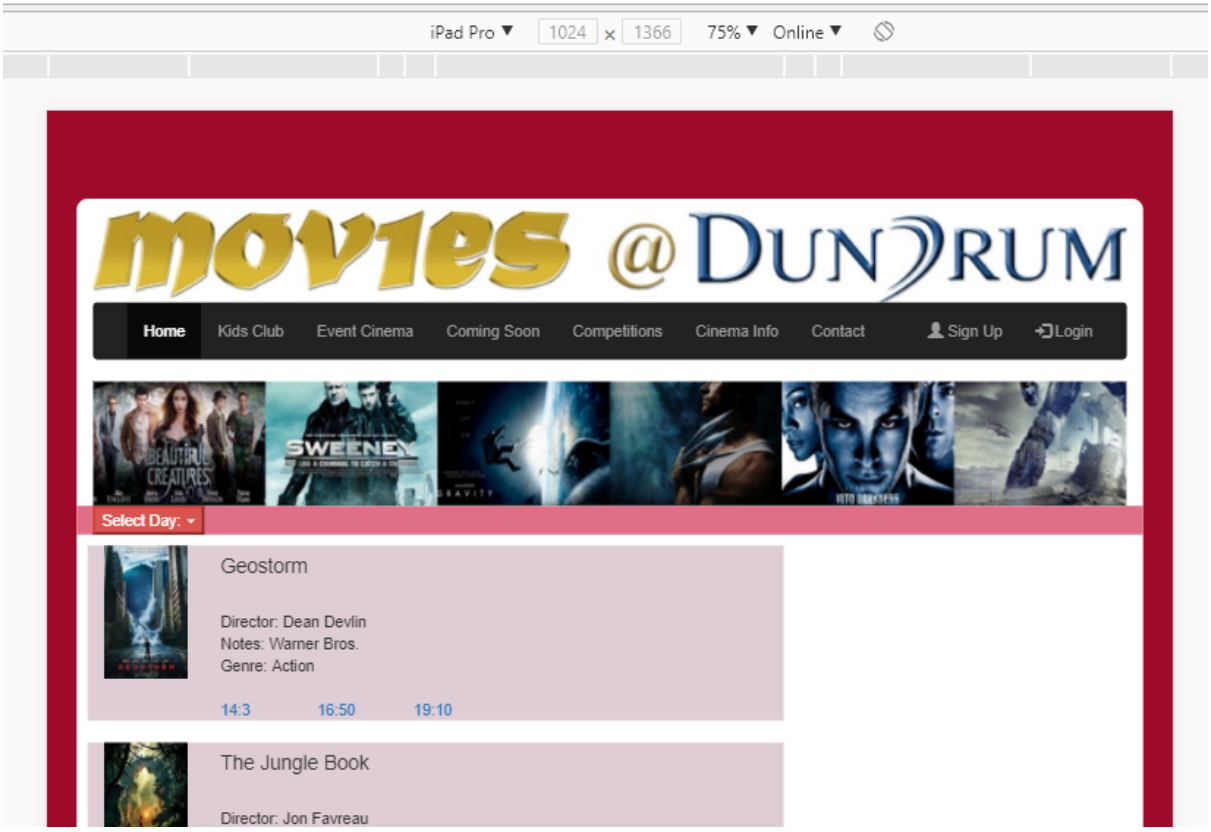
Responsive Layout.

In this application I Am using bootstrap library to provide responsive behaviour to my application. Bootstrap is a free and open-source front-end library for designing websites and web applications. It contains HTML- and CSS-based design templates for typography, forms, buttons, navigation and other interface components, as well as optional JavaScript extensions.

Mobile View:



Ipad View:

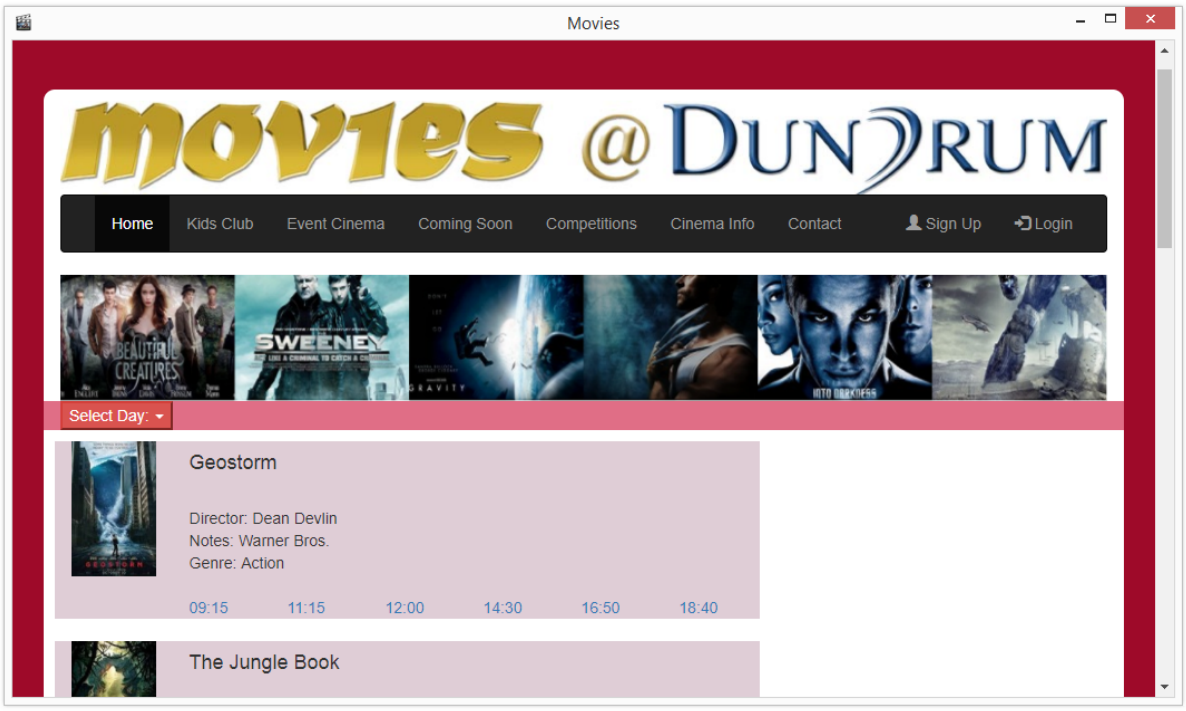


To provide responsiveness to image here using the bootstrap class "**img-responsive**" for images in the application. And we are using **bootstrap grid system** to show contents in responsive way in different devices.

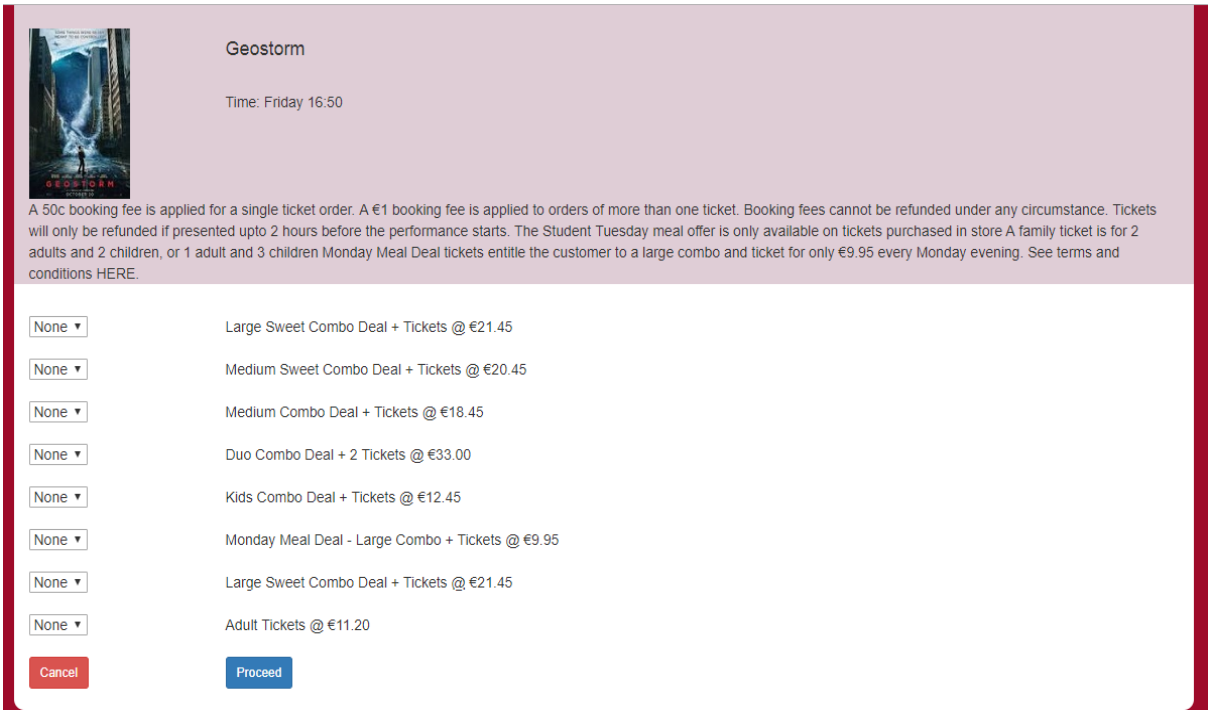
```
<div class="row">
  <div class="col-sm-12">
    <img class="img-responsive" src="images/logo.jpg" style="width:100%">
  </div>
</div>
```

Screenshots:

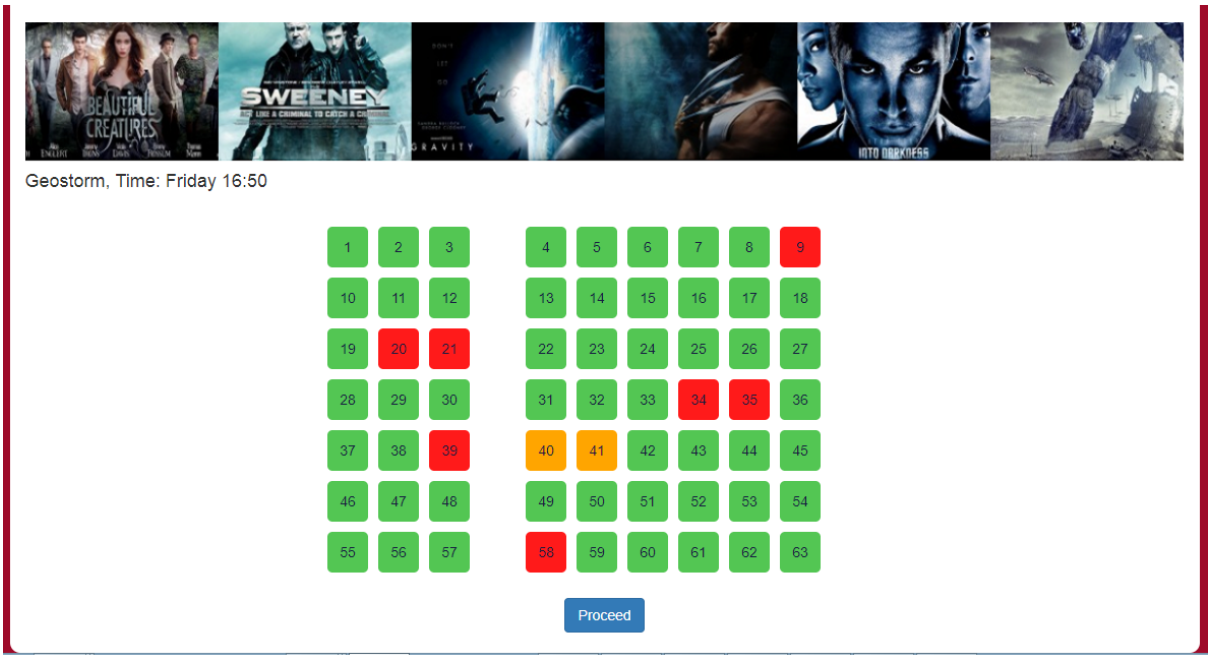
Home page:



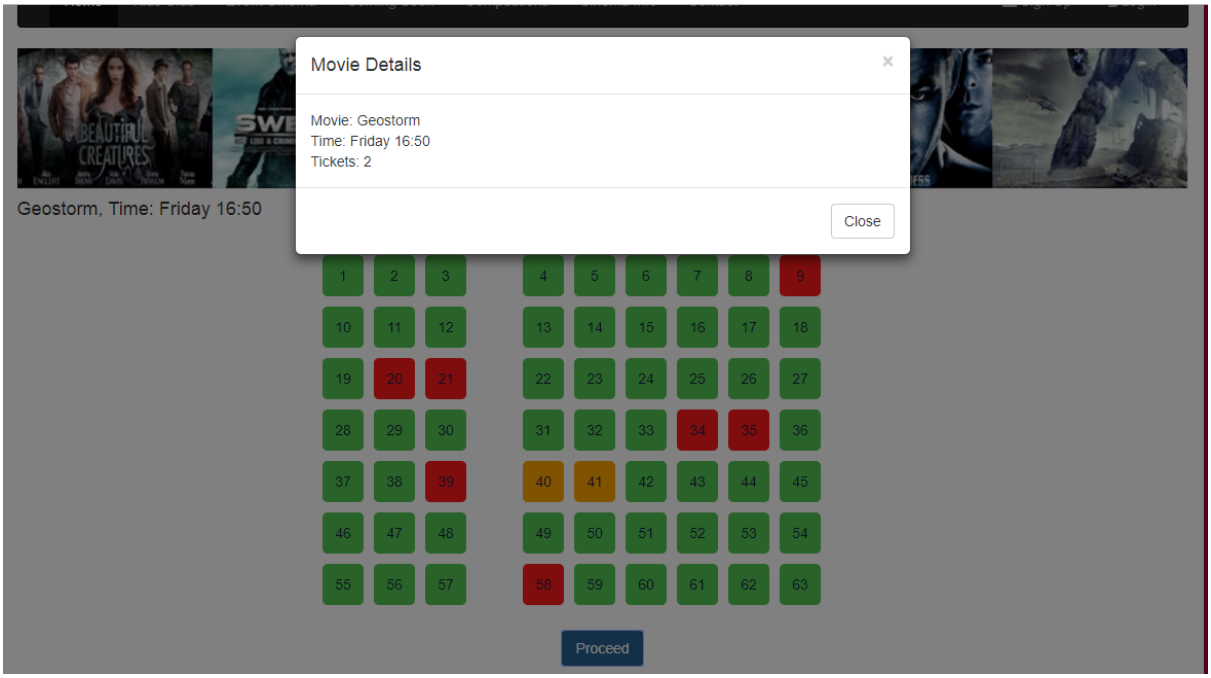
Ticket Type:



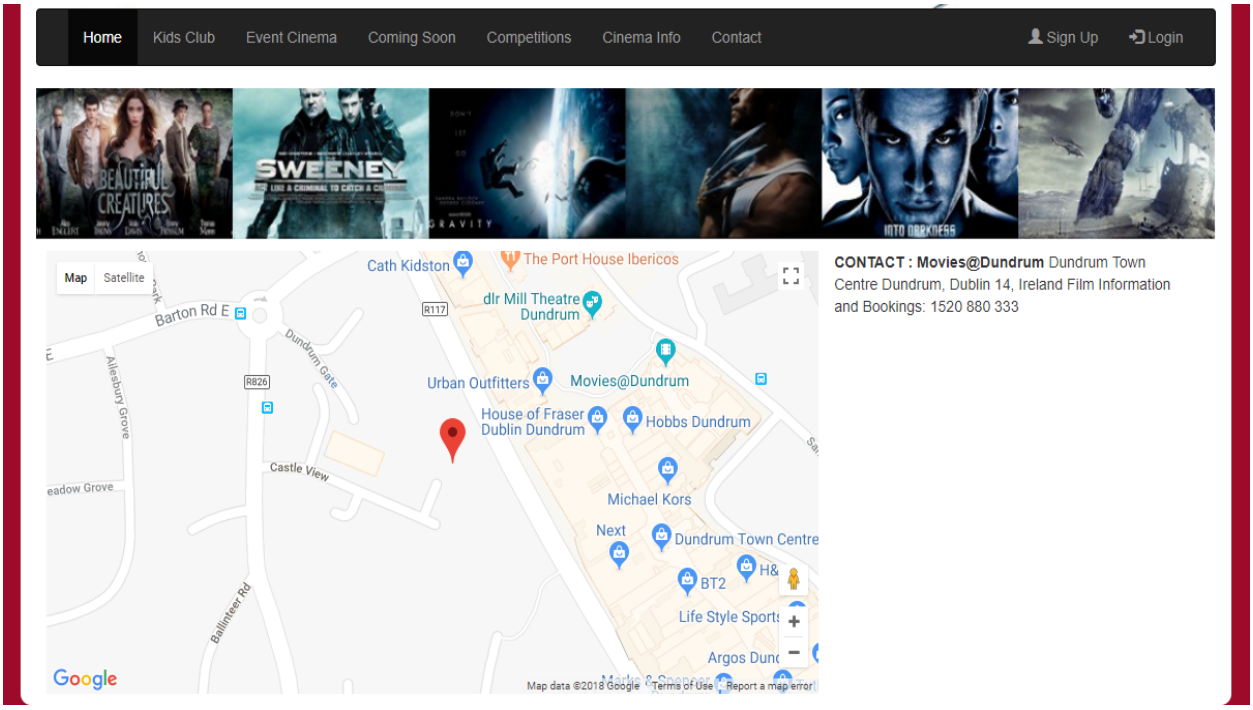
Seats:



Seat Confirmation:



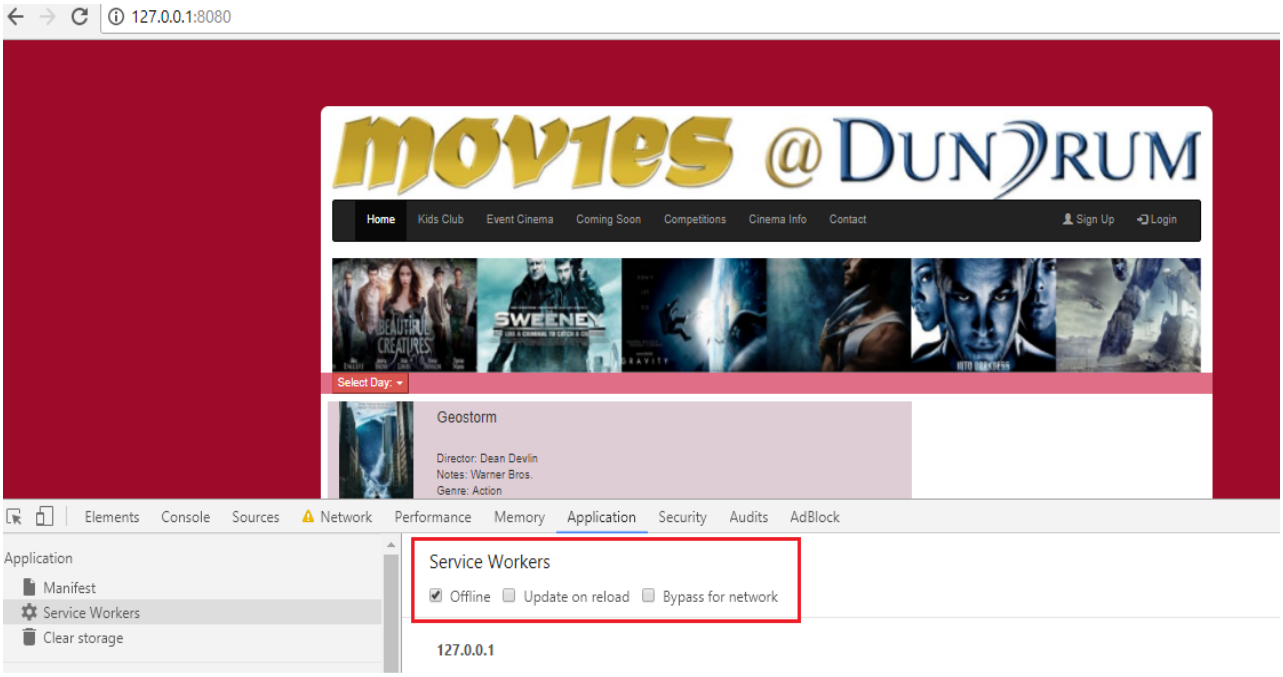
Contact page:



Offline Support:

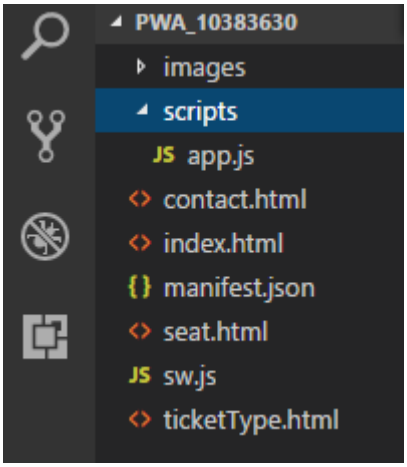
The Cache interface in the Service Worker API, will allow to create stores of responses keyed by request. We can cache the HTML, CSS, JS, and any static files that make up the application shell in the install event of the service worker:

```
//for offline data:

var dataCacheName = 'weatherData-v1';
var cacheName = 'weatherPWA-final-1';
var filesToCache = [
  '/',
  '/index.html',
  '/scripts/app.js',
  '/ticketType.html',
  '/seat.html',
  '/contact.html',

];
```



Application Details:

Project structure:



Libraries Used:

- JQuery
- Bootstrap

```
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
```

Used **manifest.json** to define different icons and application level details like name, orientation etc. The web app manifest is a simple JSON file that gives us the ability to control how our app appears to the user in areas where they would expect to see apps (for example, a mobile device's home screen), direct what the user can launch, and define its appearance at launch.

```
{
  "name": "Movies",
  "short_name": "Movies",
  "theme_color": "#2196f3",
  "background_color": "#2196f3",
  "display": "standalone",
  "orientation": "portrait",
  "Scope": "/",
  "start_url": "/",
  "icons": [
    {
      "src": "images/icons/icon-72x72.png",
      "sizes": "72x72",
      "type": "image/png"
    },
    {
      "src": "images/icons/icon-96x96.png",
      "sizes": "96x96",
      "type": "image/png"
    },
```

Using **jQuery.ajax** method to call API to get movie json data:

```
function CallMovieAPI(day) {


    var movieDay=day;

    jQuery.ajax({
      url: "https://college-movies.herokuapp.com/",
      type: "GET",

      contentType: 'application/json; charset=utf-8',
      success: function (resultData) {
        var tmpResult = resultData.slice(0, 9);
```

GitHub Location:

➔ https://github.com/baijuj/PWA_10383630

Reference.

- 'Progressive Web Apps'(no date). Available at: https://developers.google.com/web/progressive-web-apps/ (Accessed 15 April 2018)