



UNIVERSITI MALAYSIA TERENGGANU

CSM3103 FRONT-END PROGRAMMING (K1)

BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH
HONORS

LAB 2

SEMESTER II 2023/2024

Prepared for:

DR. RABIEI B MAMAT

Prepared by:

IZZUL ILYAS BIN ROSLAN
(S65343)

Task 1 – Setup and configure Apache cordova on your desktop/laptop

- a. Do a research on how to install Apache Cordova
- b. Install the Apache Cordova according to research
- c. Write a step by step process based on your successful experience on How to install Apache Cordova

Task 2 – Your First Apache Cordova Application

- a. Create a folder where your Apache Cordova Project will be stored
 1. Open command prompt
 2. Type : cd Desktop
 3. Type: mkdir cordovaProject
 4. Type: cd cordovaProject
- b. Now you are in the cordovaProject working area. Your C prompt will look like: C:\Users\Desktop\cordovaProject>
- c. Create a new Cordova Project by the following command
 1. cordova create Task2Hello io.csm3103.lab2 Task2
 2. cd Task2Hello
- d. Add android platform to the project
 1. cordova platform add browser
- e. Add browser platform to the project
 1. Cordova platform add browser
- f. Test your first Cordova Project on browser
 1. cordova run browser
- g. Test your first Cordova project on android

```
Windows PowerShell
Microsoft Windows [Version 10.0.19045.4239]
(c) Microsoft Corporation. All rights reserved.

C:\Users\izzul>cd C:\AA SEM IV\Front-End\Lab2_cordovaProject

C:\AA SEM IV\Front-End\Lab2_cordovaProject>npm install -g cordova
npm WARN deprecated @npmcli/move-file@2.0.1: This functionality has been moved to @npmcli/fs
npm WARN deprecated stringify-package@1.0.1: This module is not used anymore, and has been replaced by @npmcli/package-json
npm WARN deprecated har-validator@5.1.5: this library is no longer supported
npm WARN deprecated uuid@3.4.0: Please upgrade to version 7 or higher. Older versions may use Math.random() in certain circumstances, which is known to be problematic
. See https://v8.dev/blog/math-random for details.
npm WARN deprecated request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142

changed 547 packages in 4m
62 packages are looking for funding
  run 'npm fund' for details

C:\AA SEM IV\Front-End\Lab2_cordovaProject>cordova --version
12.0.0 (cordova-lib@12.0.1)

C:\AA SEM IV\Front-End\Lab2_cordovaProject>cordova create helloworld com.helloworld.io HelloWorld
Creating a new cordova project.

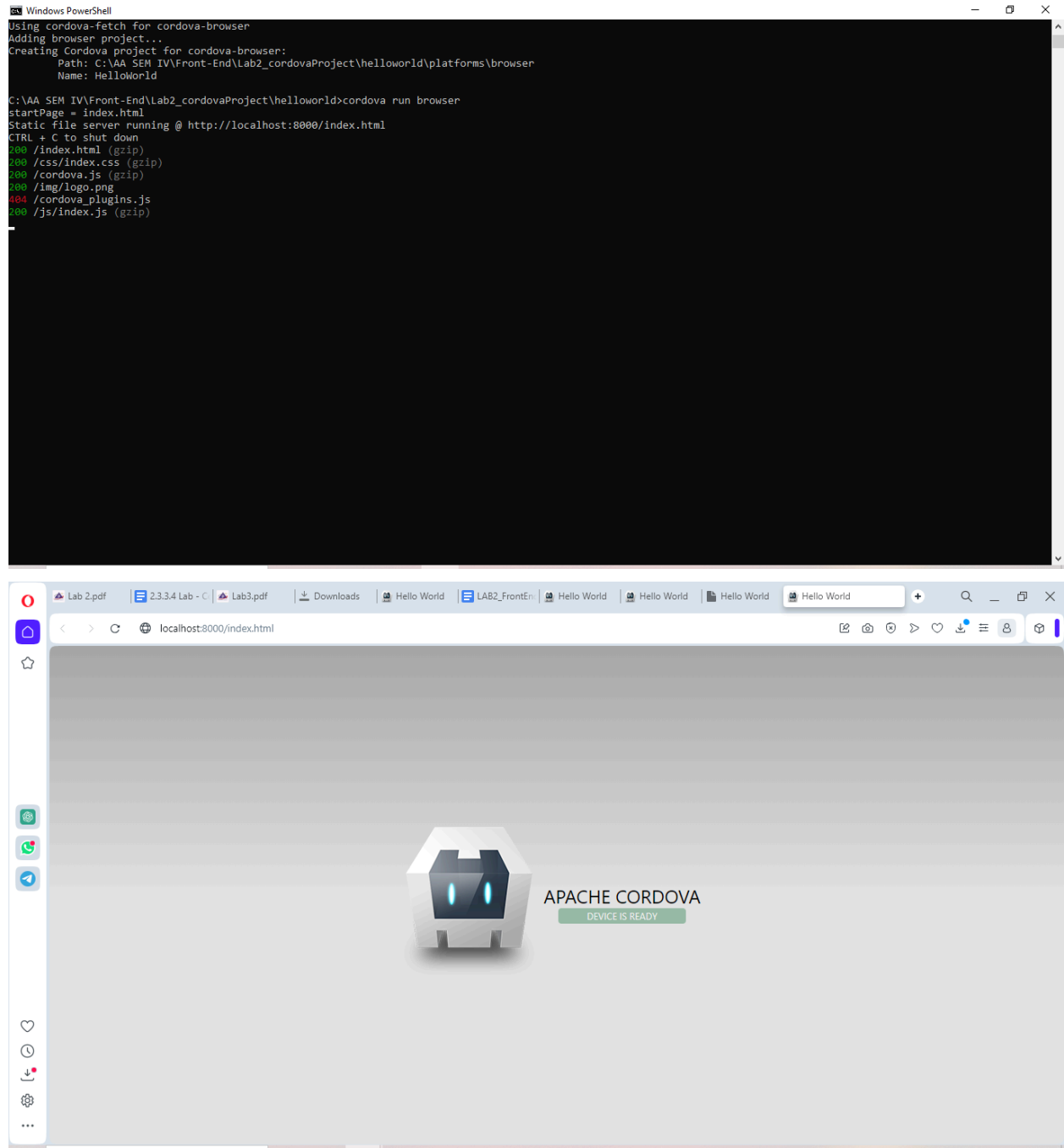
C:\AA SEM IV\Front-End\Lab2_cordovaProject>cd HelloWorld

C:\AA SEM IV\Front-End\Lab2_cordovaProject\helloworld>dir
Volume in drive C has no label.
Volume Serial Number is 18D5-D816

Directory of C:\AA SEM IV\Front-End\Lab2_cordovaProject\helloworld

23/04/2024 11:46 PM <DIR>      .
23/04/2024 11:46 PM <DIR>      ..
23/04/2024 11:43 PM          889 .gitignore
23/04/2024 11:46 PM          496 config.xml
23/04/2024 11:46 PM          390 package.json
23/04/2024 11:46 PM <DIR>      www
                3 File(s)      1,775 bytes
                3 Dir(s)    422,636,990,464 bytes free

C:\AA SEM IV\Front-End\Lab2_cordovaProject\helloworld>cordova platform add browser
Using cordova-fetch for cordova-browser
adding browser project
```



Task3 – Simple eventListener in Cordova Project

1. Create new cordova project call Task3
2. Open file explorer and explore your project folder and goto to /www/js folder
3. Open index.js file and add the following code

```
document.addEventListener('volumedownbutton', onVolumeKeyDown, false);

function onVolumeKeyDown(){
    alert("You press volume down!");
}

document.addEventListener('backbutton',onBackButton,false);

function onBackButton(e){
    e.preventDefault();
    alert("back button pressed!");
}
```

4. Run your app
5. Press volume down button
6. Press Back Button
7. What is the purpose of e.preventDefault()
8. Do some research on how to add two controls to you index.js to do the following:
 - a. Handle volume up button
 - b. Handle menu button

```
Administrator: Windows PowerShell
Microsoft Windows [Version 10.0.19045.4239]
(c) Microsoft Corporation. All rights reserved.

C:\WINDOWS\system32>mkdir cordovaProject
A subdirectory or file cordovaProject already exists.

C:\WINDOWS\system32>cd cordovaProject

C:\Windows\System32\cordovaProject>cordova create Task3eventListener io.csm3103.lab2 Task3
Creating a new cordova project.

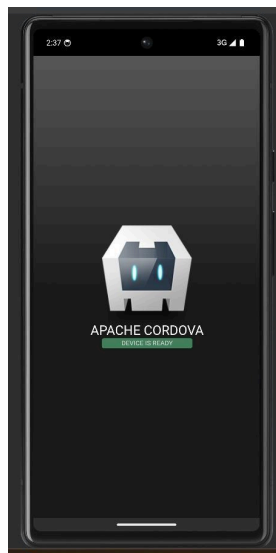
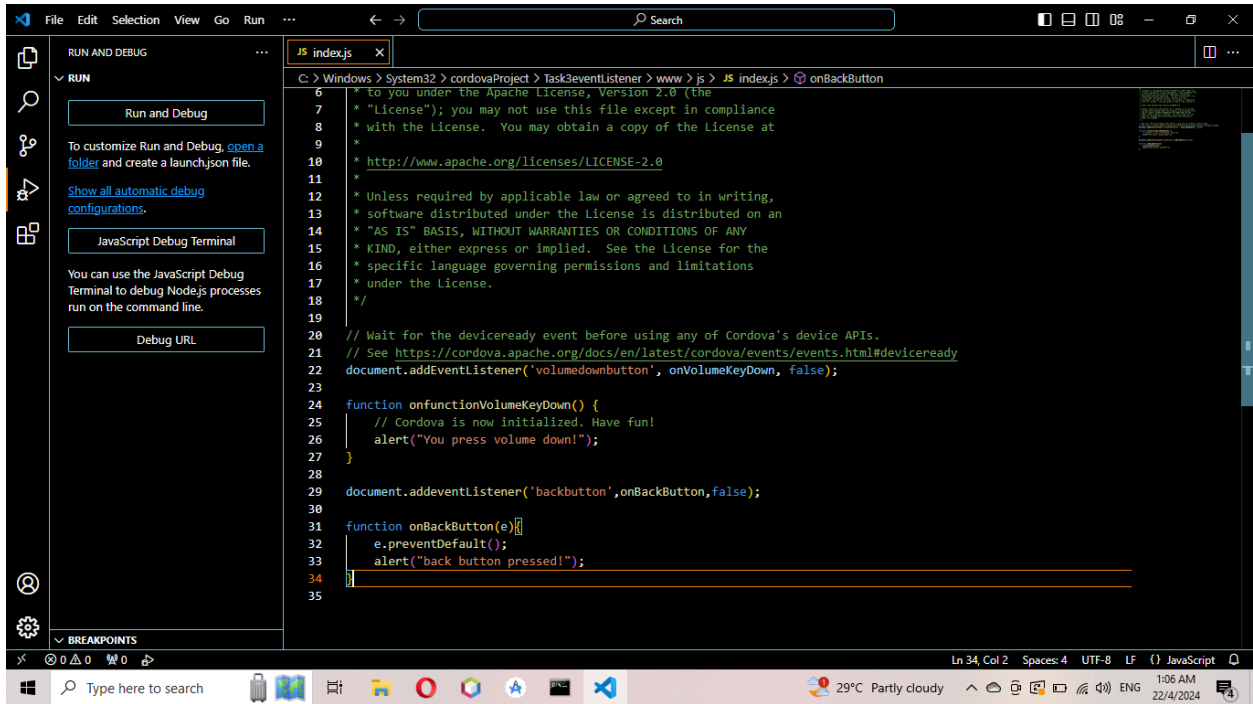
C:\Windows\System32\cordovaProject>cd task3 eventListener
The system cannot find the path specified.

C:\Windows\System32\cordovaProject>cd Task3eventListener
The system cannot find the path specified.

C:\Windows\System32\cordovaProject>cd Task3eventListener

C:\Windows\System32\cordovaProject\Task3eventListener>cordova platform add browser
Using cordova-fetch for cordova-browser
Adding browser project...
Creating Cordova project for cordova-browser:
  Path: C:\Windows\System32\cordovaProject\Task3eventListener\platforms\browser
  Name: Task3

C:\Windows\System32\cordovaProject\Task3eventListener>cordova run browser
startPage = index.html
Static file server running @ http://localhost:8000/index.html
CTRL + C to shut down
304 /index.html
304 /css/index.css
304 /img/logo.png
200 /cordova.js (gzip)
304 /js/index.js
404 /cordova_plugins.js
```



Task 4 – Cordova Plugin use case (Simple Geolocation)

1. Create new cordova project
2. Go to your project
3. Add the following code to index.html

```
<button id="getPosition">Current Position</button>  
<button id="watchPosition">Watch Position</button>
```

4. Open index.js and add the following code inside the ready function
5. It is best to test this code using physical device
6. Enable developer mode. Press Android version 7 times)
7. Enable usb debugging in developer option
8. Enable always on in developer option
9. Connect your device with usb
10. And run cordova

```

<html>
<head>
  <meta charset="utf-8">
  <!--
  Customize this policy to fit your own app's needs. For more guidance, please refer to the docs:
  |   https://cordova.apache.org/docs/en/latest/
  Some notes:
  |   * https://ssl.gstatic.com is required only on Android and is needed for TalkBack to function properly
  |   * Disables use of inline scripts in order to mitigate risk of XSS vulnerabilities. To change this:
  |       * Enable inline JS: add 'unsafe-inline' to default-src
  -->
  <meta http-equiv="Content-Security-Policy" content="default-src 'self' data: https://ssl.gstatic.com 'unsafe-inline'>
  <meta name="format-detection" content="telephone=no">
  <meta name="msapplication-tap-highlight" content="no">
  <meta name="viewport" content="initial-scale=1, width=device-width, viewport-fit=cover">
  <meta name="color-scheme" content="light dark">
  <link rel="stylesheet" href="css/index.css">
  <title>Hello World</title>
</head>
<body>
  <div class="app">
    <h1>Apache Cordova</h1>
    <button id="getPosition">Current Position</button>
    <button id="watchPosition">Watch Position</button>
    <div id="deviceready" class="blink">
      <p class="event listening">Connecting to Device</p>
      <p class="event received">Device is Ready</p>
    </div>
  </div>
  <script src="cordova.js"></script>
  <script src="js/index.js"></script>
</body>
</html>

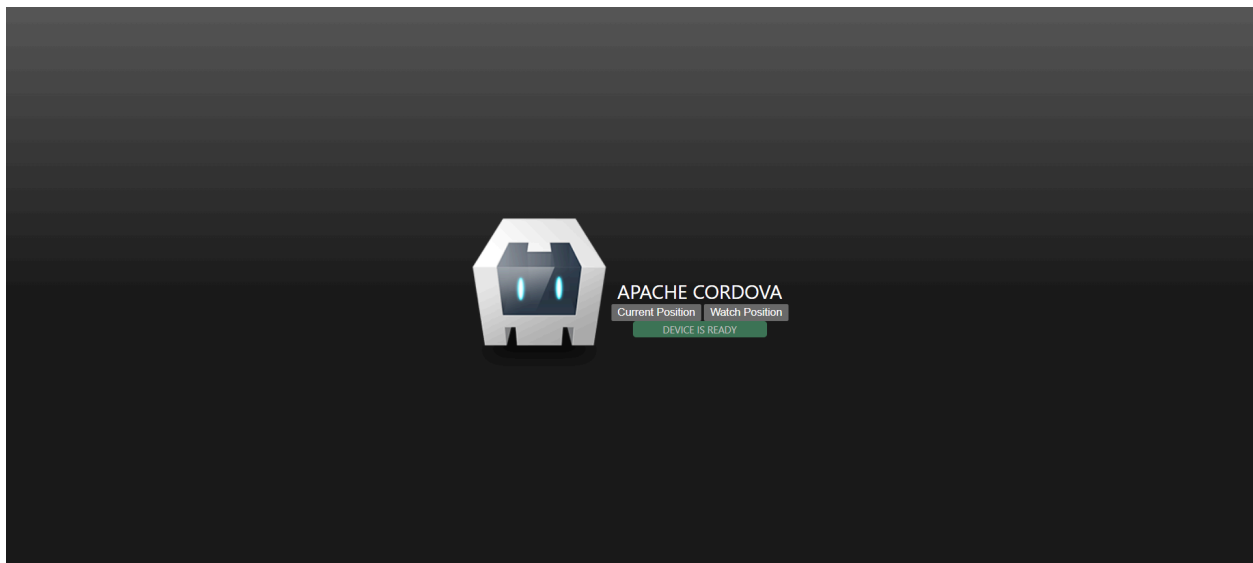
```

```

1 document.addEventListener("getPosition").addEventListener("click", getPosition);
2
3 function getPosition() {
4   // Cordova is now initialized. Have fun!
5
6   var options = {
7     enableHighAccuracy: true,
8     maximumAge: 3600000
9   };
10
11   var watchID = navigator.geolocation.getCurrentPosition(onSuccess, onError, options);
12
13   function onSuccess(position){
14     alert('Latitude: ' + position.coords.latitude + '\n' +
15           'Longitude: ' + position.coords.longitude + '\n' +
16           'Altitude: ' + position.coords.altitude + '\n' +
17           'Accuracy: ' + position.coords.accuracy + '\n' +
18           'Altitude Accuracy: ' + position.coords.altitudeAccuracy + '\n' +
19           'Heading: ' + position.coords.heading + '\n' +
20           'Speed: ' + position.coords.speed + '\n' +
21           'Timestamp: ' + position.timestamp + '\n');
22   };
23
24   function onError(error) {
25     alert('code: ' + error.code + '\n' + 'message: ' + error.message + '\n');
26   }
27 }
28
29 document.getElementById("watchPosition").addEventListener("click", watchPosition);
30
31

```

```
File Edit Selection View Go Run ... Search
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
JS index.js 2 X
C:\> AA SEM IV > Front-End > Lab2_cordovaProject > plugin > www > js > JS index.js > ...
3 function getPosition() {
28 }
29
30 document.getElementById("watchPosition").addEventListener("click", watchPosition);
31
32 function watchPosition() {
33     var options = {
34         maximumAge: 3600000,
35         timeout: 3000,
36         enableHighAccuracy: true,
37     }
38     var watchID = navigator.geolocation.watchPosition(onSuccess, onError, options);
39
40     function onSuccess(position) {
41         alert('Latitude: ' + position.coords.latitude + '\n' +
42             'Longitude: ' + position.coords.longitude + '\n' +
43             'Altitude: ' + position.coords.altitude + '\n' +
44             'Accuracy: ' + position.coords.accuracy + '\n' +
45             'Altitude Accuracy: ' + position.coords.altitudeAccuracy + '\n' +
46             'Heading: ' + position.coords.heading + '\n' +
47             'Speed: ' + position.coords.speed + '\n' +
48             'Timestamp: ' + position.timestamp + '\n');
49     }
50 }
51
52 function onError(error) {
53     alert('code: ' + error.code + '\n' + 'message: ' + error.message + '\n');
54 }
55 }
56
```



Github Repository:

https://github.com/Izzul0222/S65343_Lab2_CSM3103