MCAST

INTRODUCTION TO MOBILE APPLICATIONS DEVELOPMENT

Mobile Application Technologies

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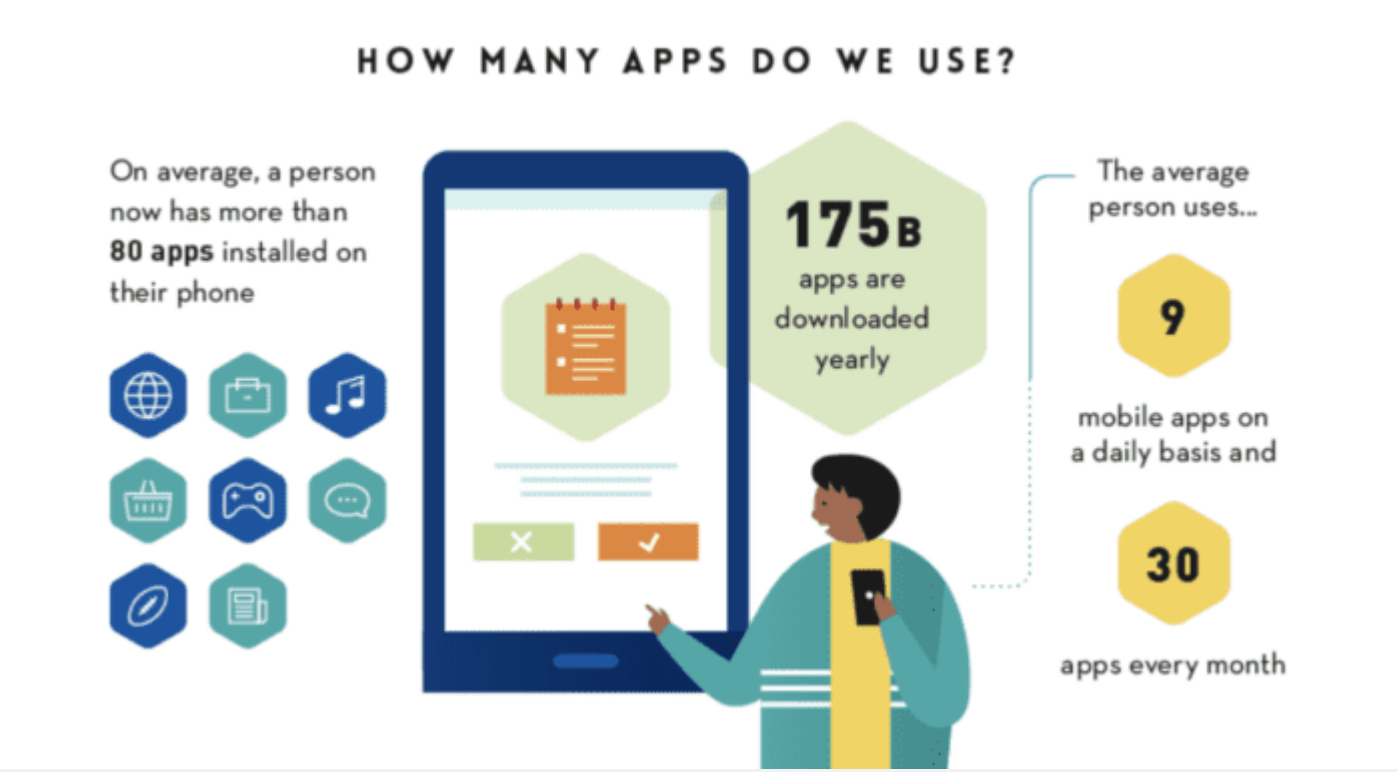
OVERVIEW OF MOBILE APP DEVELOPMENT

- Mobile applications have become integral in our daily lives, offering a wide range of services and functionalities.
- The demand for innovative mobile apps continues to grow, driving advancements in mobile application technologies.
- **Mobile development** involves creating user-friendly and feature-rich applications for smartphones and tablets.

MOBILE APPLICATION USAGE



Source: https://buildfire.com/app-statistics/

HYBRID VS NATIVE

- There are two main paths of mobile app development – Hybrid and Native.

- **Native App Development:**
  - Tailored for a specific platform (iOS, Android).
  - Utilizes platform-specific languages (Swift for iOS, Kotlin/Java for Android).
  - Offers high performance but requires separate codebases for each platform.

- **Hybrid App Development:**
  - Cross-platform development using web technologies (HTML, CSS, JavaScript).
  - Allows a single codebase for multiple platforms.
  - Usually built using frameworks like Ionic, React Native, or Xamarin.

HYBRID VS NATIVE

Key Features: Native, Web, & Hybrid

Feature	Native	Web-only	Hybrid
Device Access	Full	Limited	Full (with plugins)
Performance	High	Medium to High	Medium to High
Development Language	Platform Specific	HTML, CSS, Javascript	HTML, CSS, Javascript
Cross-Platform Support	No	Yes	Yes
User Experience	High	Medium to High	Medium to High
Code Reuse	No	Yes	Yes

BRIDGING THE GAP WITH IONIC

- Cross-platform framework for building mobile and web applications.

- Built on web technologies (HTML, CSS, JavaScript/TypeScript).

- Leverages a single codebase for both iOS and Android.

- Combines the benefits of hybrid development with a native-like user experience.

TECH STACK

During this unit will be developing hybrid mobile applications using the following the Ionic-React-Capacitor stack.

- ✓ Ionic will be used to develop the UI components.

- ✓ React will take care of implementing JS functionality to the components.

- ✓ Capacitor will give a native feel by allowing us to deploy to a mobile device and access certain features such as the Camera and GPS of the mobile device.