Introduction to TypeScript

Questions

1. Who is familiar with TypeScript?

2. Who has used TypeScript on a project?

3. What editor(s) do you use?

Agenda

— Language Overview - Part 1 (demo)

— TypeScript Overview (8 slides)

— Language Overview - Part 2 (demo)

— Wrap Up (3 slides)

Language Overview - Part 1

Brief History of TypeScript

— Launched in October 2012

    — Open source project managed by Microsoft

    — Team lead by Anders Hejlsberg (Turbo Pascal, Delphi, C#)

— ng-conf 2015 Announcement

    — AtScript merged into TypeScript

What is TypeScript?

— Superset of JavaScript

— Optional type system

— Features from the future (ES6, ES7)

Dynamic Typing

— Variable type is interpreted at runtime

— Developer can provide less information

— Bugs are often discovered at runtime

— Reliance on unit testing to ensure code quality

Static Typing

— Variable types are known at compile time

— Compiler can perform type checking

— Allows bugs to be caught early

— Less reliance on parameter checking and some types of unit testing

Tooling

— TypeScript Playground

— Atom - https://atom.io/packages/atom-typescript

— Sublime Text

— WebStorm

— Visual Studio

— NEW - Visual Studio Code (available on Linux and Mac OS X)

— And others (like Emacs and Vi)

Rich Tooling Support

— Static checking

— Symbol-based navigation

— Statement completion

— Code refactoring

Why Do We Care?

— TypeScript is just a tool… use it, or don't

    — Increased productivity = happier developers

    — Higher quality solutions = happier users

— TypeScript is not for every project

    — Particularly useful on larger projects with multiple team members

Flow

— Flow looks great

   — More aggressive than TS with implicit typing

— See Jesse's presentation

   — Flow is the JavaScript type checker I have been waiting for

— For some Flow will be a better choice than TS (or vice versa)

Language Overview - Part 2

Wrap Up

Learn JavaScript

TypeScript is not a replacement for learning the JavaScript language and its common design patterns.

TypeScript 1.5 Features

— Support for Destructuring

— Support for Spread Operator

— Support for ES6 Modules

— Support for for..of

— Support for Computed properties

— Support for ES7 Decorators proposal

— And more...

Next Steps

— Slides and code on GitHub - https://github.com/smashdevcode

Thanks!

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