

# TRShell

## OS Project Presentation

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# Project Idea

## Motivation

- ▶ We love shortcuts
- ▶ Tiling window workflow
- ▶ Interested in the inner workings of Linux
- ▶ We like optimizing workflows

# Project Idea

## Importance

- ▶ simple layout
- ▶ easy to overview multiple shells
- ▶ focus on running multiple jobs
- ▶ intuitive to use
- ▶ minimalistic but appealing appearance

## Implementation

- ▶ C Language (maybe some x86 Assembler)
- ▶ TRSh scripting xD (.trsh)

# Hardware / Software Requirements

## Setup

- ▶ easy as required tools are part of most Linux distros by default
- ▶ gcc & gdb for compilation and debugging of C code
- ▶ Linux operating system
- ▶ editor to write code

# Time Plan

Vorgang	Anfang	Ende
Prepare presentation	04.04.22	06.04.22
Project idea presentation	07.04.22	08.04.22
Read source code of other shells	11.04.22	15.04.22
UI	18.04.22	04.05.22
<i>- interactive mode: loop -&gt; Read-Eval-Print-Loop (REPL) - read input, parse and execute until: exit, shutdown or reboot</i>		
<i>Printing Prompt Strings: PS1, PS2, ..., PS4</i>		
MS - 1	05.05.22	05.05.22
<i>Working shell prompt: - You can enter the shell - Enter some first commands - Exit shell</i>		
Command Line Interpreter	05.05.22	18.05.22
<i>- Parser: scans input and breaks it down to tokens - Token: one or more characters -&gt; single unit of input - Abstract Syntax Tree (ATS): high level representation of the command line -&gt; given to executor</i>		
Builtin utilities	19.05.22	27.05.22
<i>- Set of commands that are implemented as part of the shell program itself - example: cd, fg, bg</i>		
Symbol table	19.05.22	27.05.22
<i>- Store information about variables - History implementation</i>		
MS - 2	19.05.22	19.05.22
<i>- The default commands are processed correctly: command, flags and passed arguments</i>		
Shortcuts	24.05.22	06.06.22
<i>- Navigate different shells with shortcut - Move split windows around</i>		
Tiling windows	24.05.22	06.06.22
MS - 3	30.05.22	30.05.22
<i>- Every shell functionality, inclusive history, works</i>		
Implement personal scripting language	03.06.22	09.06.22
Debug last errors	10.06.22	15.06.22
MS - 4	10.06.22	10.06.22
<i>- TRShell is finished - Time to debug!</i>		
Prepare presentation	13.06.22	15.06.22

# Time Plan

