Introduction to React Native

SCS 3212 - Mobile Applications Development

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Lecture Overview

- React Native - Introduction
- Setting-up the Development Environment
- Creating and Running the First React Native Application

React Native - Introduction

React Native - Introduction

- An open-source mobile application framework
- A cross-platform mobile application development framework
- Initial release was on March 26, 2015
- Created by Facebook

React Native - Introduction

- React Native combines the best parts of native development with React,
  - A best-in-class JavaScript library for building user interfaces
- React Native can be used with existing Android and iOS projects or can create a new app from scratch.
- React Native does not use HTML or CSS.
  - Instead, messages from the JavaScript thread are used to manipulate native views.
  - React Native also allows developers to write native code in languages such as Java for Android and Objective-C or Swift for iOS which make it even more flexible.

React Native - Introduction

- The working principles of React Native are virtually identical to React.
  - Except, React Native does not manipulate the DOM via the Virtual DOM.
  - It runs in a background process directly on the end-device and communicates with the native platform via a serialization, asynchronous and batched Bridge.
- Create platform-specific versions of components so a single codebase can share code across platforms.
- It provides a core set of platform agnostic native components like View, Text, and Image that map directly to the platform's native UI building blocks.

Setting-up the Development Environment

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There are two ways to get started with React Native.

- Expo CLI
- React Native CLI

Setting-up the Development Environment

- Follow environment-setup guide from React Native Website.
  - https://reactnative.dev/docs/environment-setup

Expo CLI Installation

- npm
  - `npm install -g expo-cli`
- Yarn
  - `yarn global add expo-cli`

React Native CLI Installation

- Install Chocolatey
  - https://chocolatey.org/install
- Install Nodejs and JDK
  - `choco install -y nodejs.install openjdk8`
- Install Android Studio and Android SDK
- Configure ANDROID_HOME environment variable
- Add platform-tools to Path

Creating and Running the First React Native Application

Expose CLI - New Project

- npm
  - expo init AwesomeProject
    cd AwesomeProject
    npm start
- Yarn
  - expo init AwesomeProject
    cd AwesomeProject
    yarn start

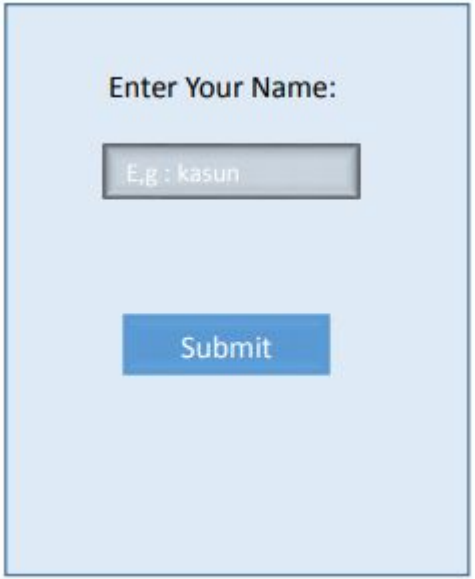
React Native CLI - New Project

- Create new project
  - npx react-native init AwesomeProject
- Start Metro
  - npx react-native start
- Start the application
  - npx react-native run-android

Try It Out!

Refer the following documentation.

- https://reactnative.dev/docs/components-and-apis



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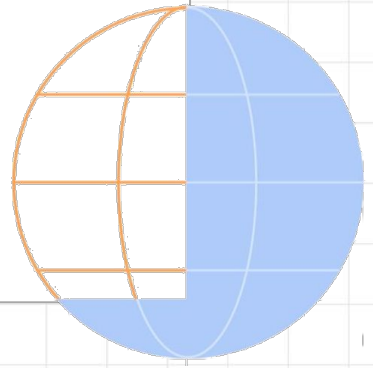
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