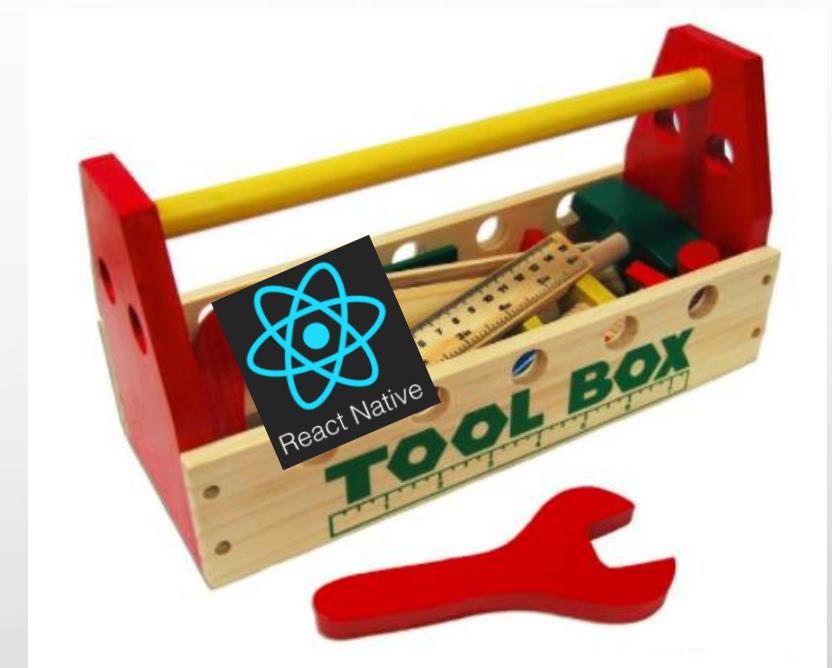




# REACT NATIVE TOOLBOX

01 - 18

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# SYLLABUS

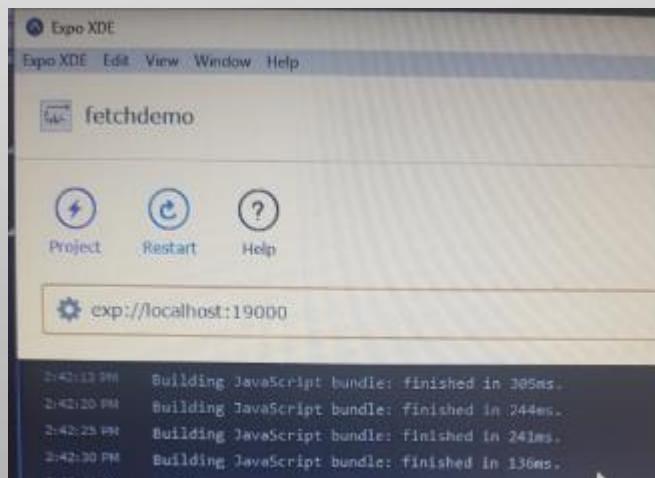
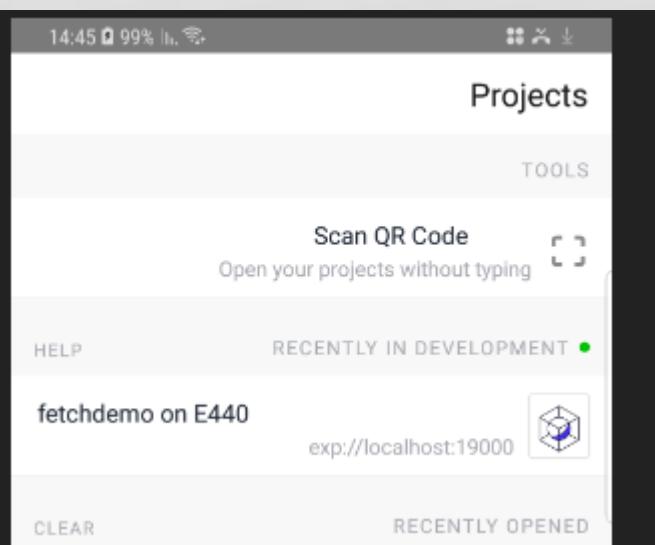
- **-01 Expo**
- 00 Debug
- 01 APK Creation and google play
- 02 React Native Material UI
- 03 Fetch
- 04 Geolocation
- 05 Camera
- 06 Navigation v6
- 07 Image Upload
- 08 Push Notification

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- 09 Compass
- 10 Geocoding
- 11 Facebook
- 12 Image gallery
- 13 Sms
- 14 React Elements UI Lib
- 15 Linking
- 17-1 Maps
- 17 Fingerprint authentication
- 18 Async Storage
- 19 Images

# EXPO

- הכי מהיר זה לעבוד ב-LOCALHOST כאשר המחשב וגם המחשב מחוברים על אותה רשת WIFI.
- ניתן לחבר את המחשב למחשב עם כבל USB ולאחר מכן ב"אפשרויות למפתחים" באגים של USB דרך הUSB ב"אפשרויות למפתחים"



# SYLLABUS

- **00 Debug**
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- 05 Camera
- 06 Navigation
- 07 Image Upload
- 08 Push Notification

# DEBUG

Go to Home

Disable Fast Refresh

Debug Remote JS

Show Performance Monitor

Show Element Inspector

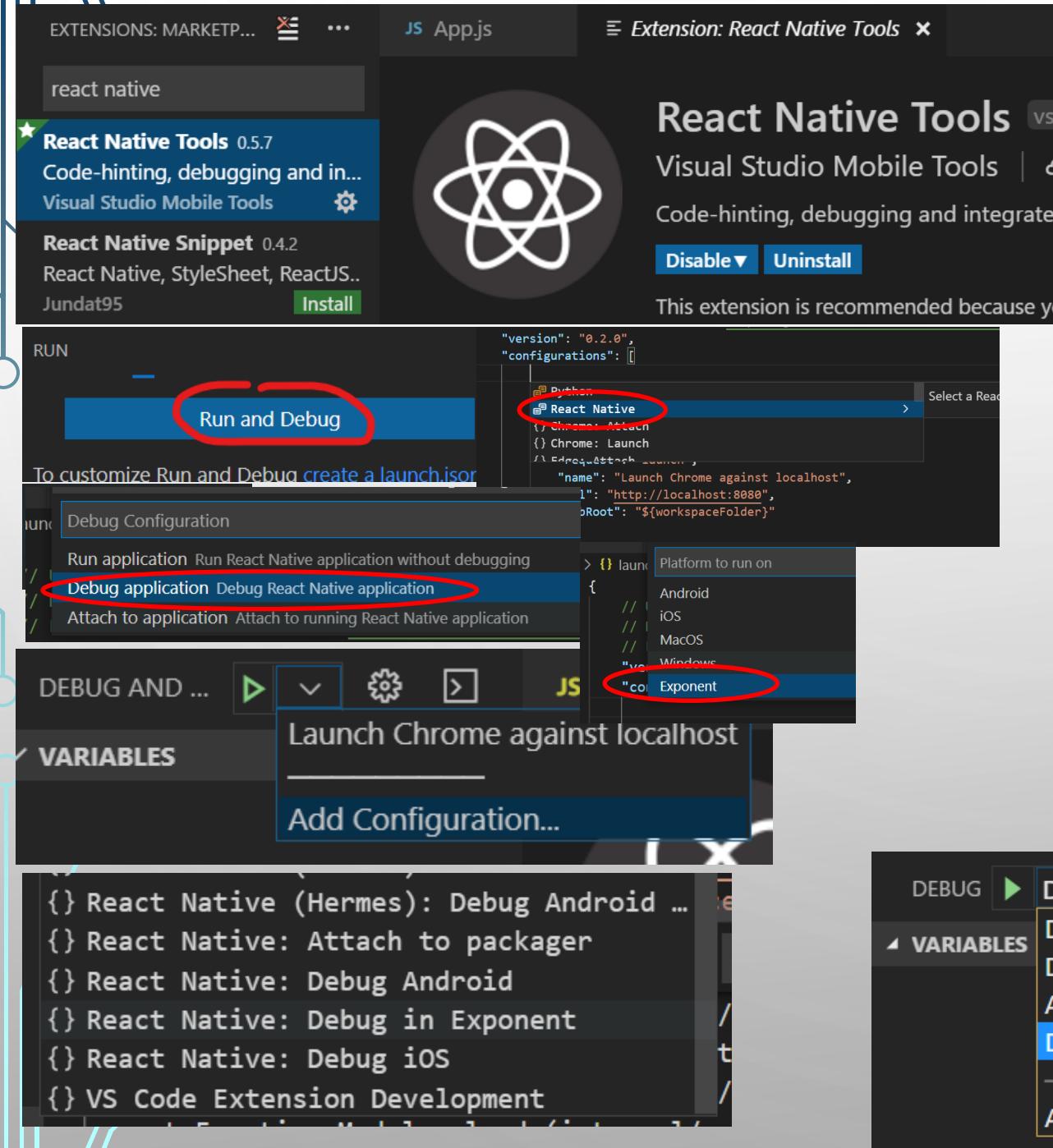
1. לשקש \לנענע\לנען את המחשב וatz לבחר בתפריט את "Debug JS Remotely"
2. יפתח הכרום בצורה אוטומטית וatz יש ללחוץ F12
3. יש לבחר את הטעב של Sources
4. כאשר נגיע לPOINT BREAKPOINT הקוד יעצר בשורה המתאימה וatz אפשר לדאגג רגיל.

```
function btnPush() {
  debugger;
  console.log(1);
  let num=7;
```

```
9
L0 function btnPush() {
L1   debugger;
L2   console.log(1);
L3   let num=7;
L4   console.log(num);
L5 }
L6
L7 function txtName(n, e) {
```

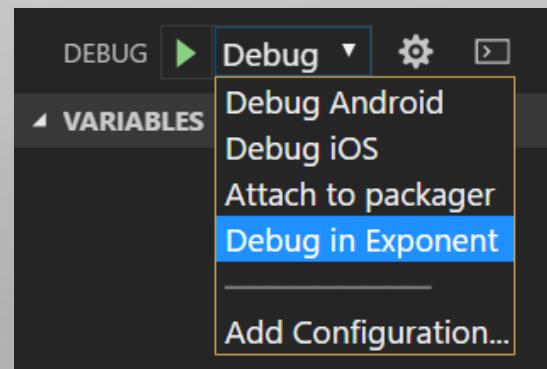
The screenshot shows the Chrome DevTools Sources panel. On the left is the source code for a file named 'button.js'. A blue horizontal bar highlights line 12, which contains the code 'console.log(1);'. To the right of the code is the Call Stack pane, which lists the current stack trace. The top entry in the call stack is 'btnPush' from 'button.js'.

Call Stack
btnPush C:\Users\Nir\I... Button._this.han... _performTransit C:\Users\Nir\I...



# DEBUG IN VS CODE

- <https://github.com/Microsoft/vscode-react-native/blob/master/doc/expo.md>
- נירן להתקין תוסף שמאפשר לדאבג במקום בכרום בתוך ה- **visual code** עצמו.
- להתקין את התוסף **react native tools**
- יתכן ותתבוקשו להכניס שם ISO סמך של **EXPO**



• **לבחירה**

Expo QR Code - rn - fingerprint - Visual Studio Code

Edit Selection View Go Debug Terminal Help

DEBUG AND ... JS App.js X

VARIABLES JS App.js > App > render

WATCH

CALL STACK

```
59 title={ 60   this.state.authent 61     ? 'Reset and beg 62     : 'Begin Authent 63   } 64   onPress={() => [ 65     this.clearState(); 66     if (Platform.OS == 67       this.setModalVis 68     } else { 69       this.scanFingerP 70     } 71   } 72   /> 73 74   {this.state.authentica
```

Expo is running. Open your Expo app at  
<exp://uv-3h7.nirc.rn---fingerprint.exp.direct:80>  
or scan QR code below:



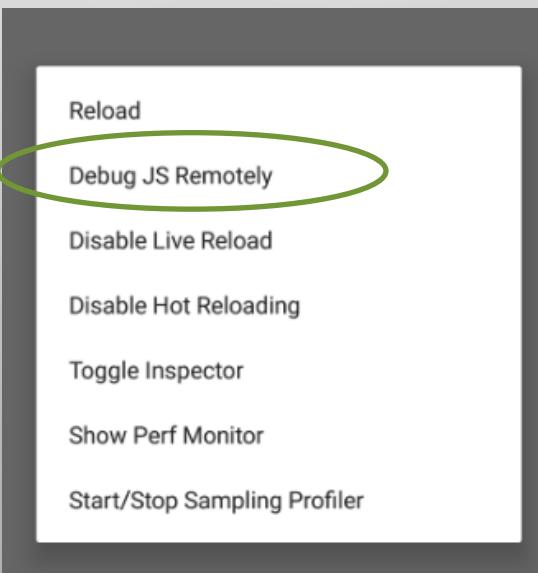
PROBLEMS OUTPUT DEBUG CONSOLE ... React Native

Loading dependency graph, done.

master\* ⑧ 0 Δ 0 ▶ Debug in Exponent (rn - fingerprint) React Native Packager Started

# DEBUG IN VS CODE

- חייב להיות שרת אחד רגיל שרעץ בראקע!
- לחכמת למסר שיעציג QR לסריקה – לוקח זמן, סבלנות😊
- ברגע שמסתים – לشكشك את המחשביר ולבחרור את האופציה " JS Debug Remotely"



"Remotely"

- לדאג😊

# SYLLABUS

- 00 Debug
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# APK CREATION AND GOOGLE PLAY

אם רוצים את האפליקציה על המכשיר אבל בתוך האפליקציה של EXPO ניתן רק לעשות **PUBLISH**.

- אם רוצים כAPPLICATION נפרדת יש ליצור APK
- <https://www.youtube.com/watch?v=IlveG3Qp0no>

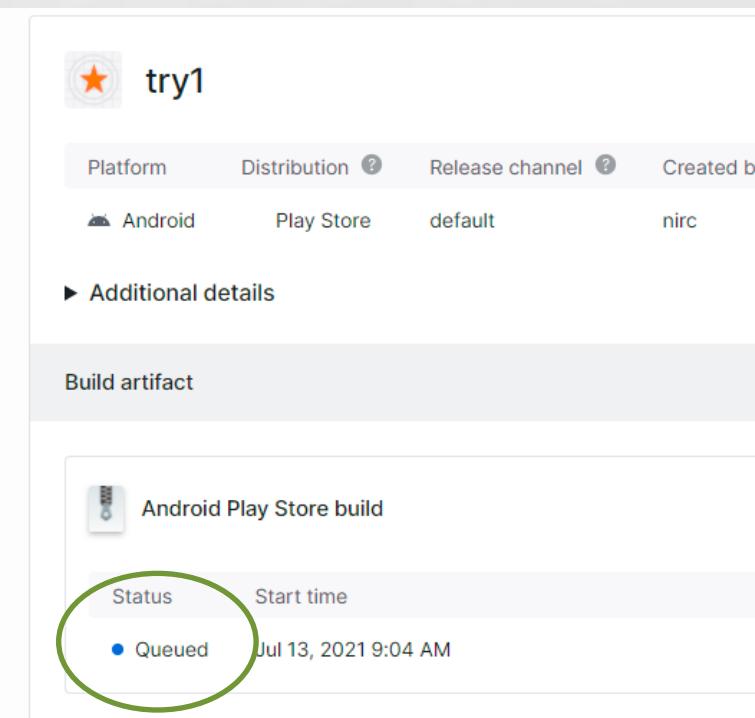
npm install -g exp-cli

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```
PS C:\Users\Nir\Desktop\try1> expo build:android  
? Choose the build type you would like: » - Use arr  
> apk  
Build a package to deploy to the store or insta  
app-bundle
```

## APK CREATION CONT'

```
You can monitor the build at  
https://expo.io/accounts/nirc/projects/try1/builds/08382cb3-c95f-053bd6  
Waiting for build to complete.  
You can press Ctrl+C to exit. It won't cancel the build, you'll b
```



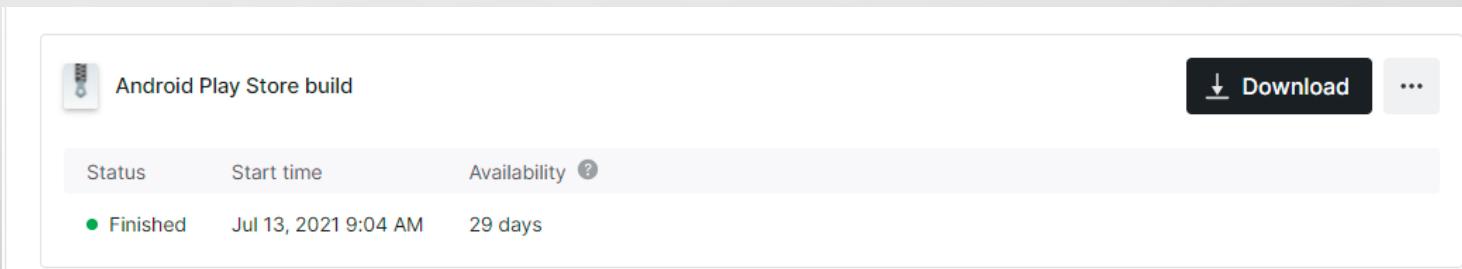
expo login .2  
npm start .3

4. לאחר הריצה לסגור את השרת ע"י **Ctrl+c**  
5. expo build:android

6. לוקח הרבה זמן ~יותר מעשר דקות  
7. ניתן לראות את הסטטוס ע"י **exp build:status** וניתן גם  
לראות את הסטטוס דרך האתר שלהם ע"י הLINK  
שמקבלים.

# APK CREATION CONT'

8. ברגע שישתים ( לוקח הרבה זמן...) תוכל להוריד מהאתר APK!



9. נותר להתקין על הטלפון

- א) פשוט לחבר את הטלפון בUSB, להעתיק לDOWNLOADS ואז בטלפון ללחוץ עליי ולהתקין. תצטרכו לאשר התקינה של צד שלישי.
- ב) ע"י למשל התוכנה ייעודיות של התקנת APK.

# UPLOAD TO GOOGLE PLAY

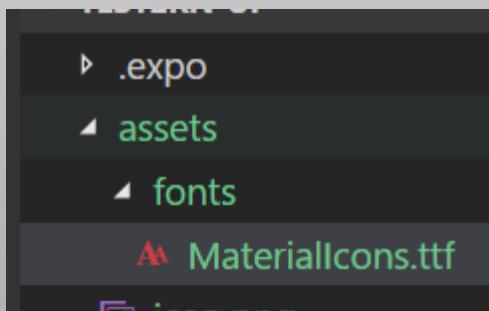
- בסרטון הבא ניתן לראות כיצד להעלות את ה APK שיצרתם לחנות של גוגל
  - <https://www.youtube.com/watch?v=7K6I3Jxi6SE>

# SYLLABUS

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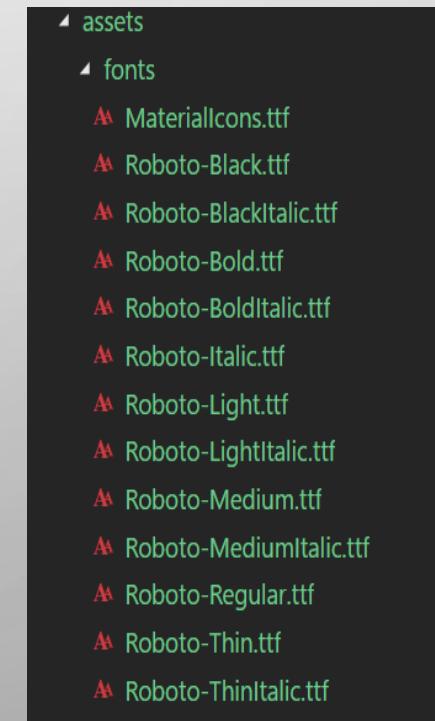
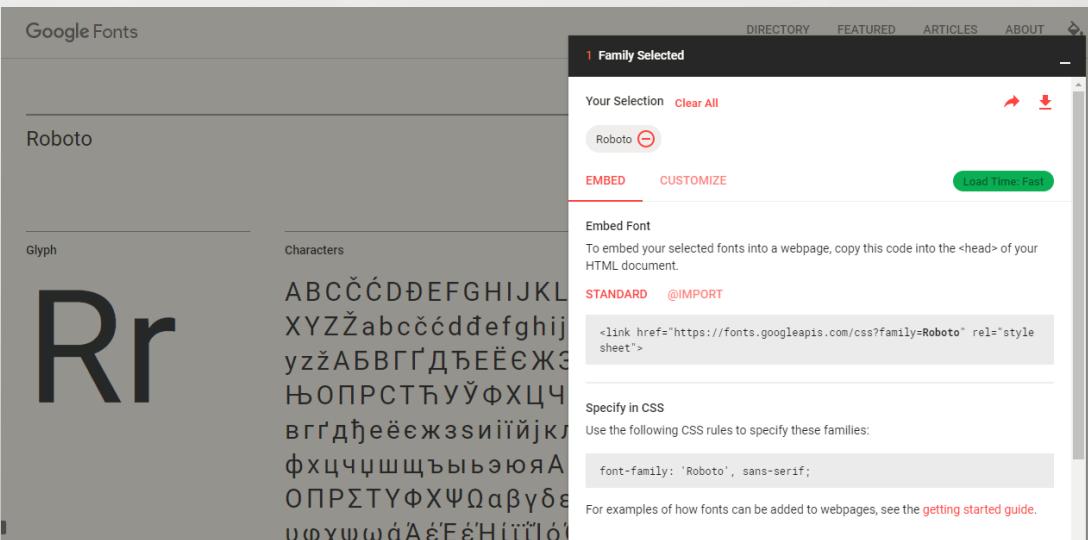
# REACT NATIVE MATERIAL UI

- <https://www.npmjs.com/package/react-native-material-ui>
- npm install react-native-material-ui –save
- npm i react-native-cli
- react-native link react-native-vector-icons
- copy from : ./node\_modules/react-native-vector-icons/Fonts/MaterialIcons.ttf  
to : assets/fonts



# REACT NATIVE MATERIAL UI

- This project uses Roboto as the main font for text. Make sure to add Roboto to your project



# REACT NATIVE MATERIAL UI

- Warp every thing in <ThemeProvider>
- import { Button, ThemeProvider } from 'react-native-material-ui';
- onPress

```
btnPrimaryPress(){
  alert("primary pressed!");
}

render() {
  return (
    <ThemeProvider>
      <View style={styles.container}>
        <Text>Open up App.js to start working on your app!7 {new Date().to
        <Button primary text="Primary" onPress={this.btnPrimaryPress} />
        <Button accent text="Accent" />
      </View>
    </ThemeProvider>
  );
}
```

# REACT NATIVE MATERIAL UI

- link to demo site: <https://github.com/xotahal/react-native-material-ui-demo-app/tree/master/src>
- Icons list: <https://blog.foswiki.org/System/MaterialIcons>
- react-native-material-design is similar BUT tested only for android and not for IOS!!!

# SYLLABUS

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# FETCH

- נעשה אותו דבר כמו בReact רגיל. עובד רגיל בEXPRESS
- דוגמאות לקריאות לWEB API ו גם לWEB SERVICE

# SYLLABUS

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# GEOLOCATION

- מתוך האתר יש ל-API כל מיני יכולות

```
navigator.geolocation.getCurrentPosition(  
  (position) => {  
    const output=  
      'latitude=' + position.coords.latitude +  
      '\nlongitude=' + position.coords.longitude +  
      '\naltitude=' + position.coords.altitude +  
      '\nheading=' + position.coords.heading +  
      '\nspeed=' + position.coords.speed  
  
    alert(output);  
  },  
  (error) => alert(error.message),  
  { enableHighAccuracy: true, timeout: 20000, maximumAge: 1000 }  
);
```

# SYLLABUS

- 00 Debug
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```

import { Camera } from 'expo-camera';
...
const [hasPermission, setHasPermission] = useState(null);
const [type, setType] = useState(Camera.Constants.Type.back);
const [camera, setCamera] = useState(null); ←
const [picUri, setPicUri] = useState('https://reactjs.org/logo-og.png');

```

```

useEffect(() => {
  (async () => {
    const { status } = await Camera.requestCameraPermissionsAsync();
    setHasPermission(status === 'granted');
  })();
}, []);
...

```

```

<Camera style={styles.camera}
  ref={ref => setCamera(ref)}
  type={type}>
  <View style={styles.buttonContainer}>

```

```

...
onPress={async () => {
  if (camera) {
    const data = await camera.takePictureAsync(null); ←
    console.log(data.uri)
    setPicUri(data.uri);
  }
}
...

```

```

onPress={()=> {
  setType( type === Camera.Constants.Type.back ? Camera.Constants.Type.front : Camera.Constants.Type.back
});...
}

```

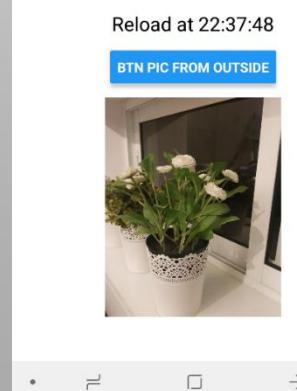
expo install expo-camera

```

<Drawer.Screen name="CameraPage" component={CameraPage}
  options={{
    drawerLabel: 'CameraPage', unmountOnBlur: true
  }} />

```

## CAMERA-HOOKS

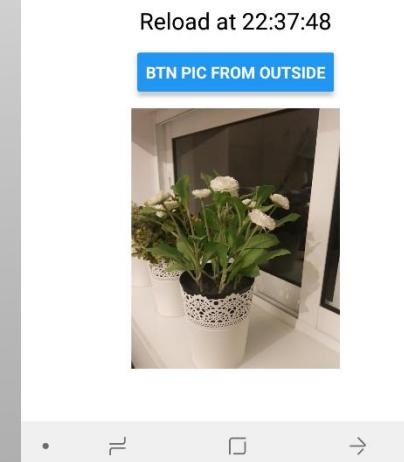


```
import { Camera } from 'expo-camera';
...
this.state = {
  hasCameraPermission: null,
  type: Camera.Constants.Type.back,
  picUri: 'https://facebook.github.io/react-native/docs/assets/favicon.png'
};
...
async componentWillMount() {
  const { status } = await Camera.requestPermissionsAsync(); ←
  this.setState({ hasCameraPermission: status === 'granted' });
}

btnPic = async () => {
  debugger;
  let photo2 = await this.camera.takePictureAsync(); ←
  //alert(photo2.uri);
  this.setState({ picUri: photo2.uri });
  Vibration.vibrate();
}
...
onPress={() => {this.setState({
  type: this.state.type === Camera.Constants.Type.back ? Camera.Constants.Type.front : Camera.Constants.Type.back
});}
...
<Camera
```

expo install expo-camera

# CAMERA



# SYLLABUS

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# NAVIGATOR

<https://reactnavigation.org/>

• V6 •

- npm install @react-navigation/native
- expo install react-native-screens react-native-safe-area-context
- npm install @react-navigation/native-stack
- npm install @react-navigation/material-bottom-tabs react-native-paper react-native-vector-icons
- npm install @react-navigation/drawer
- expo install react-native-gesture-handler react-native-reanimated

# STACK NAVIGATOR

```
import React from 'react';
import { View, Text } from 'react-native';
import { NavigationContainer } from '@react-navigation/native';
import { createNativeStackNavigator } from '@react-navigation/native-stack';

import FirstPage from './Pages/FirstPage';
import SecondPage from './Pages/SecondPage';
import TabbedPageNavigator from './Pages/TabbedPage';
import MaterialTabbedPage from './Pages/MaterialTabbedPage';

const Stack = createNativeStackNavigator();
function App() {
  return (
    <NavigationContainer>
      <Stack.Navigator initialRouteName="FirstPage">
        <Stack.Screen name="FirstPage" component={FirstPage} />
        <Stack.Screen name="SecondPage" component={SecondPage} />
        <Stack.Screen name="TabbedPageNavigator" component={TabbedPageNavigator} />
        <Stack.Screen name="MaterialTabbedPage" component={MaterialTabbedPage} />
      </Stack.Navigator>
    </NavigationContainer>
  );
}
export default App;
```

```
<TouchableOpacity onPress={() => {
  props.navigation.navigate('SecondPage');
}}>
  <Text style={{ ... }}>
    Goto Second Page!
  </Text>
</TouchableOpacity>
```

```
import React from 'react';
import { createMaterialBottomTabNavigator } from '@react-navigation/material-bottom-tabs';
import MaterialCommunityIcons from 'react-native-vector-icons/MaterialCommunityIcons';
import FirstTabPage from './FirstTabPage';
import SecondTabPage from './SecondTabPage';
import { Text } from 'react-native';
const Tab = createMaterialBottomTabNavigator();

export default function MaterialTabbedPageNavigator() {
  return (
    <Tab.Navigator
      initialRouteName="FirstTabPage"
      activeColor="#55ff00"
      inactiveColor='black'
      barStyle={{ backgroundColor: '#694fad' }}
    >
      <Tab.Screen
        name="FirstTabPage"
        component={FirstTabPage}
        options={{
          tabBarLabel: <Text style={{fontSize: 9, fontWeight: '700', color: 'white'}}> My Tickets </Text>,
          tabBarIcon: ({ color }) => (
            <MaterialCommunityIcons name="bell" color={color} size={25} />
          ),
        }}
      />
    
```

# MATERIAL BOTTOM TABBED NAVIGATOR

There is also Material[TopTabNavigator](#)

```
<Tab.Screen
  name="SecondTabPage"
  component={SecondTabPage}
  options={{
    tabBarLabel: 'Second Page',
    tabBarIcon: ({ color }) => (
      <MaterialCommunityIcons name="baseball" color={color} size={25} />
    ),
  }}
/>
</Tab.Navigator>
);
}
```

## MATERIAL BOTTOM TABBED NAVIGATOR CONT

There is also MaterialTopTabNavigator

```
import { createDrawerNavigator } from '@react-navigation/drawer';
const Drawer = createDrawerNavigator();

function MyDrawer() {
  return (
    <Drawer.Navigator initialRouteName="FirstPage">
      <Drawer.Screen
        name="FirstPage"
        component={FirstPage}
        options={{ drawerLabel: 'FirstPage' }}
      />
      <Drawer.Screen...
    </Drawer.Navigator>
  );
}

//pay attention that the stack navigator screens must match the drawer screens!
const Stack = createNativeStackNavigator();
function App() {
  return (
    <NavigationContainer>
      <MyDrawer>
        <Stack.Navigator initialRouteName="FirstPage">
          <Stack.Screen name="FirstPage" component={FirstPage} />
...
          <Stack.Screen name="MaterialTabbedPageNavigator" component={MaterialTabbedPageNavigator} />
        </Stack.Navigator>
      </MyDrawer>
    </NavigationContainer>
  );
}
```

# DRAWER NAVIGATOR

# SEND INFO BETWEEN PAGES PARAMS

```
this.props.navigation.navigate('SecondPage', { user: 'Lucy' + new Date().getSeconds() });
```

Sending •

```
props.route.params != undefined ?  
  props.route.params.user : '...'
```

recieving •

# NAVIGATION EVENTS – REFRESH PAGE THROUGH NAVIGATION - HOOKS

```
import { useFocusEffect } from '@react-navigation/native';

export default function SecondPage({ route }) {

  useFocusEffect(
    React.useCallback(() => {
      // Do something when the screen is focused
      console.log('focus');

      return () => {
        // Do something when the screen is unfocused
        // Useful for cleanup functions
        console.log('unfocus');
      };
    }, [])
  );

  return (
    <View>
      <Text>Second Page</Text>
    </View>
  );
}
```

בגלל שהארועים הללו רצים  
פעם אחת אין בעיה לקרוא  
ל setState בפנים. הוא יקרא  
רק פעם אחת.

- בכדי לאפשר הרצת קוד  
במעבר בין עמודים.
- נוכל לדעת מאייפה הגענו  
עם איזה מידע ולהריץ  
 **setState**

# NAVIGATION EVENTS – REFRESH PAGE THOUGH NAVIGATION

```
componentDidMount() {  
  this._unsubscribeFocus = this.props.navigation.addListener('focus', (payload) => {  
    console.log('will focus', payload);  
    this.setState({stam:'stam'});  
  });  
  this._unsubscribeBlur = this.props.navigation.addListener('blur', (payload) => {  
    console.log('will blur', payload)  
  });  
}  
  
componentWillUnmount() {  
  this._unsubscribeFocus();  
  this._unsubscribeBlur();  
}
```

בגלל שהאירועים הללו רצים  
פעם אחת אין בעיה לקרוא  
ל setState בפנים. הוא יקרא  
רק פעם אחת.

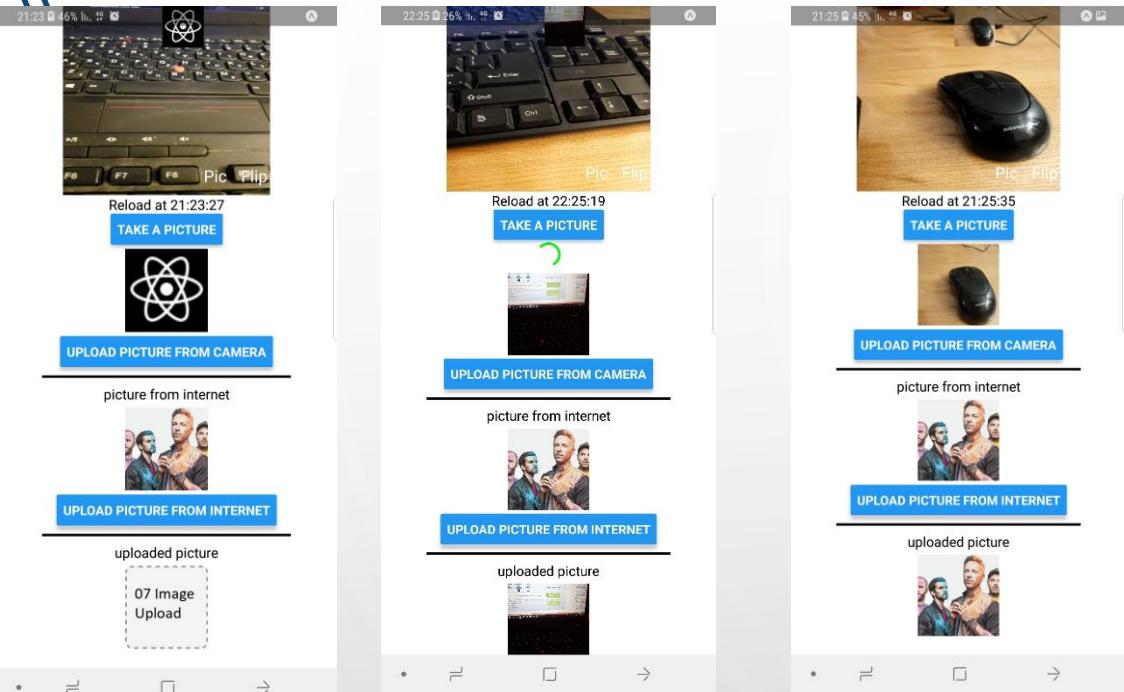
- בכדי לאפשר הרצת קוד  
במעבר בין עמודים.
- נוכל לדעת מאייפה הגענו  
ועם איזה מידע ולהריץ  
למשל setState

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# WEB SERVICE

## IMAGE UPLOAD – FETCH, CLIENT SIDE



- תמונה מהצלמה: נצלם תמונה כרץ של ביטים בסיס 64
- ושלח אותו לשרת כמחרוזת אורך בלויי השם של התמונה.
- תמונה מראינטןט: נשלח לשרת את הURL ואת השם של התמונה והשרת ב C# יוריד את התמונה ויישמור אותה אצלך.

```
let photo = await this.camera.takePictureAsync({  
    quality: 0.1,  
    base64: true,  
});  
this.setState({  
    pic64base: photo.base64,  
    picName64base: 'image1_' + new Date().getTime() + '.jpg',  
    picUri: `data:image/gif;base64,${photo.base64}`,  
});
```

להקטין את גודל התמונה  
שצולמה. 1 מקסימום 0  
מינימום

חשוב!!! בRN כאשר מזמינים תמונה היא נשמרת תחת השם  
שלה ב CACHE וכך אם מזמינים תמונה עם אותו שם תופיע  
התמונה הראשונה שוב פעם. לכן כאשר נעלמת התמונה  
לשרת נדרש ליצור לה שם חדש בכל פעם. פה אני מייצר את  
שם החדש. השם החדש מורכב מתחילה אשר ביקשנו ועוד  
מספר שמנצ'ר מהתקיים של המחשב.

# WEB SERVICE

## IMAGE UPLOAD – FETCH, CLIENT SIDE

```
uploadBase64ToASMX = () => {
  this.setState({ animate: true });
  let urlAPI =
    'http://rappinmobile.tempdomain.co.il/site01/webservice.asmx/ImgUpload'; ←

  fetch(urlAPI, {
    method: 'POST',
    body: JSON.stringify({
      base64img: this.state.pic64base, ←
      base64imgName: this.state.picName64base, ←
    }),
  });
}
```

# WEB SERVICE

## IMAGE UPLOAD –

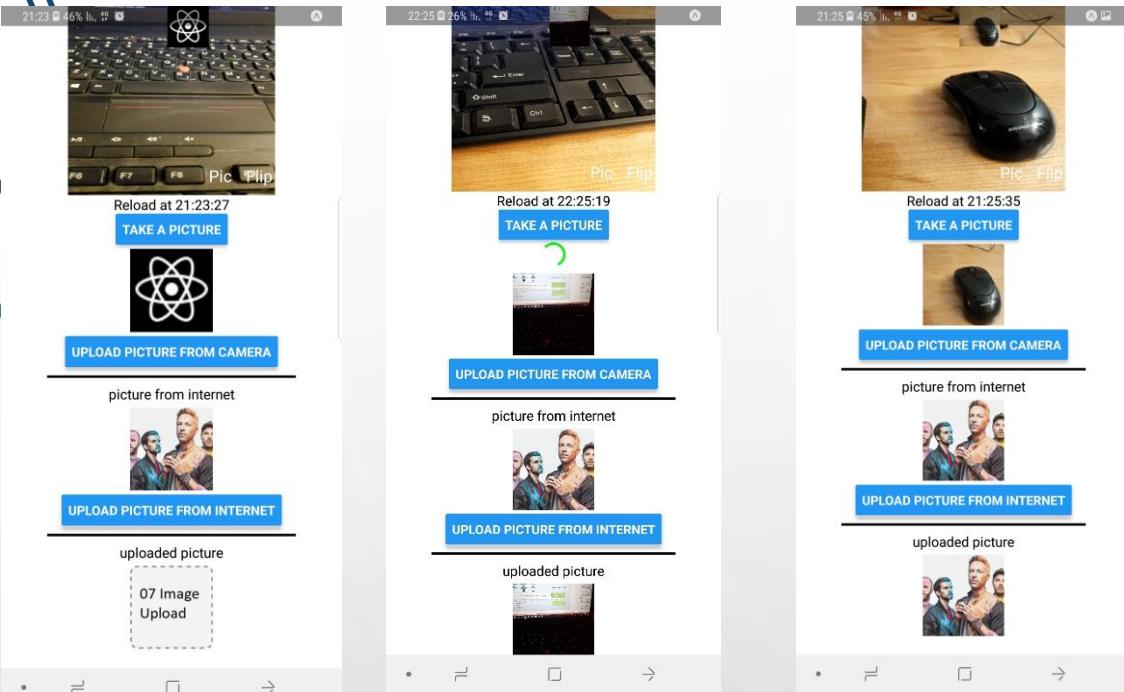
### C#, SERVER SIDE

```
[WebMethod]
public string ImgUpload(string base64img, string base64imgName)
{
    //for example - pay attention the first '/' is part of the image!
    //
    //File.AppendAllText(Server.MapPath("images/file1.txt"), base64imgName + "\r\n");
    File.WriteAllBytes(Server.MapPath("images/" + base64imgName), Convert.FromBase64String(base64img)); ←

    return new JavaScriptSerializer().Serialize(new { res = "OK" });
}
```

# WEB API

## IMAGE UPLOAD – FETCH, CLIENT SIDE



```
...  
let photo = await this.camera.takePictureAsync({quality : 0.7});  
...
```

```
imageUpload = (imgUri, picName) => {  
  let urlAPI = "http://.../site01/uploadpicture";  
  let data1 = new FormData();  
  data1.append('file', {  
    uri: imgUri,  
    name: picName,  
    type: 'image/jpg'  
  });  
};
```

להקטין את גודל התמונה  
שצולמה. 1 מקסימום 0  
מינימום

מקום הקood של צד השרת

# IMAGE UPLOAD – FETCH, CLIENT SIDE

```
...  
const config = {  
  method: 'POST',  
  body: data,  
}  
  
fetch(urlAPI, config)  
.then((res) => {  
  console.log(res.status);  
  if (res.status == 200) {  
    console.log(res.status);  
    return res.json();  
  }  
  else { return "err"; }  
})  
.then((responseData) => {  
  console.log(responseData);  
  if (responseData != "err") {  
    console.log(responseData.filePath);  
  }  
  else { alert('error uploading ...'); }  
})  
.catch(err => { alert('err upload= ' + err); });
```

חשוב!!! בRN כאשר מזמינים תמונה היא נשמרת תחת השם שלה ב CACHE ולבסוף מזמינים אותה עם אותו שם תופיע התמונה הראשונה שוב פעם. לכן כאשר נעלמת התמונה לשרת נצטרך ליצור לה שם חדש בכל פעם. זאת ניתן לעשות בצד השירות. ולקבל את השם החדש לצד הליקו. פה אני מחלץ את השם החדש. השם החדש מורכב מתחלית אשר ביקשנו כאשר שלחנו את התמונה לשרת ועוד GUID שנוצר בשרת

## IMAGE UPLOAD – C#

WEB API CORE,  
SERVER SIDE

```
[ApiController]
[Route("api/[controller]")]
public class FilesController : ControllerBase
{
    private readonly string _uploadFolderPath; // Define the folder path where files will be uploaded

    public FilesController(IWebHostEnvironment env)
    {
        _uploadFolderPath = Path.Combine(env.ContentRootPath, "Uploads"); // Example path, adjust as needed
    }

    [HttpPost("upload")]
    public async Task<IActionResult> Upload([FromForm] FileUploadModel model)
    {
        if (model.File == null || model.File.Length == 0)
        {
            return BadRequest("No file uploaded.");
        }

        try
        {
            // Ensure the uploads folder exists
            Directory.CreateDirectory(_uploadFolderPath);
        }
    }
}
```

©NIR CHEN // Ensure the uploads folder exists

# IMAGE UPLOAD – C# WEB API, SERVER SIDE

```
// Get the original filename and extension
var originalFileName = Path.GetFileNameWithoutExtension(model.File.FileName);
var fileExtension = Path.GetExtension(model.File.FileName);

// Delete any existing files with the same original filename
DeleteExistingFiles(originalFileName); ←

// Generate a unique filename by concatenating original filename with timestamp
var timeStamp = DateTime.Now.ToString("yyyyMMddHHmmssfff");
var fileName = $"{originalFileName}_{timeStamp}{fileExtension}";
var filePath = Path.Combine(_uploadFolderPath, fileName);

// Save the uploaded file to the server
using (var stream = new FileStream(filePath, FileMode.Create))
{
    await model.File.CopyToAsync(stream); ←
}

// Return the URL to access the uploaded file
var baseUrl = $"{Request.Scheme}://{Request.Host}";
var fileUrl = Path.Combine(baseUrl, "", "Uploads", fileName); // Adjust the route as needed

return Ok(new { FilePath = fileUrl });
}
catch (Exception ex)
{
    return StatusCode(StatusCodes.Status500InternalServerError, $"Error uploading file: {ex.Message}")
}
```

# IMAGE UPLOAD – C# WEB API, SERVER SIDE

```
private void DeleteExistingFiles(string originalFileName) ←
{
    // Get all files in the upload folder that start with the original filename
    var files = Directory.GetFiles(_uploadFolderPath, $"{originalFileName}_*");

    // Delete each file
    foreach (var file in files)
    {
        System.IO.File.Delete(file);
    }
}

...
public class FileUploadModel ←
{
    public IFormFile File { get; set; }
}
```

# IMAGE UPLOAD – C# WEB API, SERVER SIDE

## IN PROGRAM.CS

```
app.UseStaticFiles(new StaticFileOptions ←
{
    FileProvider = new PhysicalFileProvider(
        Path.Combine(builder.Environment.ContentRootPath, "Uploads")),
    RequestPath = "/Uploads" // Optional: change the request path if needed
});
```

# IMAGE UPLOAD – C# WEB API, SERVER SIDE TESTING

POST http://localhost:62256/upload... ● + ...

Untitled Request

POST http://localhost:62256/uploadpicture

Params Authorization Headers (9) **Body** ● Pre-request Script Tests Settings

none  form-data  x-www-form-urlencoded  raw  binary  GraphQL BETA

KEY	VALUE
<input checked="" type="checkbox"/> file	A10F15eF22P51.jpg X
Key	Value

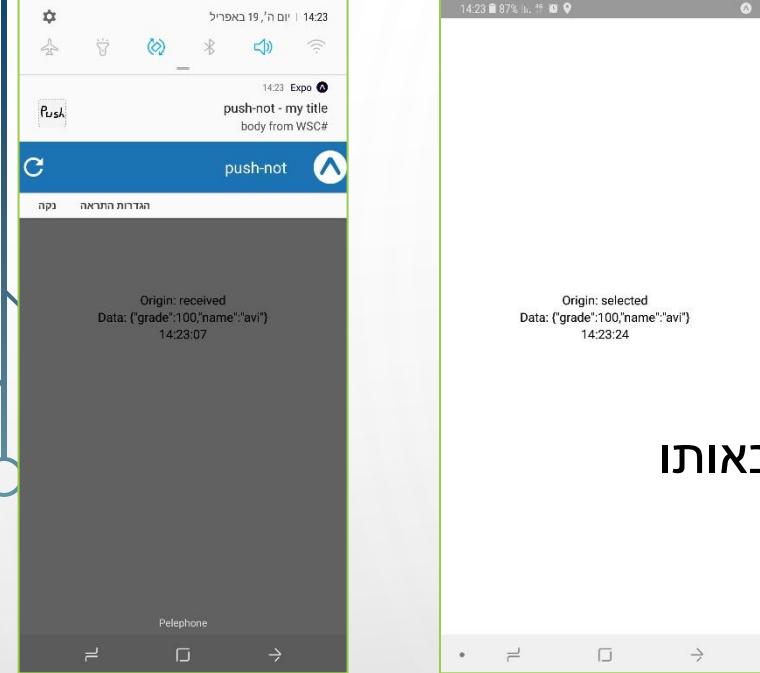
Body Cookies Headers (10) Test Results

Pretty Raw Preview Visualize BETA JSON ▾

```
1 "nirchen http://localhost:62256/uploadFiles/A10F15eF22P51_20_10_2019_15-22-55.jpg!1!start--- ---here ---here2=A10F15eF22P51.jpg  
---here5 ---here6 imageName=~/_uploadFiles/A10F15eF22P51_20_10_2019_15-22-55.jpg ---here7http://localhost:62256/uploadFiles,
```

# SYLLABUS

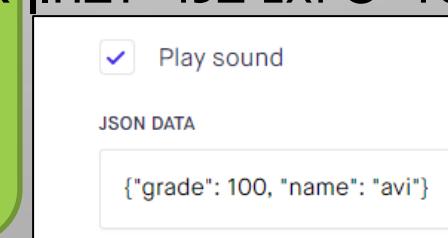
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# PUSH NOTIFICATION

- נעשה שימוש בספריה של EXPO בכך לקלוט PN עבור ANDROID ו-IOS באותו קוד. כמו כן לא צריך לייצר משתמש של APPLE.  
<https://docs.expo.io/versions/latest/guides/push-notifications>
- שימוש לב שוצרק לאפשר את ההתראות במכשיר. בחלק ממכシリ ה- ANDROID לא הצלחתי לאפשר זאת ויכול להיות שצריך לחפשו "לשחק" הכן מאפשרים את ההתראות.
- אין צורך לפתח חשבון בשירות ענן כלשהו. EXPO כבר מבצעים הכל עבורינו. **אבל יש** צורך **לפתח את החשבון באתר של EXPO** בכך לייצר פרויקט ולקלט בו את ה id project!
- בכך לשלוח הודעה כל מה שצריך הוא לשלוח הודעה POST לשרת של EXPO שמעביר את הודעה לשירות ענן בכך לשלוח PN.

יש מערכת שלוחת הודעה ישירות מהאתר של EXPO בכך לבחון את הקוד בצד לקוח  
חווב!!!  
חייבים להיות מחוברים לEXPO גם בטלפון עצמו!!!  
וגם ב-code visual code ע"י expo login והכנסת שם וסיסמה!!!



<https://expo.io/dashboard/notifications>

# PN – CLIENT SIDE SENDING PUSH

```
import React, { useState, useEffect, useRef } from 'react';
import { Text, View, Button, Platform } from 'react-native';
import * as Device from 'expo-device';
import * as Notifications from 'expo-notifications';
import Constants from 'expo-constants';

Notifications.setNotificationHandler({
  handleNotification: async () => ({
    shouldShowAlert: true,
    shouldPlaySound: false,
    shouldSetBadge: false,
  }),
});

async function sendPushNotification(expoPushToken) {
  const message = {
    to: expoPushToken,
    sound: 'default',
    title: 'Original Title',
    body: 'And here is the body!',
    data: { someData: 'goes here' + Math.random() },
  };
  await fetch(`https://exp.host/--/api/v2/push/send`, {
    method: 'POST',
    headers: {
      Accept: 'application/json',
      'Accept-encoding': 'gzip, deflate',
      'Content-Type': 'application/json',
    },
    body: JSON.stringify(message),
  });
}
```

npm i expo-notifications •

npm i expo-constants •

npm i expo-constants •

יש אפשרות לראות בהתראה עצמה בין היתר TITLE, BODY, DATA

באפליקציה - DATA •

פה ציריך לדאוג ל: •

קבלת הרשות ליכולת לקבל התראות

קבלת מספר ייחודי מזהה של מכשיר הטלפון •

# PN – CLIENT SIDE REGISTRATION

```
function handleRegistrationError(errorMessage) {  
  alert(errorMessage);  
  throw new Error(errorMessage);  
}  
  
async function registerForPushNotificationsAsync() {  
  if (Platform.OS === 'android') {  
    Notifications.setNotificationChannelAsync('default', {  
      name: 'default',  
      importance: Notifications.AndroidImportance.MAX,  
      vibrationPattern: [0, 250, 250, 250],  
      lightColor: '#FF231F7C',  
    });  
  }  
  
  if (Device.isDevice) {  
    const { status: existingStatus } = await Notifications.getPermissionsAsync();  
    let finalStatus = existingStatus;  
    if (existingStatus !== 'granted') {  
      const { status } = await Notifications.requestPermissionsAsync();  
      finalStatus = status;  
    }  
    if (finalStatus !== 'granted') {  
      handleRegistrationError('Permission not granted to get push token for push notification!');  
      return;  
    }  
  }  
}
```

- פה נעשה רישום של פונקציה לקבלת התראה

# PN – CLIENT SIDE

```
const projectId =  
  Constants?.expoConfig?.extra?.eas?.projectId ?? Constants?.easConfig?.projectId;  
if (!projectId) {  
  handleRegistrationError('Project ID not found');  
}  
try {  
  const pushTokenString = (  
    await Notifications.getExpoPushTokenAsync({  
      projectId,  
    })  
  ).data;  
  console.log(pushTokenString);  
  return pushTokenString;  
} catch (e) {  
  handleRegistrationError(`[${e}]`);  
}  
} else {  
  handleRegistrationError('Must use physical device for push notifications');  
}  
  
export default function App() {  
  const [expoPushToken, setExpoPushToken] = useState("");  
  const [notification, setNotification] = useState(undefined);  
  const notificationListener = useRef();  
  const responseListener = useRef();
```



- פה נעשה רישום של ע"י ה id project שלקחנו מהאתר של אקספו כאשר פתחנו פרוייקט.
- שמננו את הנתון הזה בתוך קובץ ה `app.json`



```
  "expo": {  
    "icon": "assets/icon.png",  
    "iconMasked": "assets/icon-masked.png",  
    "splashImage": "assets/splash.png",  
    "favIcon": "./assets/favicon.png"  
  },  
  "extra": {  
    "eas": {  
      "projectId": "e1d92b0f-c973-4bc1-a086-a[REDACTED]a90cf"  
    }  
  }  
}
```

# PN – CLIENT SIDE RECEIVING MSG

```
useEffect(() => {
  registerForPushNotificationsAsync()
    .then(token => setExpoPushToken(token ?? ""))
    .catch(error => setExpoPushToken(` ${error}`));
}

notificationListener.current = Notifications.addNotificationReceivedListener(notification => {
  setNotification(notification);
});

responseListener.current = Notifications.addNotificationResponseReceivedListener(response => {
  console.log(response);
});

return () => {
  notificationListener.current &&
    Notifications.removeNotificationSubscription(notificationListener.current);
  responseListener.current &&
    Notifications.removeNotificationSubscription(responseListener.current);
};

}, []);

return (
  <View style={{ flex: 1, alignItems: 'center', justifyContent: 'space-around' }}>
    <Text>Your Expo push token: {expoPushToken}</Text>
    <View style={{ alignItems: 'center', justifyContent: 'center' }}>
      <Text>Title: {notification && notification.request.content.title} </Text>
      <Text>Body: {notification && notification.request.content.body}</Text>
      <Text>Data: {notification && JSON.stringify(notification.request.content.data)}</Text>
    </View>
    <Button
      title="Press to Send Notification"
      onPress={async () => {
        await sendPushNotification(expoPushToken);
      }}
    />
  </View>
);
```

- פה נעשה רישום של פונקציה לקבלת התראה

# PN – SERVER SIDE SENDING MSG C# WEB API

```
[Route("sendpushnotification")]
public string Post([FromBody]PushNotData pnd)
{
    // Create a request using a URL that can receive a post.
    WebRequest request = WebRequest.Create("https://exp.host/--/api/v2/push/send");
    // Set the Method property of the request to POST.
    request.Method = "POST";
    // Create POST data and convert it to a byte array.
    var objectToSend = new
    {
        to = pnd.to,
        title = pnd.title,
        body = pnd.body,
        badge = pnd.badge,
        data = pnd.data//new { name = "nir", grade = 100 }
    };
    string postData = new JavaScriptSerializer().Serialize(objectToSend);
    byte[] byteArray = Encoding.UTF8.GetBytes(postData);
    // Set the ContentType property of the WebRequest.
    request.ContentType = "application/json";
    // Set the ContentLength property of the WebRequest.
    request.ContentLength = byteArray.Length;
    // Get the request stream.
    Stream dataStream = request.GetRequestStream();
```

- כל מה שנוטר זה רק לקרוא לפונקציה זו או מהשרת או מהלך ע"י fetch

# PN – SERVER SIDE SENDING MSG C# WEB API – CONT'

```
// Write the data to the request stream.  
dataStream.Write(byteArray, 0, byteArray.Length);  
// Close the Stream object.  
dataStream.Close();  
// Get the response.  
WebResponse response = request.GetResponse();  
// Display the status.  
string returnStatus = ((HttpWebResponse)response).StatusDescription;  
//Console.WriteLine(((HttpWebResponse)response).StatusDescription);  
// Get the stream containing content returned by the server.  
dataStream = response.GetResponseStream();  
// Open the stream using a StreamReader for easy access.  
StreamReader reader = new StreamReader(dataStream);  
// Read the content.  
string responseFromServer = reader.ReadToEnd();  
// Display the content.  
//Console.WriteLine(responseFromServer);  
// Clean up the streams.  
reader.Close();  
dataStream.Close();  
response.Close();  
  
return "success:) --- " + responseFromServer + "," + returnStatus;  
}
```

# SYLLABUS

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- **09 Compass**
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# COMPASS

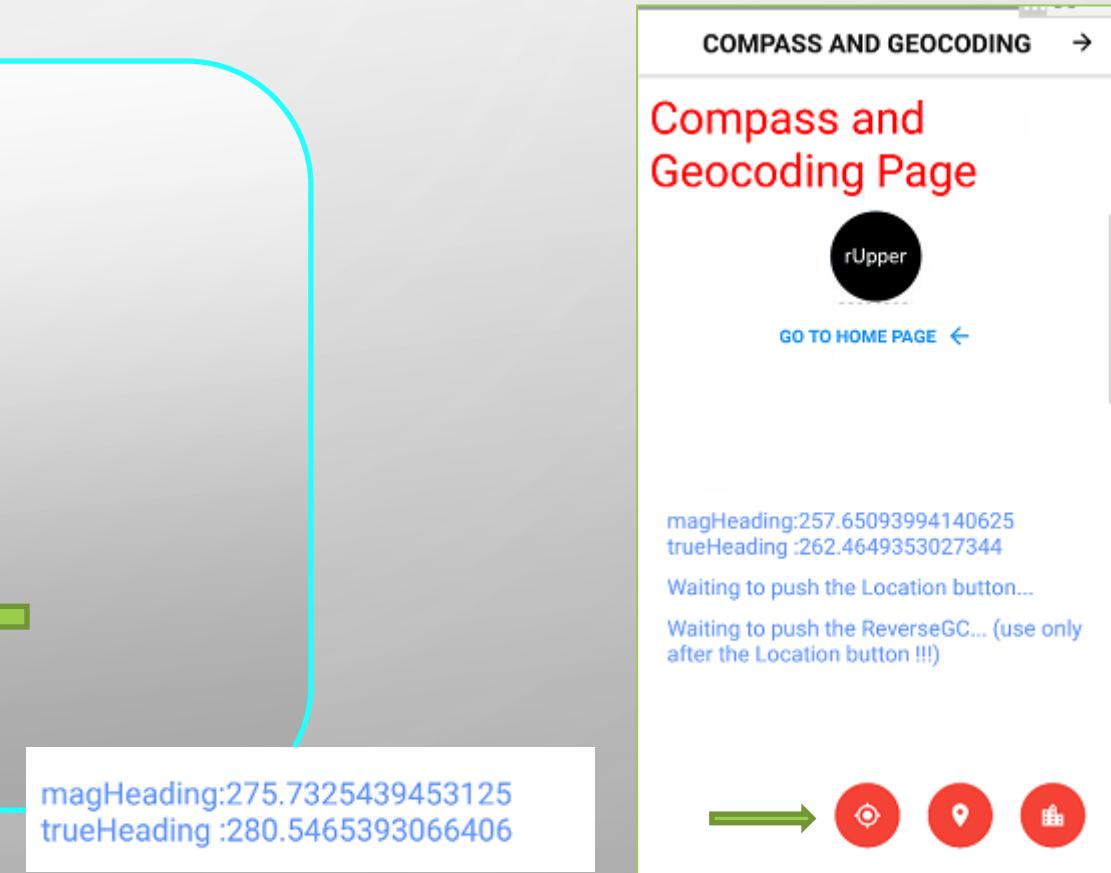
```
import * as Location from 'expo-location';
...
btnHeading = async () => {

  let { status } = await Location.requestPermissionsAsync();
  if (status !== 'granted') {
    alert('Permission to access location was denied');
  }

  let heading = await Location.getHeadingAsync({});
  this.setState({ heading });
};
```

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- expo install expo-location
- ניתן לקבל מידע לקבול הכוון שהטלפון מופנה אליו.
- כיוון אמיתי וכיוון מגנטי



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```
import * as Location from 'expo-location';
...
btnLocation = async () => {
  let { status } = await Location.requestPermissionsAsync();
  if (status !== 'granted') {
    this.setState({errorMessage: 'Permission to access location was denied', });
  }
  let location = await Location.getCurrentPositionAsync({});
  this.setState({ location });
};

btnReverseGC = async () => {
  let { status } = await Location.requestPermissionsAsync();
  if (status !== 'granted') {
    this.setState({ errorMessage: 'Permission to access location was denied', });
  }
  if (this.state.location) {
    let reverseGC = await Location.reverseGeocodeAsync(this.state.location.coords);
    this.setState({ reverseGC });
  }else{
    alert('You must push the Location button first in order to get the location! You can get the reverse geocode for the latitude and longitude!');
  }
};
```

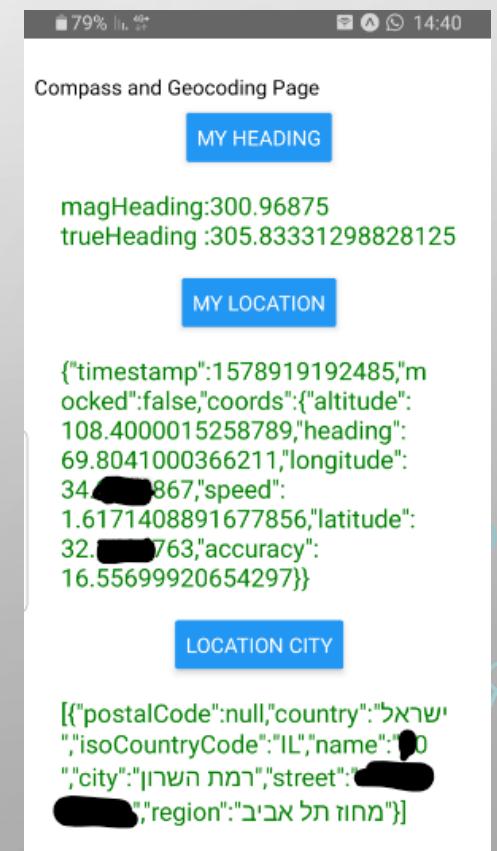
# GEOCODING

- expo install expo-location

- ניתן לקבל מידע אודות כתובות עברו נ.צ. קיימ.

- ניתן לקבל גם הפוך - נ.צ. עברו כתובות לא בדוגמה הזו)

מחקתי מהדוגמה  
את הפרטים של  
הנ.צ. והכתובות



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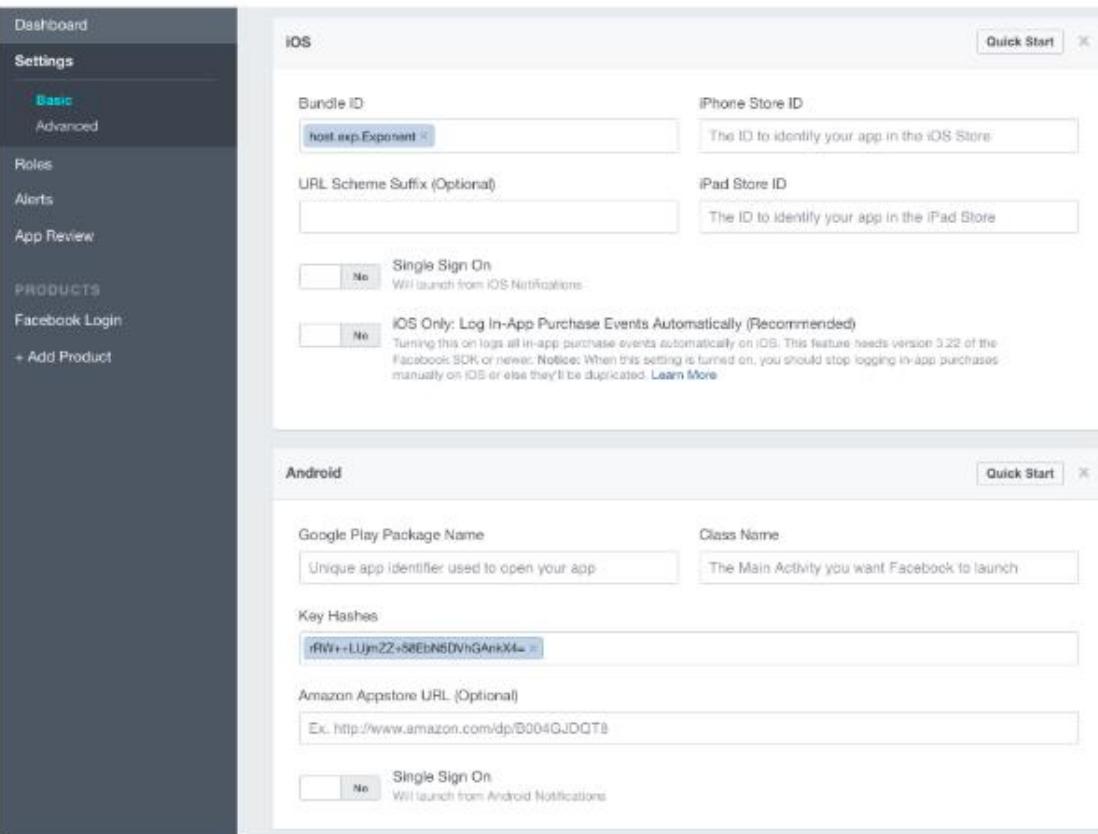
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- צריך ליצור פרויקט ב API FB בצדך לקבל appId

- <https://docs.expo.io/versions/latest/sdk/facebook/>
- rRW++LUjmZZ+58EbN5DVhGANkX4=
- host.exp.Exponent

• The Expo client app

- Add `host.exp.Exponent` as an iOS *Bundle ID*. Add `rRW++LUjmZZ+58EbN5DVhGANkX4=` as an Android *key hash*. Your app's settings should end up including the following under "Settings > Basic":



```

import * as Facebook from 'expo-facebook';
...
async function btnFBLogin() {
  try {
    await Facebook.initializeAsync('[YOUR APPID]');
    const { type, token, expires, permissions, declinedPermissions, } = await Facebook.logInWithReadPermissionsAsync({
      permissions: ['public_profile'],
    });
    if (type === 'success') {
      // Get the user's name using Facebook's Graph API
      const response = await fetch(`https://graph.facebook.com/me?fields=id,name,email,picture&access_token=${token}`);
      let res = await response.json();
      Alert.alert('Logged in!', `Hi NAME: ${res.name}!\nEMAIL: ${res.email}\nPICTURE: ${res.picture.data.url}`);
      //Alert.alert('Logged in!', `Hi NAME: ${res.name}!\nEMAIL: ${res.email}\nPICTURE: ${res.picture}\nRES:${JSON.stringify(res)}`);
    } else if (type === 'cancel' ) {
    } catch ({ message }) {
      alert(`Facebook Login Error: ${message}`);
    }
  }
}

```

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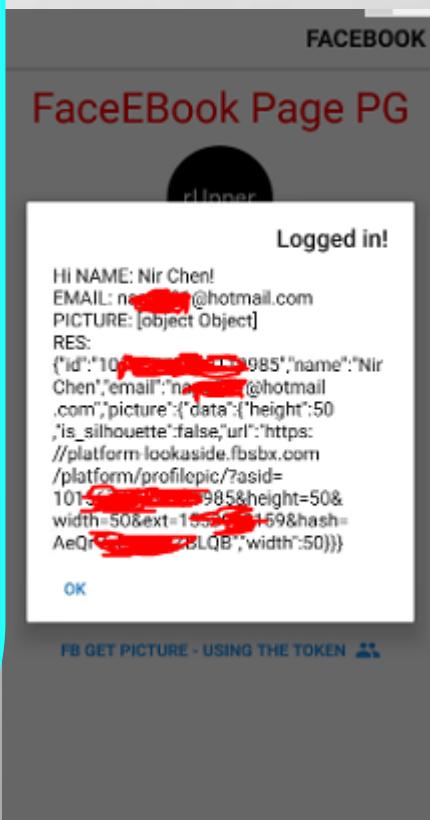
FB



- צריך לקבל token ייחודי בצד*יכן* לעבוד עם ה API שלהם.

...מספר ID , מייל , שם

מחקתי מהדוגמא  
את הפרטים  
האישיים

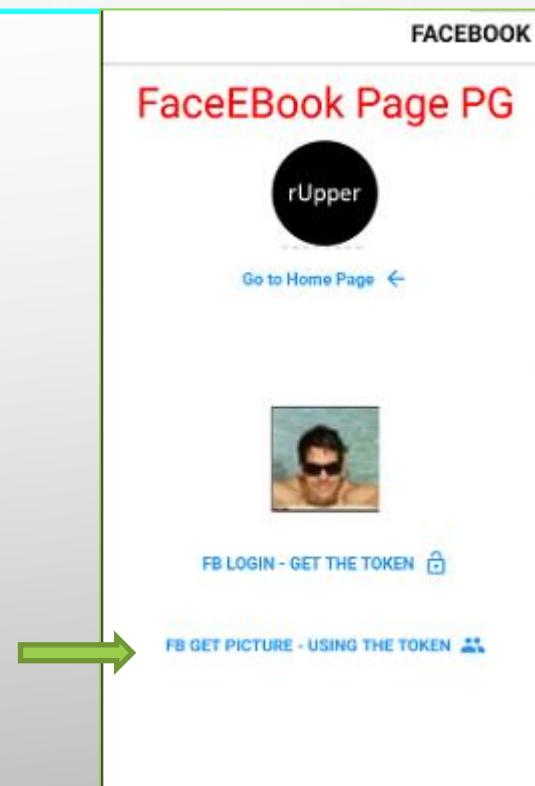


# FB

```
btnFetch_PersonPicture = () => {
  // POST adds a random id to the object sent
  fetch(`https://graph.facebook.com/me?fields=picture&access_token=${this.state.token}`, {
    method: 'POST',
    body: '',
    headers: {
      "Content-type": "application/json; charset=UTF-8"
    }
  })
  .then(response => response.json())
  .then(json => {
    if (json != null) {
      this.setState({ photoUrl: json.picture.data.url });
      alert(`picture= ${json.picture}\npicture.data.url= ${json.picture.data.url}\nRES=${JSON.stringify(json)}`);
    } else {
      this.setState({ lblErr: true });
    }
  });
}
```

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- פה אני מקבל תמונה



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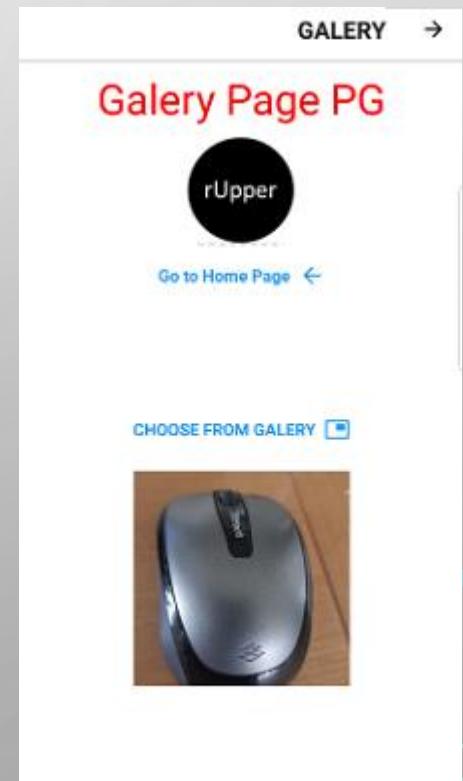
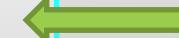
# IMAGE GALLERY

• תיתן לבחור תמונה מה갤ריה

- expo install expo-image-picker

```
import * as ImagePicker from 'expo-image-picker';
...
btnOpenGalery = async () => {
  let result = await ImagePicker.launchImageLibraryAsync({
    //allowsEditing: true,
    //aspect: [4, 3],
  });

  if (!result.cancelled) {
    this.setState({ image: result.uri });
  }
};
```



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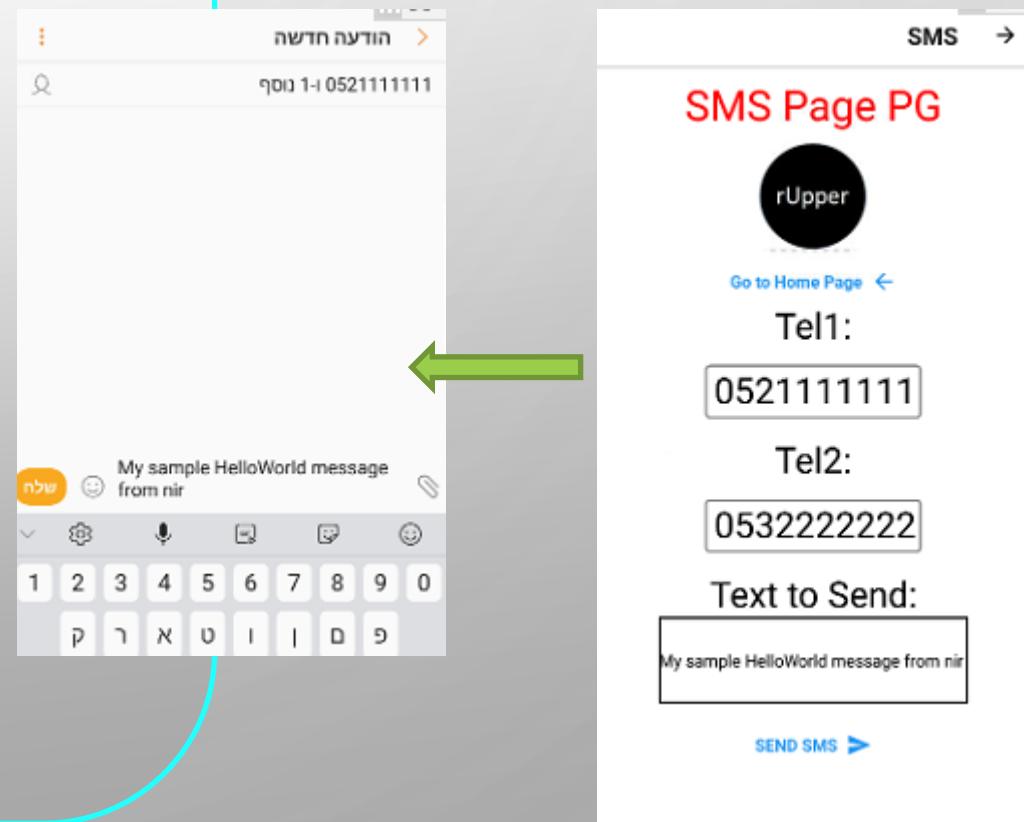
- 09 Compass
- 10 Geocoding
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- **13 Sms**
- 14 React Elements UI Lib

# SMS

- ניתן לפתח את מסך הוסעת SMS עם רשימת טלפונים והודעה מוכנה מהאפליקציה עצמה שלנו.
- זה לא שולח מהאפליקציה עצמה שלנו אלה רק פותח את אפליקציית SMS-ים הקיימת

- expo install expo-sms

```
import * as SMS from 'expo-sms';
...
btnSendSms = async () => {
  const isAvailable = await SMS.isAvailableAsync();
  if (isAvailable) {
    //alert('send');
    const { result } =
      await SMS.sendSMSAsync(
        [this.state.txtTel1, this.state.txtTel2],
        this.state.txtTextValue);
    // alert(result);
    this.setState({ txtTextValue: result });
  } else {
    alert('misfortune... there\'s no SMS available on this device');
  }
};
```



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- 14 **React Elements UI Lib**

# REACT NATIVE ELEMENTS UI

```
import { Button } from '@rneui/base';

const MyApp = () => {
  return (
    <Button
      title="HOME"
      iconRight
      icon={{
        name: 'home',
        type: 'font-awesome',
        size: 35,
        color: 'black',
      }}
      iconContainerStyle={{ marginRight: 10 }}
      titleStyle={{ fontWeight: '700' }}
      buttonStyle={{
        backgroundColor: 'rgba(90, 154, 230, 1)',
        borderColor: 'transparent',
        borderWidth: 0,
        borderRadius: 30,
      }}
      containerStyle={{
        width: 200,
        marginHorizontal: 50,
        marginVertical: 10,
      }}
    />
  );
};

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```

- <https://react-native-training.github.io/react-native-elements/>
- npm install @rneui/themed @rneui/base
- npm install react-native-vector-icons
- npx react-native link react-native-vector-icons
- npm install react-native-safe-area-context
- npx react-native link react-native-safe-area-context



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```

import * as Linking from 'expo-linking';
import * as WebBrowser from 'expo-web-browser';
Linking.openURL('https://expo.io');
WebBrowser.openBrowserAsync('https://expo.io');

...
Linking.openURL('mailto:support@expo.io?subject=Congrats Snoopy&body=Enjoy your
stay,%0ARegards');

...
Linking.openURL('tel:+123456789');

....
Linking.openURL('sms:+123456789');

...
//this will open the app through whatsapp
//1. need to publish the app first!
//2. when clicked in whatsapp this will go to the published page on expo.io
// then you can open the app in the expo if installed.

btnWhatsapp = () => {
  let text = "hello ";
  text = 'https://expo.io/@nirc/get-a-ride-demo';
  let phoneNumber = '+972523333333';
  Linking.openURL(`whatsapp://send?text=${text}&phone=${phoneNumber}`);
}

```

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Open a url

# LINKING

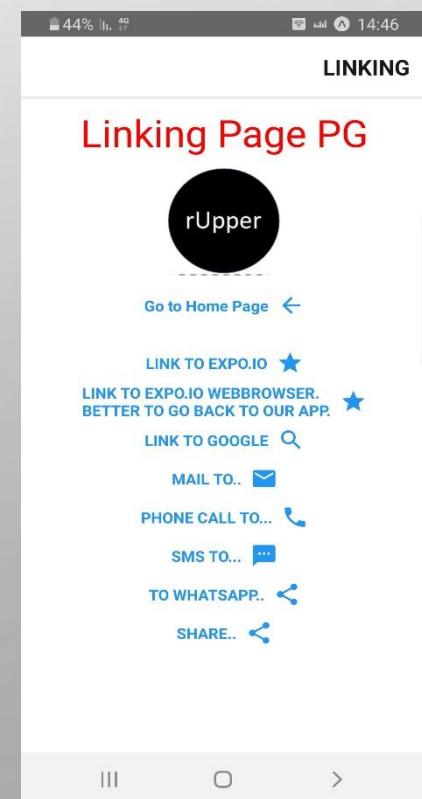
Send mail

- כל מה שקשר ליצירת קשר עם אפליקציות חיצונית

Open dialer

Send sms

Send  
whatsapp

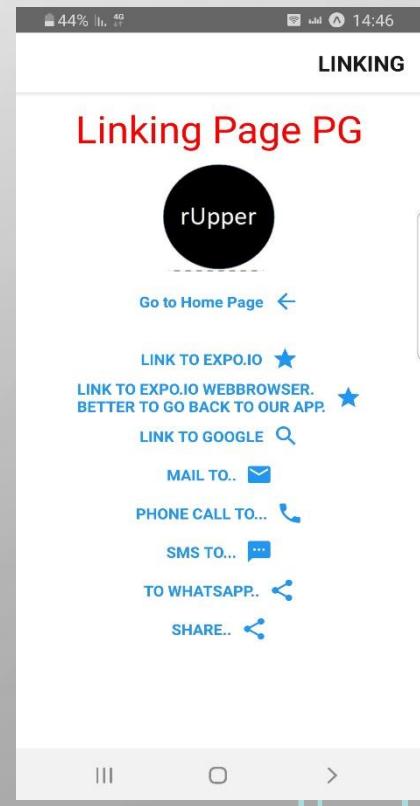


# LINKING

```
import { ... , Share } from 'react-native';
btnShare = () => {
  //let text = Expo.Linking.makeUrl();
  let text = 'https://expo.io/@nirc/get-a-ride-demo';
  Share.share({
    message: "Click Here to View More! " + text,
    url: text,
    title: 'nir has invited you to join this activity',
  })
  .then((result) => {
    console.log(result)
    if (result === 'dismissedAction') {
      return
    }
  })
  .catch((error) => console.log(error))
}
```

Open all sharable  
apps

- כל מה שקשר ליצירת קשר עם אפליקציות חיצונית



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- **17-1 Maps**

```
import { StyleSheet, Text, View, Dimensions } from 'react-native';
import MapView from 'react-native-maps';
import { Marker } from 'react-native-maps';
...
<View style={styles.container}>
  <MapView
    style={{flex: 0.7, width: Dimensions.get('window').width - 30,}}
    region={{
      latitude: 32.157154,
      longitude: 34.843893,
      latitudeDelta: 0.0122,
      longitudeDelta: 0.0121,
    }} >
    <Marker
      coordinate={{
        latitude: 32.15715,
        longitude: 34.843893
      }}
      title='my place:'
      description='here i am'
      //image={require('../assets/icon.png')}
    />
  </MapView>
</View>
```



# MAPS

- expo install react-native-maps
- <https://github.com/react-native-community/react-native-maps>

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- **17 Fingerprint authentication**

# FINGERPRINT AUTHENTICATION

```
import * as LocalAuthentication from 'expo-local-authentication';

scanFingerPrint = async () => {
  try {
    let results = await LocalAuthentication.authenticateAsync();
    if (results.success) {
      this.setState({
        modalVisible: false,
        authenticated: true,
        failedCount: 0,
      });
    } else {
      this.setState({
        failedCount: this.state.failedCount + 1,
      });
    }
  } catch (e) {
    console.log(e);
  }
};
```

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- expo install expo-local-authentication

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- **18 Async Storage**

# ASYNC STORAGE SET

```
import AsyncStorage from '@react-native-async-storage/async-storage';

//opt1 – with async-await
const storeData = async (value) => {
  try {
    const jsonValue = JSON.stringify(value)
    await AsyncStorage.setItem('@storage_Key', jsonValue)
  } catch (e) {
    // saving error
  }
}

//opt2 – WO async-await
const storeData = (value) => {
  try {
    const jsonValue = JSON.stringify(value)
    AsyncStorage.setItem('@storage_Key', jsonValue , () => { do something after the async was done... });
  } catch (e) {
    // saving error
  }
}
```

- כמו localStorage בJS רק בRN
- יש לשים לב שזה אcn אסינכרוני!!!
- <https://react-native-async-storage.github.io/async-storage/>
- npm install @react-native-async-storage/async-storage
- שומר רק מחרוזת – תמיד ניתן להשתמש בעצמך JSON.stringify

# ASYNC STORAGE

## GET

```
import AsyncStorage from '@react-native-async-storage/async-storage';

//opt1 – with async-await
const getData = async () => {
  try {
    const jsonValue = await AsyncStorage.getItem('@storage_Key') ←
    return jsonValue != null ? JSON.parse(jsonValue) : null;
  } catch(e) {
    // error reading value
  }
}

//opt2 – WO async-await
const getData = () => {
  try {
    AsyncStorage.getItem('@storage_Key', (err, result) =>{ ←
      do something with result which is the value stored after the async was done...
      return result != null ? JSON.parse(result) : null;
    })
  } catch(e) {
    // error reading value
  }
}
```

# IMAGES

```
<Image source={require('../assets/cp.jpg')}  
      style={{ width: 150, height: 100, borderWidth: 1, borderColor: 'red', margin: 10 }} />  
<Image source={require('../imgs/cp2.jpg')}  
      style={{ width: 150, height: 100, borderWidth: 1, borderColor: 'red', margin: 10 }} />  
<Image  
      source={{ uri:  
'https://upload.wikimedia.org/wikipedia/commons/2/25/Coldplay_%28282842037407%29.jpg' }}  
      style={{ width: 150, height: 100, borderWidth: 1, borderColor: 'red', margin: 10 }} />
```

# MORE EXPO CAPABILITIES!!!

## SDK API REFERENCE

Introduction

Accelerometer

Admob

Amplitude

AppLoading

ART

Asset

Audio

AuthSession ←

AV

BarCodeScanner

BlurView

Branch

Brightness

Calendar

Camera

Constants

Contacts

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DeviceMotion

DocumentPicker

ErrorRecovery

FacebookAds

Facebook ←

FaceDetector ←

FileSystem

Fingerprint

Font

GestureHandler

GLView

Google

Gyroscope

ImageManipulator

ImagePicker

IntentLauncherAndroid

KeepAwake

LinearGradient

Localization

Localization

Location

Lottie

Magnetometer

MailComposer

MapView ←

Notifications

Payments

Pedometer

Permissions

Print

registerRootComponent

ScreenOrientation

SecureStore

Segment

Speech

SQLite

Svg

takeSnapshotAsync

Updates

Video

WebBrowser