

U3 Software Engineering lab

Team Details :

- Name : P K Navin Shrinivas [PES2UG20CS237]
- Name : Mohamed Ayaan [PES2UG20CS200]
- Name : Mukund Deepak [PES2UG20CS206]
- Name : Nandan H [PES2UG20CS214]

Problem 1B :

Subquestion 1 : Print statements to see debugs in code :

```
5 //We are using self to obtain the value from the CpuUsage structure as it is being implemented
4 pub fn convert_to_protobuf(&self, req_payload : CpuUsageRequest) -> CpuUsageProtobuf {
3     println!("called , {}", self.calculate_recent_usage());
2     let needed_cpu_id : i32 = match req_payload.needed_cpu_usage.parse(){
1         Ok(n) => { n }
126     _ => { println!("Junk CPU ID usage requested") }
1     };
2     CpuUsageProtobuf{
3         cpu_id : String::from("0"),
4         cpu_usage : self.calculate_recent_usage() as i32,
5     }
6 }
7 }
8
9 pub async fn main_cpu_stat_handler(statefull_cpu_usage: &mut CpuUsage) {
10     loop {
11         //Reading entire file from system
12         let procstat_fd = match File::open("/proc/stat") {
13             Ok(x) => x,
14             Err(_) => {
15                 panic!("Make sure you are using a linux system! Error point[reading stat file]");
16             }
17         };
18     }
19 }
```

The above image shows two print statements according to the point in code the error occurs

Subquestion 2 : Two test cases for valid and invalid cases :

Valid case :

```
[14:08:58] [~/github/SysPerf/SysModule] git:(main*)> grpcurl -plaintext -import-path ./src -proto data.proto -d '{ "needed_cpu_usage": "2" }' localhost:5001 data.protobuf.FetchData/FetchCpuUsage
{"cpuId": "0",
"cpuUsage": 4}
```

```

[14:08:39] [~/github/SysPerf/SysMo
  Compiling SysModule v0.1.0 (/ho
  Finished dev [unoptimized + de
  Running `target/debug/SysModu
Listening on port 5001
Jello
4.958678 168247 168253 2347443
called , 4.958678
4.958678 168247 168253 2347443

```

Invalid case :

```

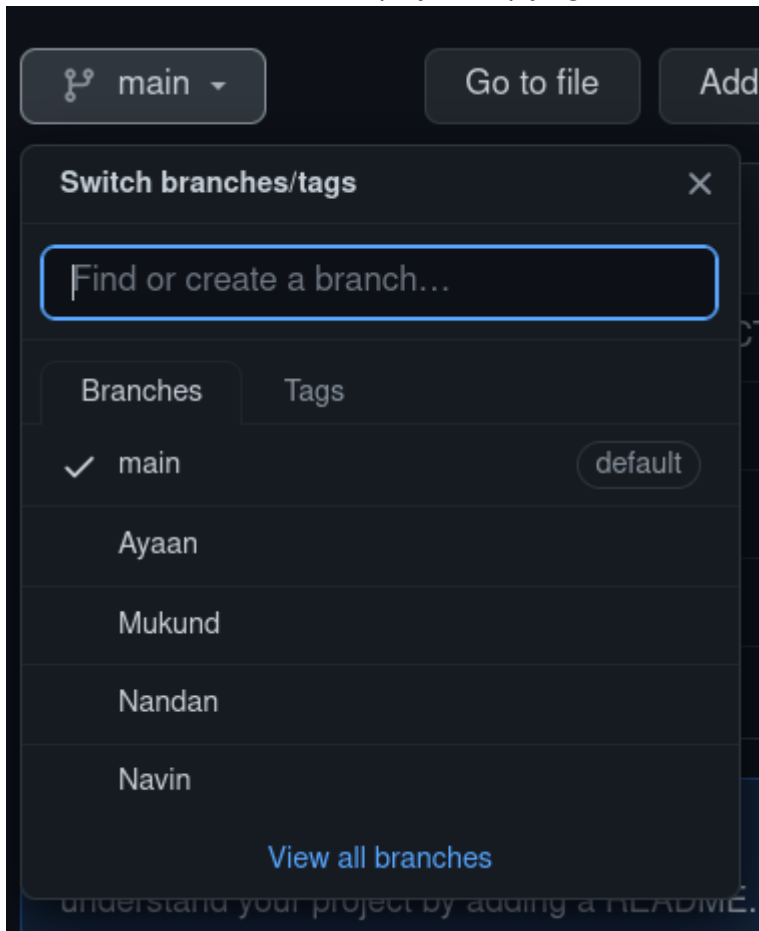
[14:09:00] [~/github/SysPerf/SysModule] git:(main*)>>> grpcurl -plaintext -import-path ./src -proto data.proto -d '{ "needed_cpu_usage" : "A" }' localhost:5001 data.protobuf.FetchData/FetchCpuUsage
ERROR:
  Code: Canceled
  Message: stream terminated by RST_STREAM with error code: CANCEL
[14:09:05] [cost 0.069s] grpcurl -plaintext -import-path ./src -proto data.proto -d '{ "needed_cpu_usage" : "A" }' localhost:5001 data.protobuf.FetchData/FetchCpuUsage

[14:08:39] [~/github/SysPerf/SysModule] git:(main*)>>> cargo run
  Compiling SysModule v0.1.0 (/home/navin/github/SysPerf/SysModule)
  Finished dev [unoptimized + debuginfo] target(s) in 6.20s
  Running `target/debug/SysModule`
Listening on port 5001
Jello
4.958678 168247 168253 2347443
called , 4.958678
4.958678 168247 168253 2347443
3.2786884 168458 168462 2354789
called , 3.2786884
thread 'tokio-runtime-worker' panicked at 'Junk CPU ID usage requested', src/CPUStat/statfuncs.rs:126:20
note: run with 'RUST_BACKTRACE=1' environment variable to display a backtrace

```

Problem 3 :

- We have 4 contributors to the project, implying we have 4 branches + 1 main branch



- Configuration Item table :

Item Name	tracked?	Maintainer	Category	Relation	Description
build.rs	yes	common	build	depends on proto	Works as build script for software
main.rs	yes	common	code	driver code for all modules	Brings together entire program
data.proto	yes	Navin	coupling	build.rs depends on this	Defines protocols for communication
.env	no	common	environment	-	Holds various build env vars
target/	no	common	build	-	All builds go here
CPUStat/lib.rs	yes	Navin	code	main.rs depends on this	defines interface and modules for CPU module
CPUStat/statfuncs.rs	yes	Navin	code	main.rs depends on this	defines functions for CPU module
MEMStat/lib.rs	yes	Ayaan	code	main.rs depends on this	defines interface and modules for MEM module
MEMStat/memfuncs.rs	yes	Ayaan	code	main.rs depends on this	defines functions for CPU module
Cargo.toml	yes	common	build	build.rs depends on this	Defines all modules and crate used for building this software

- Modifying Configuration Items | Ayaan :

This screenshot shows the commit history for the 'Ayaan' branch. The 'Ayaan' branch selector at the top is highlighted with a red box. The commit list includes:

- Added main function to memfuncs.rs** by Mohamed-Ayaan358, committed 8 days ago. Hash: 494ca76.
- Update memfuncs.rs** by Mohamed-Ayaan358, committed 8 days ago. Hash: e4f93ef.
- Merge pull request #7 from Mohamed-Ayaan358/main** by Mohamed-Ayaan358, committed 8 days ago. Hash: 867eb20.
- Merge branch 'main' of github.com:Mohamed-Ayaan358/SysPerf** by Mohamed-Ayaan358, committed 8 days ago. Hash: 4fc6d03.
- ADDED FOLDER STRUCTURE** by Mohamed-Ayaan358, committed 8 days ago. Hash: 4982a72.

This screenshot shows the details of pull request #8, titled 'Ayaan #8'. The merge status is 'Merged'. The description states: 'Mohamed-Ayaan358 merged 2 commits into main from Ayaan 8 days ago'. The commit history for this PR is shown below:

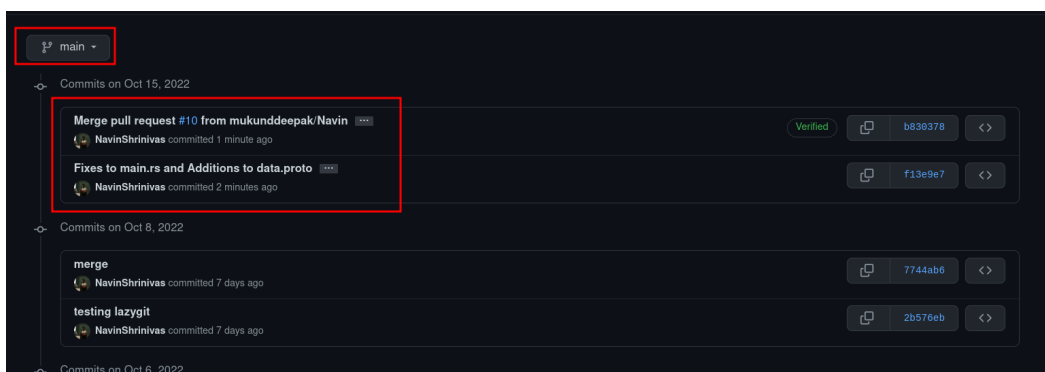
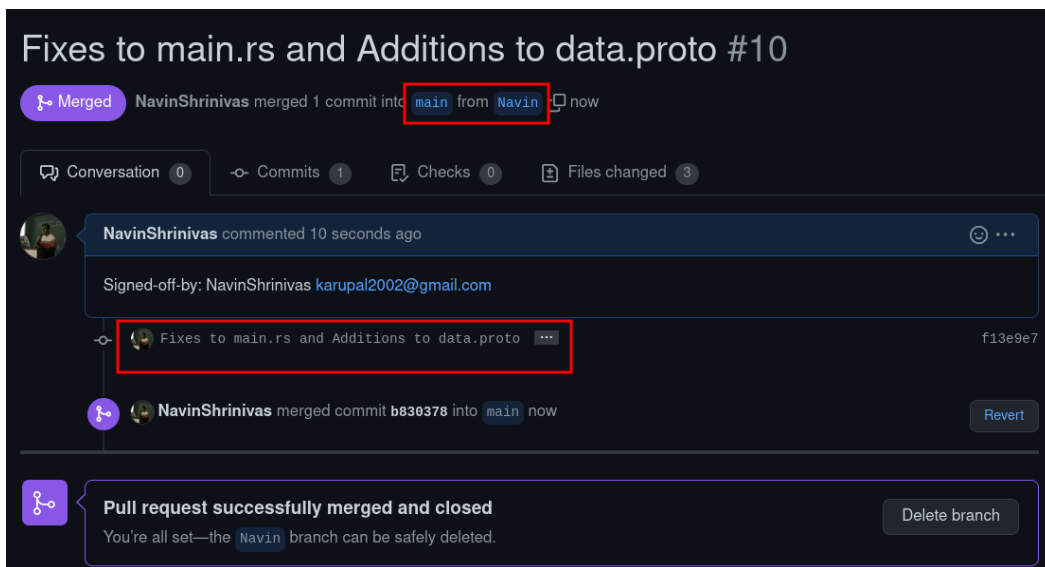
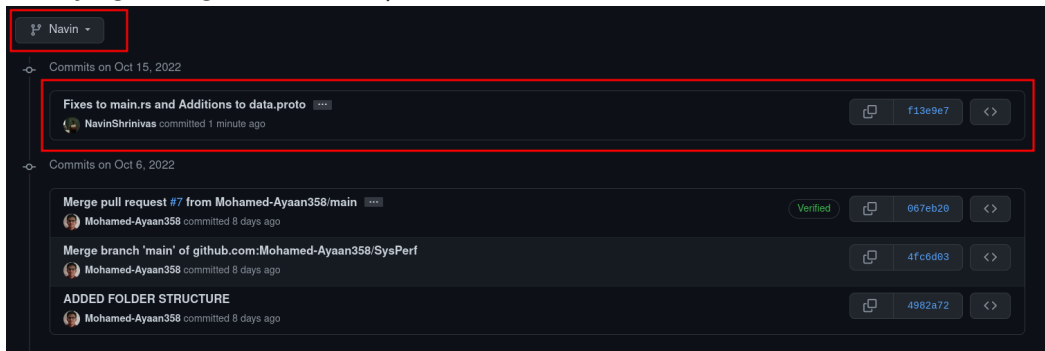
- Update memfuncs.rs** by Mohamed-Ayaan358, committed 8 days ago. Hash: e4f93ef.
- Added main function to memfuncs.rs** by Mohamed-Ayaan358, committed 8 days ago. Hash: 494ca76.

A comment from Mohamed-Ayaan358 is visible, stating 'No description provided.'.

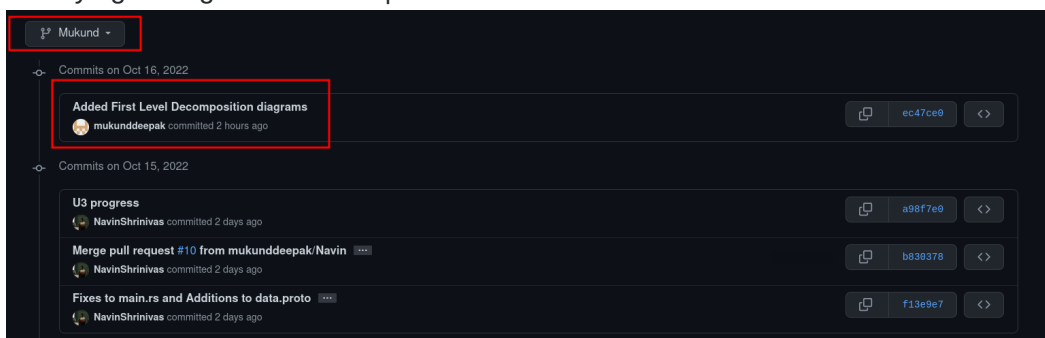
This screenshot shows the commit history for the 'main' branch. The 'main' branch selector at the top is highlighted with a red box. The commit list includes:

- merge** by NavinShrinivas, committed 7 days ago. Hash: 7744ab6.
- testing lazygit** by NavinShrinivas, committed 7 days ago. Hash: 2b576eb.
- Merge pull request #8 from mukunddeepak/Ayaan** by Mohamed-Ayaan358, committed 8 days ago. Hash: 823aa63.
- Added main function to memfuncs.rs** by Mohamed-Ayaan358, committed 8 days ago. Hash: 494ca76.
- Update memfuncs.rs** by Mohamed-Ayaan358, committed 8 days ago. Hash: e4f93ef.
- Update memfuncs.rs** by Mohamed-Ayaan358, committed 8 days ago. Hash: de292cf.

- Modifying Configuration Items | Navin :



- Modifying Configuration Items | Mukund :



PULL REQUEST FOR MERGING BRANCH Mukund to MAIN WITH RECENT CHANGES #11

Merged NavinShrinivas merged 1 commit into **main** from **Mukund**  now

Conversation 0 Commits 1 Checks 0 Files changed 3

 mukunddeepak commented 2 hours ago

No description provided.

  Added First Level Decomposition diagrams ec47ce9


 NavinShrinivas merged commit 463d5c8 into **main** now Revert


 **Pull request successfully merged and closed**
You're all set—the **Mukund** branch can be safely deleted. Delete branch

Reviews: No review
Assignees: No one assigned
Labels: None yet
Projects: None yet


main


Commits on Oct 17, 2022

Merge pull request #11 from mukunddeepak/Mukund Verified 463d5c8 <>
 NavinShrinivas committed 31 seconds ago

Adding temp test cases to CPU usage a39fa49 <>
 NavinShrinivas committed 1 hour ago

Commits on Oct 16, 2022

Fixes to async runtime managements e8dfa6a <>
 NavinShrinivas committed 2 hours ago


Added First Level Decomposition diagrams ec47ce9 <>
 mukunddeepak committed 2 hours ago

Commits on Oct 15, 2022


- Modifying Configuration Items | Nandan :


Nandan


Commits on Oct 17, 2022

Final Abstraction Module 5eddb1e <>
 NandanHemanth committed 2 days ago

Commits on Oct 6, 2022

Merge pull request #7 from Mohamed-Ayaan358/main Verified 867eb29 <>
 Mohamed-Ayaan358 committed 12 days ago

Merge branch 'main' of github.com:Mohamed-Ayaan358/SysPerf 4fc6d83 <>
 Mohamed-Ayaan358 committed 12 days ago

ADDED FOLDER STRUCTURE 4982a72 <>
 Mohamed-Ayaan358 committed 12 days ago

Commits on Sep 29, 2022

Final Abstraction Module #12

Merged mukunddeepak merged 1 commit into **main** from **Nandan** yesterday

Conversation 0 Commits 1 Checks 0 Files changed 1



NandanHemanth commented 2 days ago

hiii let me pull

Final Abstraction Module

5edbb1e



mukunddeepak merged commit 843e226 into **main** yesterday

Revert



Pull request successfully merged and closed

You're all set—the **Nandan** branch can be safely deleted.

Delete branch

main

Commits on Oct 17, 2022

Merge pull request #12 from mukunddeepak/Nandan

mukunddeepak committed yesterday

Verified

843e226



Final Abstraction Module

NandanHemanth committed 2 days ago

5edbb1e



Merge branch 'main' of github.com:mukunddeepak/SysPerf

NavinShrinivas committed 2 days ago

36626e3



Finishing assignment:

NavinShrinivas committed 2 days ago

4842b16



Merge pull request #11 from mukunddeepak/Mukund

NavinShrinivas committed 2 days ago

Verified

463d5c8



Adding temp test cases to CPU usage

NavinShrinivas committed 2 days ago

a38fa40

