CST 223 Concepts of programming languages

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Term Project

Language Name – Dart

**Origin/History/Background** – Dart is a general-purpose object-oriented programming language created by Google. Its general purpose is to create web applications, smart phones, servers, and Internet of Things devices. Dart’s syntax is similar to C and Java and is class based and uses single inheritance. It was revealed in 2010 at a GOTO conference. Dart is statically typed, although you can annotate a variable with dynamic if there is a need for dynamic language since dynamic type itself is static but can contain any type at runtime.

**Challenges faced** – For the layout and grid of the tic tac toe board, it was a challenge to create a visual a 3x3 rectangular grid. The way to fix this was to use keywords BoxShape.rectangle and Border.All which created the grid. The other challenge faced was related to the running the code using an emulator in VSCode. This issue was not evident in IntellIiJ.

One of the downsides to Dart is the way the UI is built. There are very long builder functions and while breaking functions into other functions one it is always a hassle to try and keep everything aligned. Especially when Refactoring.

**Why Dart?** - Dart for mobile development allows developers to write code for Android and iOS devices with a single code base. With minimal setup you can with one repo develop Java for Android and Swift for iOS just by writing dart. The dart project settings take care of turning your dart code into the proper language for the platform behind the scenes. There are also plans for developing webapps with the same code.