Android-Based Mobile App Design for COVID-19 Tracking

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COLLEGE of BUSINESS & TECHNOLOGY
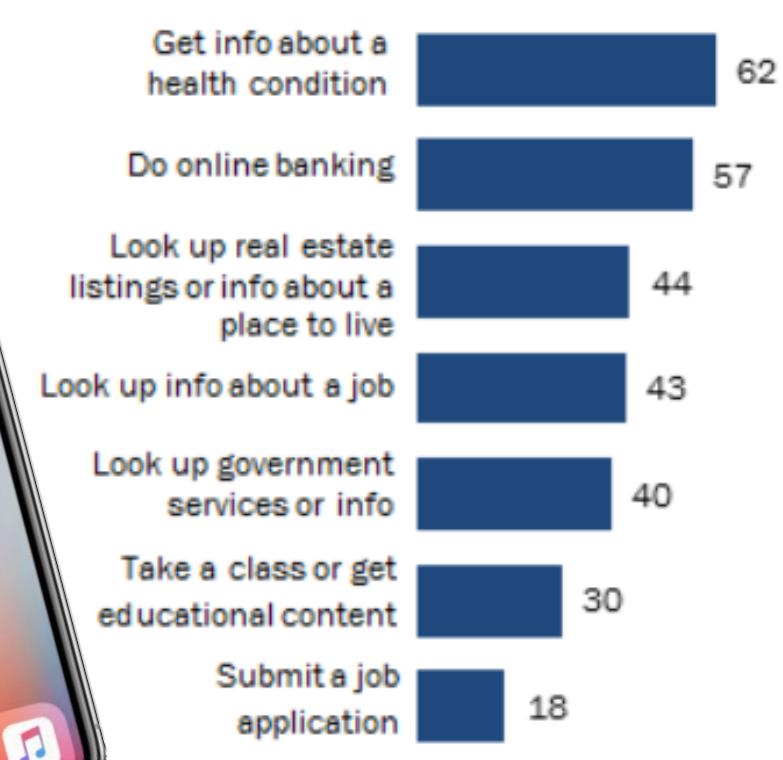EAST TENNESSEE STATE UNIVERSITY

Introduction

Today, smart phones are quickly becoming the biggest time consumer for many individuals. To elaborate further, **the average American checks their phone 262 times per day**. However, with this in mind it's important to also consider all the useful applications of smartphones that connect users to what they value and prioritize. For example, a whopping **62% of smart phone owners have used mobile applications on their phone to look up information regarding health conditions**.

In times such as the peak of the worldwide disease known as COVID-19, **mobile applications can help to keep individuals educated and feeling connected during times of quarantine**. Thus, making mobile app design a powerful skill.

More than Half of Smartphone Owners Have Used Their Phone to get Health Information, do Online Banking
% of smartphone owners who have used their phone to do the following in the last year

Get info about a health condition	62
Do online banking	57
Look up real estate listings or info about a place to live	44
Look up info about a job	43
Look up government services or info	40
Take a class or get educational content	30
Submit a job application	18

Pew Research Center American Trends Panel survey, October 3-27 2014.
PEW RESEARCH CENTER

Development of the COVID-19 Mobile Application

Throughout the peak of the coronavirus pandemic, many people were deeply concerned about what precautions to take and how serious the pandemic had become. All of the information being released on a day-to-day basis made it very easy for individuals to become overwhelmed. Therefore, the creation of an application containing all important information about COVID-19 is critical.

Methodology Overview

The creation of a COVID-19 tracking application follows through a series of 6 phases:

- ✓ Conceptualization
- ✓ Feasibility Assessment
- ✓ Design
- ✓ Development
- ✓ Testing
- ✓ Deployment

Conceptualization

In the conceptualization phase, a couple of key steps are to :
- Think about what kind of consumer needs the app will meet.
- Plan the basic layout and implementation of the app.

Starting Concepts
Android or IOS?
What do I want my user interface to look like?
What kind of application do I want to design?
What features should the application have?

Feasibility Assessment

The phase involving feasibility determines what kinds of functionalities can be realistically programmed into an application. Important things to consider in this phase would be:
- What kind of hardware/software is available
- Skillset of the programmer
- Timeline for implementation
- Purpose for application to fulfill

Design

The design phase primarily focuses on the UI or user interface of the mobile application. The key to a popular UI is:

- **Simplicity** – for users of all technological experience to be able to use the app with ease.

- **User Interaction** – plenty of user interaction to keep users interested with the application.

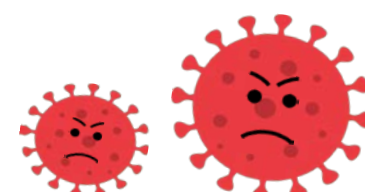- **Aesthetic** – the app should be designed to catch the users' eyes.
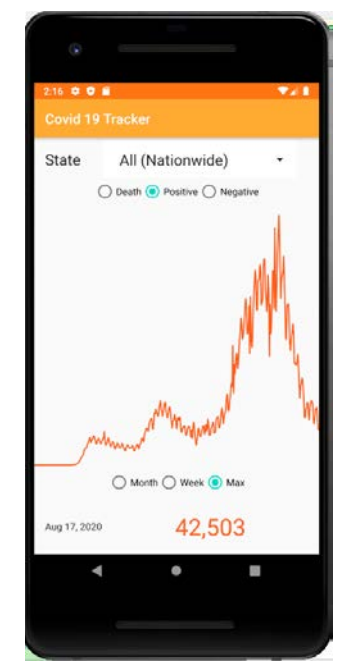
Development

This is the longest phase of the mobile application design process. In this phase, functionality is programmed into the app. If an Android application is being programmed the most popular programming languages are Kotlin, Java, and a bit of JSON. When programming Apple products, the programming language to use is Swift. Popular software that can be used to program mobile apps include Android Studio and XCode.

API Keys in Development

In development, one of the key factors to having a secure and functional app with refreshing data, is the programming and use of API keys or Application Programming Interface Keys. APIs are the key to software communication!

Commands
User sending request
GET POST PUT DELETE
JSON
HTTP
Server sending request
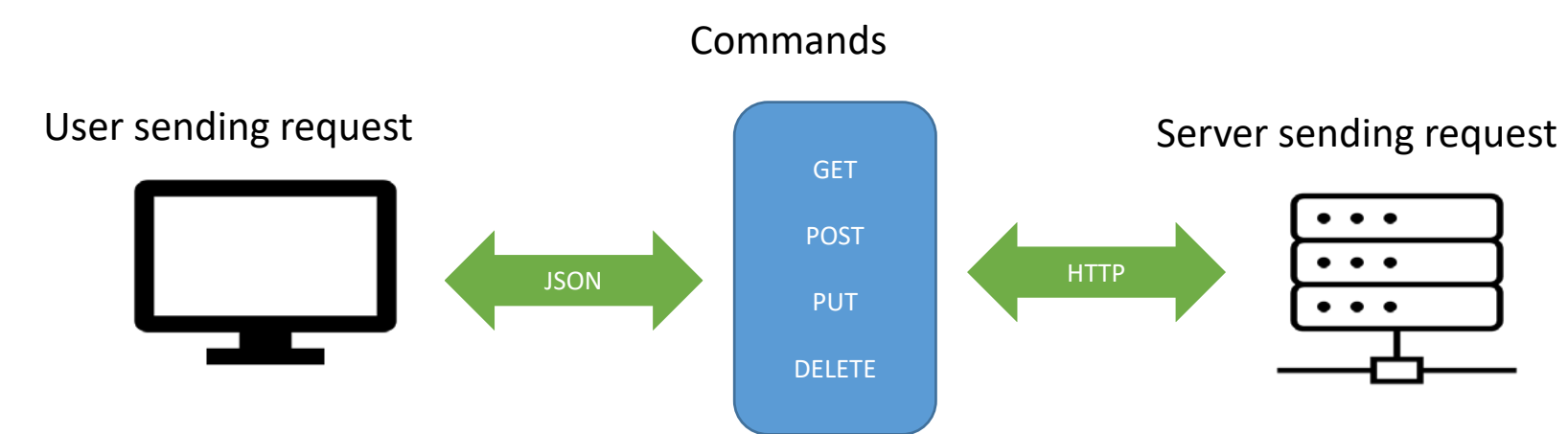
The process of how APIs work consists of an application receiving data and communicating through JSON via an HTTP request in order to get data from a web server.
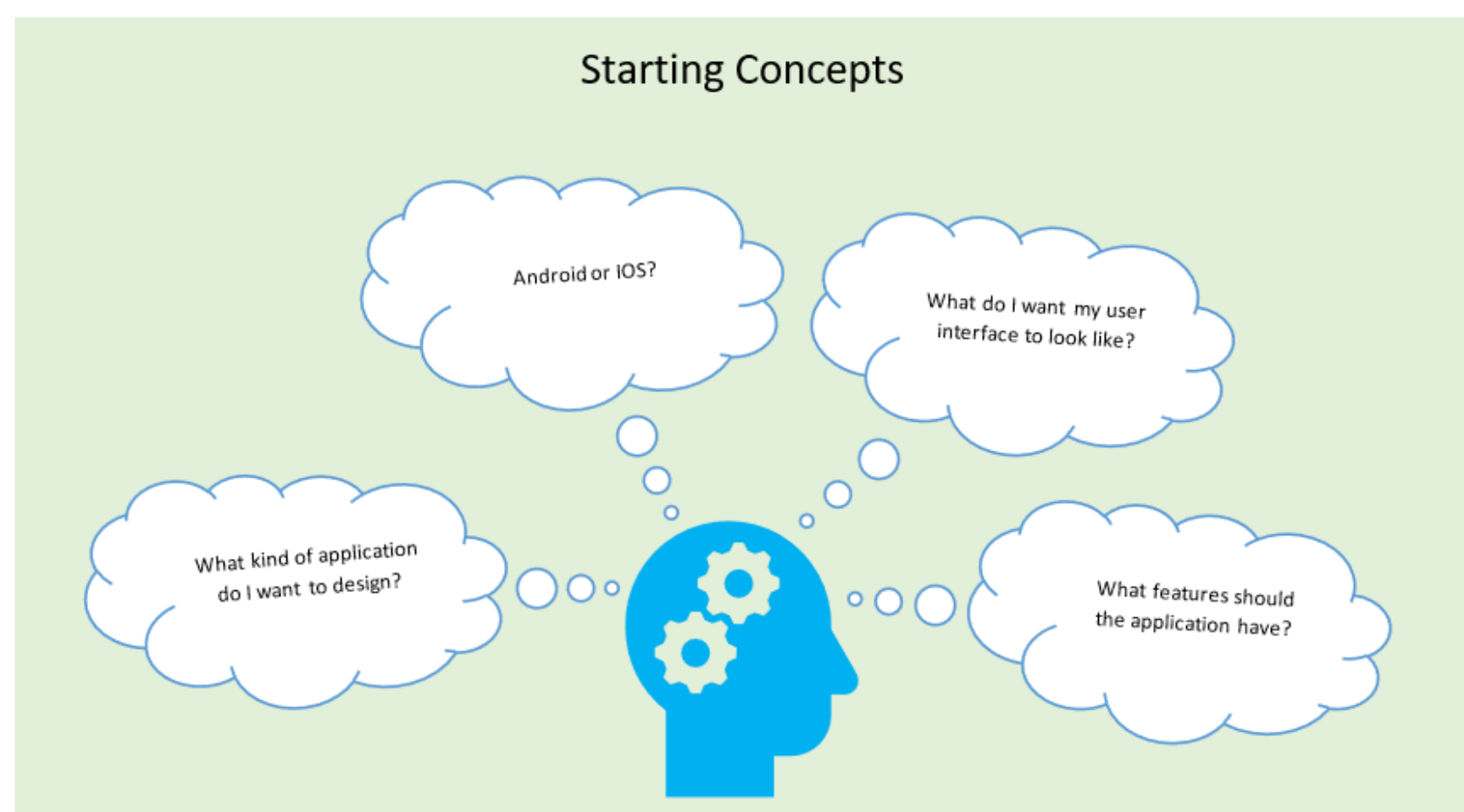
Testing

Testing is important for ensuring the application's functionality is acceptable to users. Most software development platforms such as Android Studio and XCode include emulators. For precision in testing, it is important to run tests every time a new functionality is added to the application.

Deployment

Deployment is the final stage, of mobile app design. This is where all your hard work is published on the app store! Deployment can be a very different process depending on what platform you choose to program on.
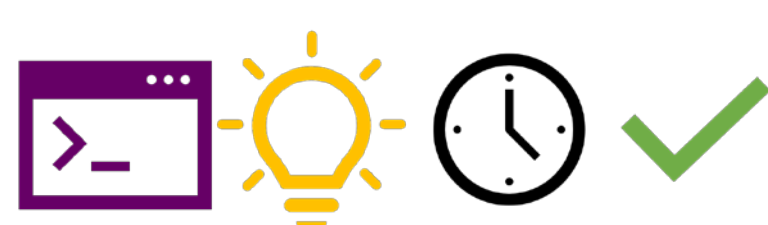For Apple applications, publishers will need to:
- Register as an Apple Developer for $99 (to be renewed yearly)
- Submit the application to Apple for approval
- Finally, upload the app.

For Android developers, you will need to pay a one-time fee of $25 and then you may publish the application as long as it follows the Google Play Store privacy policies when collecting user data.

Conclusion

Mobile app development is a creative process that gives developers a chance to share their unique thoughts and ideas with the world. Mobile applications are taking the media by storm and enable individuals to stay connected to the aspects of life they value most. Developers should continue finding innovative ways to implement taking care of the everyday needs of consumers.

References

1. Smith, Aaron. "U.S. Smartphone Use in 2015." Pew Research Center: Internet, Science & Tech, Pew Research Center, 25 Aug. 2020,
2. https://www.pewresearch.org/internet/2015/04/01/us-smartphone-use-in-2015/.