Rust BuildOn

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Build-On

Learn Rust in small steps

- Start with a simple Rust demo
  - Text Finder

- Build on that in interesting ways, e.g., for Text Finder:
  - Add capability – command line parsing, directory tree walking, …
  - Use generics – plugin components
  - Use threads – parallel text searches, thread pool based dir traversal
  - Use library components

- Discord server
  - Q&A
  - Comments

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Build-On Process

- Zoom meeting that:
  - Briefly describes motives for using Rust and Rust basic ideas
  - Provides two or three references
  - identifies a problem and refers to starter code
  - Q&A
- Subsequent meetings
  - Briefly describes my solution
  - Others may discuss their solutions and/or problems
  - Pose next extension to problem
  - Q&A

BuildOn Timeline: Bi-Weekly Sessions

- Session #1 – BuildOn Introduction & Rust Preview

- Session #2 – Project Introduction & Some Rust details

- Session #3 – **Step #1**: TextSearch -> Functional package with demo

- Session #4 – **Step #2**: DirNav ->   "

- Session #5 – **Step #3**: CmdlnParser ->   "

- Session #5 – **Step #4**: Executive, Display -> Functional project

- Session #6 – RegEx Extension ?

- Session #7 – Parallel Text Searh ?

Build-On Motivation

- Participate in a developer community interested in learning Rust
- Stay in contact with SU Computer Engineering and Computer Science alumni
- Support conversations about Rust and other interesting tech topics
  - Encourage both active learners and curious browsers
- Rust is a very clever language supporting development of secure, high performance code (same ballpark as C++ without undefined behavior)
  - Rust website lists 138 companies using Rust in production
  - Tiobe lists rust as 25th in their language popularity index (Oct 2020).

BuildOn Introduction Topics

- BuildOn Introduction
- Step #0
- Step #1
- Site Map
    - Site Design
    - Starting Trail - quick peek at items
    - Starting Trail – Start
    - Starting Trail – Tooling
    - Starting Trail - Rust Libs

- Rust std::lib
- Rust Bites
- Rust Story
- BuildOn
- Rust Repository

Next BuildOn – Session #2

Project Review

- [Step #0](#)
  - The BuildOn Project
- [Step #1](#)
  - Text Search package
  - Look at Starter Code

Rust

- [Rust Safety](#)
- [Rust Error Handling](#)
- Answer Questions

BuildOn – Session #3

Project

- Code review: Step #1 - TxtSrch
  - Code will be posted
- Step #2 – DirNav
  - Specification
  - Starter code

Rust

- Structs
- Rust Libs
- Rust std::fs
- Answer Questions

BuildOn

- Session #4
  - CmdlnParser
- Session #5
  - Executive & Display
- Session #6 ?
  - RegEx Search
- Session #7 ?
  - Parallel Text Search

That's All Folks!