How Are Apps Made?

Simon Wroblewski & Edward Bachoura

Frank R. Seaver College of Science and Engineering

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Outline

- **Integrated Development Environments, like Xcode, assemble different development tools which simplify and expedite software development.**
- **Software Development Kits compile and give developers access to different APIs which provide necessary data for the application.**
- **Frameworks hasten the development process by giving you a foundation of libraries which provide shortcuts to tedious code.**
- **Debugging is the process of running and examining your code to find and fix the code that isn't working as intended and tests are code snippets that are used to check the functions in other code.**
- **Version Control allows you to document all changes made to your code, giving transparency to all work done to your project.**

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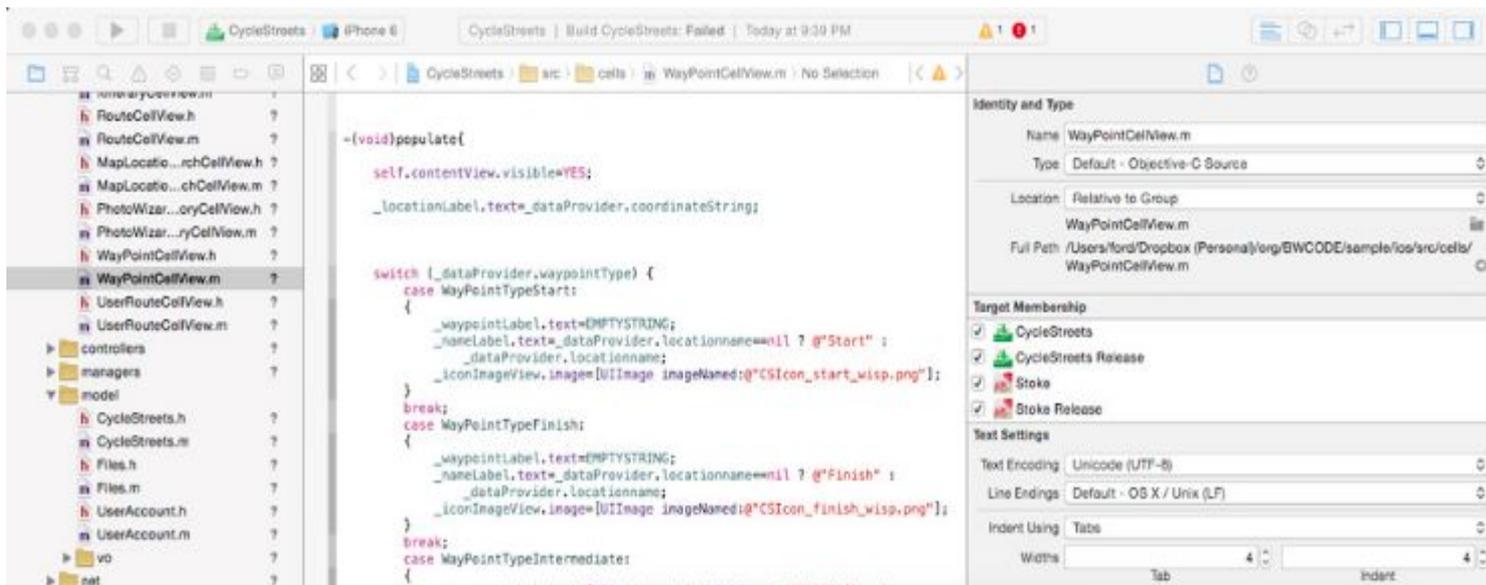# Integrated Development Environments (IDE)

- **IDEs are application software, which provide helpful facilities for programmers when they are developing their own software.**
- **Usually, IDE's contain a source code editor, build automation tools, and a debugger.**
- **Xcode is Apple's IDE and is used for creating applications on the Mac and iPhone and iPad. Although they give you many tools for creation and organization, some functions are reserved for the manufacturer.**

IDE Components

- **Source code editor allows you to edit the code for creating programs**

- **Build automation tools allow for the process of automating the creation of a software build**

- **A debugger is a program that sifts through your code, warning you of possible errors which could lead to a crash**

Xcode Environment

- **Xcode is a user friendly place designed to help the programmer keep track of their files, code, and ultimately, their program.**

https://www.bloomberg.com/graphics/2015-paul-ford-what-is-code/#how-are-apps-made
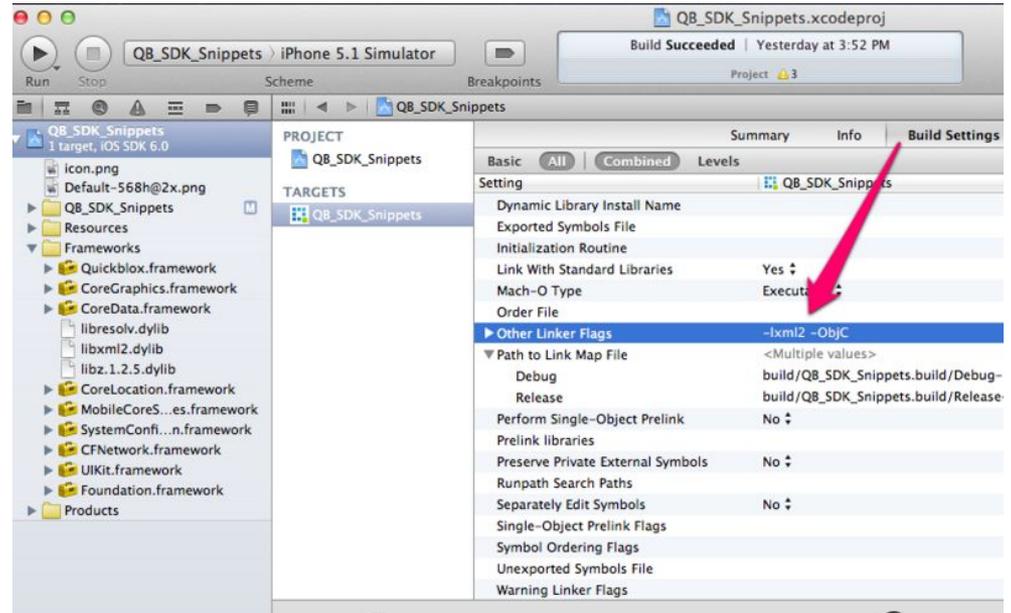
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Software Development Kit (SDK)

- **An SDK compiles and gives developers access to different APIs which provide necessary data for the application.**

- **The iOS SDK is used for making iPhone and iPad apps and is made up of dozens and dozens of APIs.**

iOS Software Development Kit

- **This environment helps programmers keep track of their many files which will ultimately become their application.**
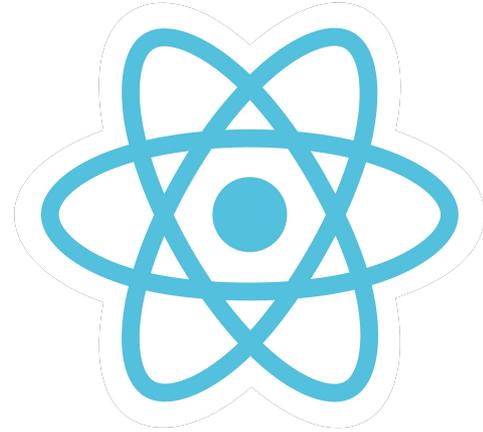

http://www.writeopinions.com/ios-sdk

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Frameworks

There are hundreds of frameworks to choose from, each unique in their approach to simplifying your code.

Handles the tedious parts of coding

- **Saves you time in your development**
- **Avoids the pain of writing the same code over and over again- keep your code DRY**
- **Just about every language has a framework**
- **Frameworks are usually specific to one type of application**
  - **Graphics framework, web framework, network framework, etc.**

Django example

- Django is focused on python

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Debugging

- **Debugging is the process of running and examining your code to find and fix the code that isn't working as intended and tests are code.**

- **If you are a programmer, you will spend more time debugging than writing code. Even the article says "Programming is debugging" and that we should expect our code not to work.**

Testing

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Acknowledgements

References

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