Rust BuildOn #7

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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

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
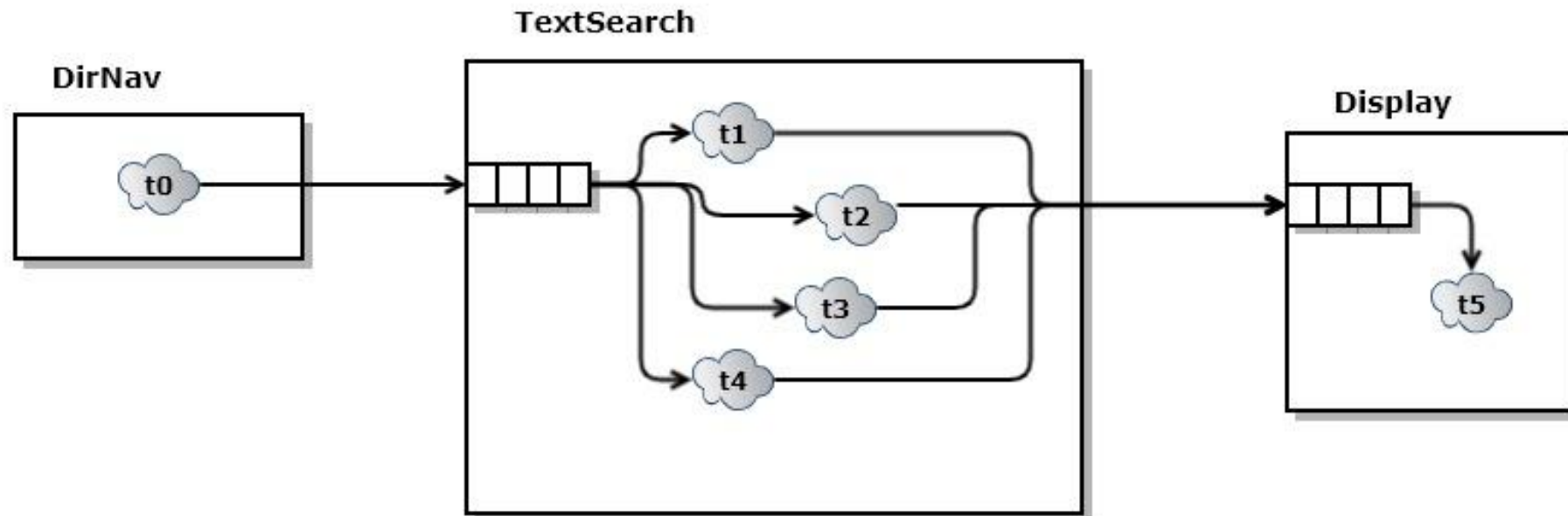- Session #7 – Parallel Text Search

BuildOn Session #7 Topics

Focus: Integration of parts

- Step #5 – TextFinder-Regex
  - Solution Code
- Step #6 – Add Parallel Proc to TextSearch pkg
  - Major restructuring of TextSearch pkg
  - Use BlockingQueue, ThreadPool, AtomicUsize
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Focus: RegEx & Threads
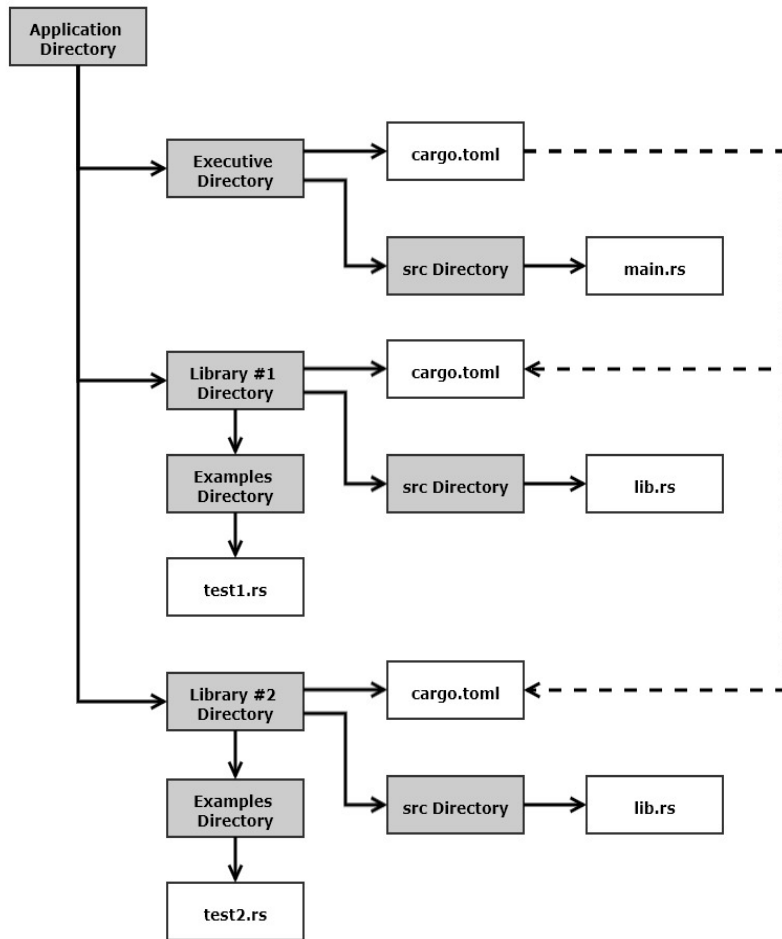
- RegEx
- Threads
- Synchronization
- BlockingQueue
- ThreadPool
- Debugging Rust in Visual Studio Code
- RustBites
- **Questions?**

Parallel Text Search

Rust Project Structure for TextFinder

- All components on same level
  - Makes dependency metadata simpler
- Each component has at least one testN.rs file with a main.
  - Use for testing and demonstrations
- Traits are defined in the caller's package if you use DIP.
  - Otherwise they usually go in the called package.

BuildOn

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

That's All Folks!