

# Rust BuildOn #2

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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

# How would I use Rust at work?

- Migrate parts of a large project to Rust using its foreign function interface:
  - Piece-meal improvement: performance, safety of existing code-base
  - <https://locka99.gitbooks.io/a-guide-to-porting-c-to-rust/content/>
  - [std::ffi](#)
- Use Rust generated WebAssembly to speed JavaScript processing
  - <https://rustwasm.github.io/book/>
- Start new projects in Rust
  - Create fast, sound code with lots of help from compiler messages
  - Great tooling: [RustBites Tooling](#), works on Windows, Linux, macOS
  - Resources: e-books, active user forum, <https://crates.io>

# BuildOn Timeline: Bi-Weekly Sessions

- Session #1 – BuildOn Introduction & Rust Preview
- Session #2 – Project Introduction & Some Rust details
- Session #2 – **Step #1**: TextSearch -> Functional package with demo
- Session #3 – **Step #2**: DirNav -> “
- Session #4 – **Step #3**: CmdlnParser -> “
- Session #5 – **Step #4**: Executive, Display -> Functional project
- Session #6 – RegEx Extension ?
- Session #7 – Parallel Text Search ?

# BuildOn Session #2 Topics

## Focus: TextSearch Package

- [Step #0](#)
- [Step #1](#) - TextSearch
  - [Starter Code](#)
  - [Tooling](#)
  - [Functions](#)
  - [Structs](#)
  - [RustStory Libraries.html#fs](#)
  - [std:fs](#)
- [BuildOn](#)
- Run TextFinder

## Focus: Rust

- [Safety](#)
- [Anim Features](#)
- [RustBite Data](#)
- [Rust Bites](#)
- [Rust Story](#)
- [Code Experiments](#)
- **Questions?**

# Next BuildOn – Session #3 – DirNav

## Project Packages

- [Step #1](#) – Quick Review
  - Text Search package
  - Posted solution
- [Step #2](#) - DirNav
  - DirNav package spec
  - Look at Starter Code

## Rust

- [Enumerations](#)
- [Error Handling](#)
- [Conversions](#)
- [Generics & Traits](#)
- Answer Questions

# BuildOn

- Session #3
  - DirNav
- Session #4
  - CmdInParser
- Session #5
  - Executive & Display
- Session #6 ?
  - RegEx Search
- Session #7 ?
  - Parallel Text Search

That's All Folks!