객체지향개발방법론

OOI

4팀 김승찬, 유호재, 윤현서, 최서진

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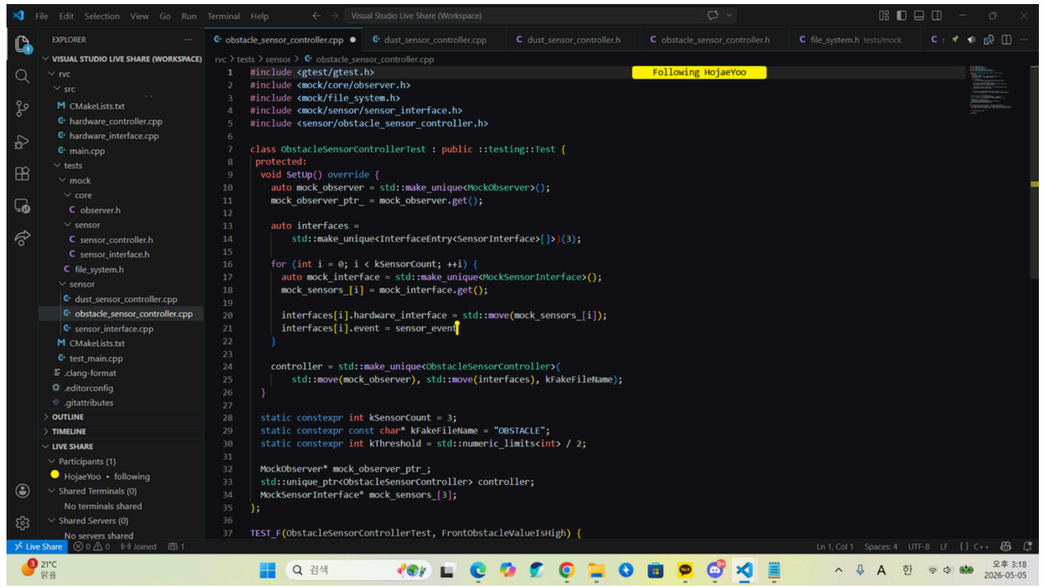
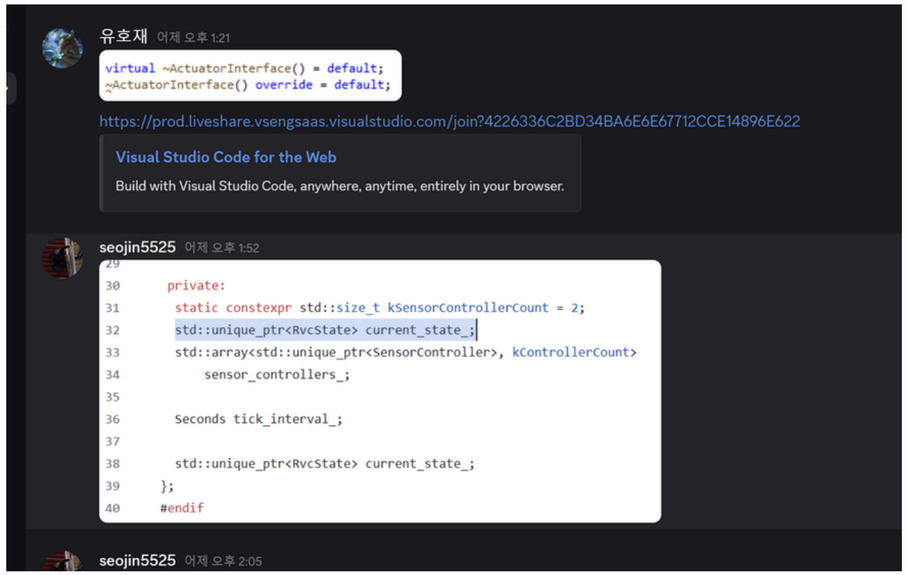
목차페이지

Pair programming

Live Share



Discode



Unit Test

Local

```
tmdcks@DESKTOP-VC28QS7:~/pratice1/dsl$ ./dust_test
Running main() from /build/googletest-j5yxiC/googletest-1.10.0/googletest/src/gtest_main.cc
[==========] Running 4 tests from 1 test suite.
[----------] Global test environment set-up.
[----------] 4 tests from DustSensorInterfaceTest
[ RUN      ] DustSensorInterfaceTest.ReadValidData
[       OK ] DustSensorInterfaceTest.ReadValidData (0 ms)
[ RUN      ] DustSensorInterfaceTest.ReadInvalidData
[       OK ] DustSensorInterfaceTest.ReadInvalidData (11 ms)
[ RUN      ] DustSensorInterfaceTest.FileNotFound
[       OK ] DustSensorInterfaceTest.FileNotFound (0 ms)
[ RUN      ] DustSensorInterfaceTest.EmptyFile
[       OK ] DustSensorInterfaceTest.EmptyFile (0 ms)
[----------] 4 tests from DustSensorInterfaceTest (11 ms total)

[----------] Global test environment tear-down
[==========] 4 tests from 1 test suite ran. (12 ms total)
[  PASSED  ] 4 tests.
tmdcks@DESKTOP-VC28QS7:~/pratice1/dsl$
```

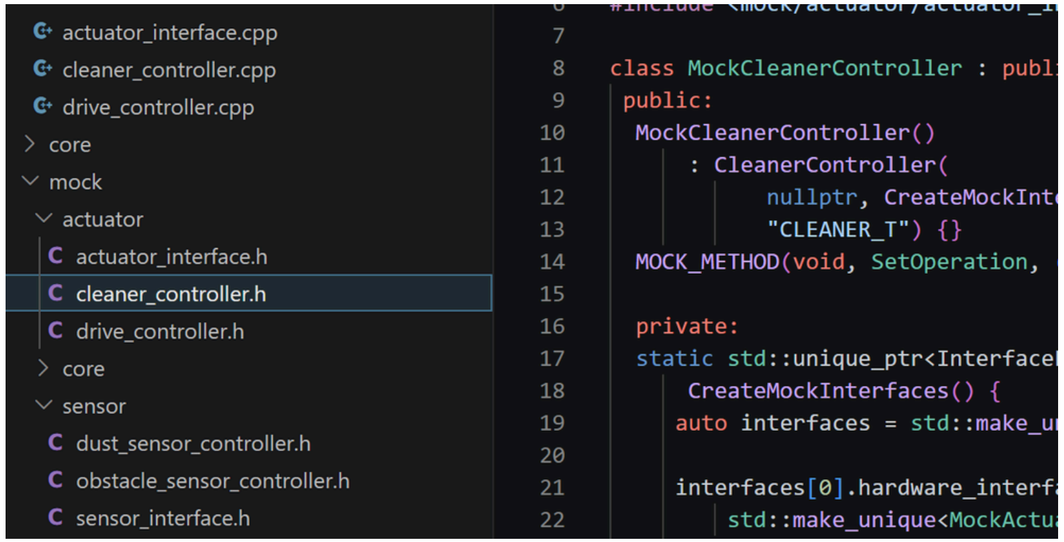
Server

Run Tests

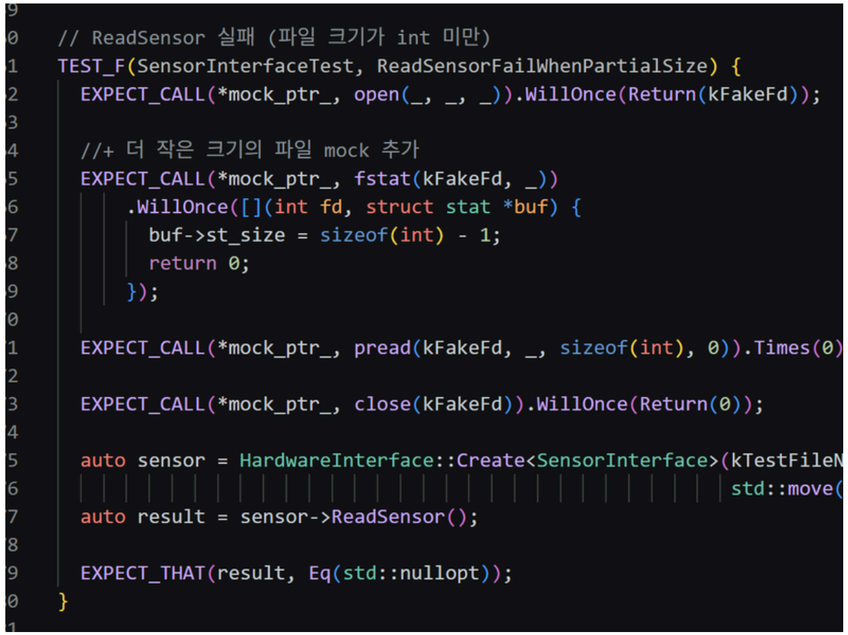
```
1  ▶ Run cd build
5  Test project /home/runner/work/dsl/dsl/build
6        Start  1: SensorInterfaceTest.ReadSensorSuccess
7   1/37 Test  #1: SensorInterfaceTest.ReadSensorSuccess ..................................   Passed    0.00 sec
8        Start  2: SensorInterfaceTest.ReadSensorFailWhenPartialSize
9   2/37 Test  #2: SensorInterfaceTest.ReadSensorFailWhenPartialSize .......................   Passed    0.00 sec
10       Start  3: SensorInterfaceTest.ReadSensorFailWhenPartialRead
11  3/37 Test  #3: SensorInterfaceTest.ReadSensorFailWhenPartialRead .......................   Passed    0.00 sec
12       Start  4: SensorInterfaceTest.ReadSensorFailWhenOverSize
13  4/37 Test  #4: SensorInterfaceTest.ReadSensorFailWhenOverSize ..........................   Passed    0.00 sec
14       Start  5: SensorInterfaceTest.ReadSensorFailWhenFstatFails
15  5/37 Test  #5: SensorInterfaceTest.ReadSensorFailWhenFstatFails .......................   Passed    0.00 sec
16       Start  6: DustSensorControllerTest.NotifiesHighDustAtIntMax
17  6/37 Test  #6: DustSensorControllerTest.NotifiesHighDustAtIntMax .......................   Passed    0.00 sec
18       Start  7: DustSensorControllerTest.DoesNotNotifyWhenAt0
19  7/37 Test  #7: DustSensorControllerTest.DoesNotNotifyWhenAt0 ..........................   Passed    0.00 sec
20       Start  8: DustSensorControllerTest.DoesNotNotifyWhenLowerThanThreshold
21  8/37 Test  #8: DustSensorControllerTest.DoesNotNotifyWhenLowerThanThreshold ...........   Passed    0.00 sec
22       Start  9: DustSensorControllerTest.DoesNotNotifyWhenAtThreshold
23  9/37 Test  #9: DustSensorControllerTest.DoesNotNotifyWhenAtThreshold ..................   Passed    0.00 sec
24       Start 10: DustSensorControllerTest.NotifiesHighDustWhenAboveThreshold
25 10/37 Test #10: DustSensorControllerTest.NotifiesHighDustWhenAboveThreshold ............   Passed    0.00 sec
26       Start 11: DustSensorControllerTest.NotifiesFaultOnReadFailure
27 11/37 Test #11: DustSensorControllerTest.NotifiesFaultOnReadFailure ....................   Passed    0.00 sec
```

Unit Test

stub(mock)



driver

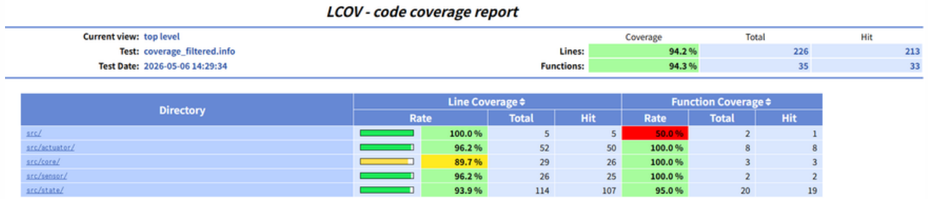


Unit Test

변이 테스트

```
root@1000f83e6f3a:/workspace/rvc# mull-runner-21 ./build/tests/run_tests \
  --ld-search-path=/usr/lib/x86_64-linux-gnu \
  --include-path="^/workspace/rvc/src/.*" \
  --reporters IDE \
  --mutators=all
[warning] Mull cannot find config (mull.yml). Using some defaults.
[info] Warm up run (threads: 1)
       [###################################] 1/1. Finished in 13ms
[info] Baseline run (threads: 1)
       [###################################] 1/1. Finished in 13ms
[info] Running mutants (threads: 28)
       [###################################] 28/28. Finished in 42ms
[info] Mutation score: 100%
[info] All mutations have been killed
[info] Total execution time: 187ms
```

코드 커버리지



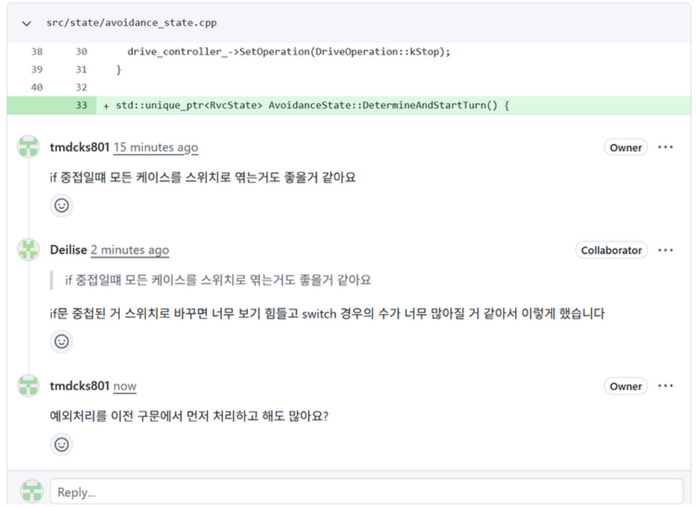
LCOV - code coverage report

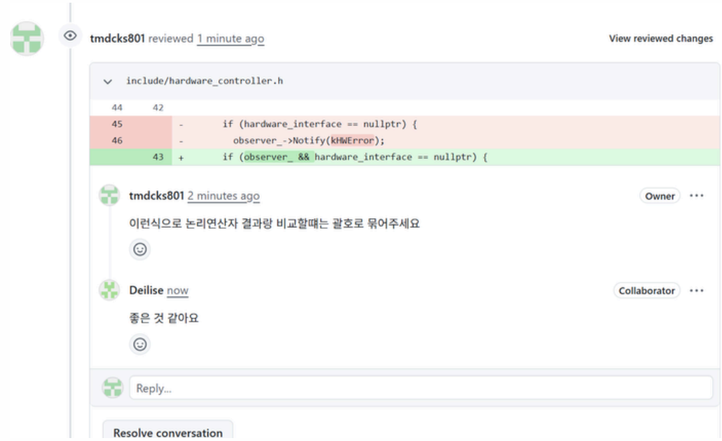
		Coverage	Total	Hit
Current view:	top level			
Test:	coverage_filtered.info	Lines:	94.2 %	226	213
Test Date:	2026-05-06 14:29:34	Functions:	94.3 %	35	33

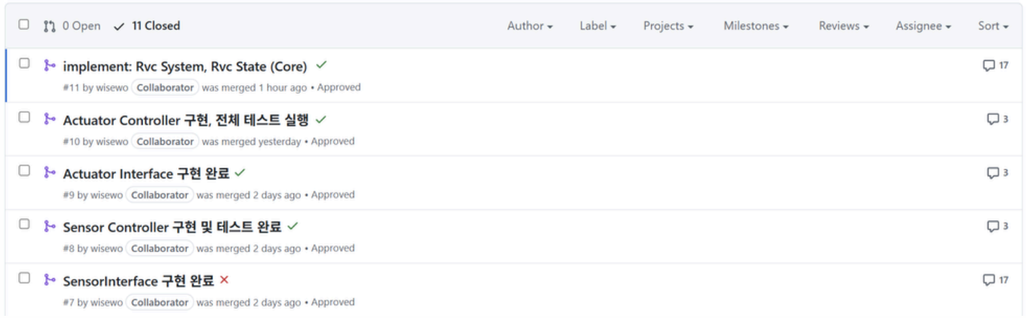
Directory	Line Coverage			Function Coverage		
	Rate	Total	Hit	Rate	Total	Hit
src/	100.0 %	5	5	50.0 %	2	1
src/actuator/	96.2 %	52	50	100.0 %	8	8
src/core/	89.7 %	29	26	100.0 %	3	3
src/sensor/	96.2 %	26	25	100.0 %	2	2
src/state/	93.9 %	114	107	95.0 %	20	19

Code Review


Deilise reviewed 6 minutes ago
View reviewed changes
Deilise left a comment
Collaborator
src/state/avoidance_state.cpp file 47번 라인 이하 각주 필요없으면 지워도 될 거 같아요
tmdcks801 reviewed 3 minutes ago
View reviewed changes


src/state/avoidance_state.cpp
38 30 drive_controller_->SetOperation(DriveOperation::kStop);
39 31 }
40 32
33 + std::unique_ptr<RvcState> AvoidanceState::DetermineAndStartTurn() {
tmdcks801 15 minutes ago
Owner
if 중첩일때 모든 케이스를 스위치로 엮는거도 좋을거 같아요
Deilise 2 minutes ago
Collaborator
if 중첩일때 모든 케이스를 스위치로 엮는거도 좋을거 같아요
if문 중첩된 거 스위치로 바꾸면 너무 보기 힘들고 switch 경우의 수가 너무 많아질 거 같아서 이렇게 했습니다
tmdcks801 now
Owner
예외처리를 이전 구문에서 먼저 처리하고 해도 많아요?
Reply...


tmdcks801 reviewed 1 minute ago
View reviewed changes
include/hardware_controller.h
44 42
45 - if (hardware_interface == nullptr) {
46 - observer_->Notify(kHwError);
43 + if (observer_ && hardware_interface == nullptr) {
tmdcks801 2 minutes ago
Owner
이런식으로 논리연산자 결과랑 비교할때는 괄호로 묶어주세요
Deilise now
Collaborator
좋은 것 같아요
Reply...
Resolve conversation


0 Open
11 Closed
Author
Label
Projects
Milestones
Reviews
Assignee
Sort
implement: Rvc System, Rvc State (Core)
#11 by wisewo Collaborator was merged 1 hour ago • Approved
Actuator Controller 구현, 전체 테스트 실행
#10 by wisewo Collaborator was merged yesterday • Approved
Actuator Interface 구현 완료
#9 by wisewo Collaborator was merged 2 days ago • Approved
Sensor Controller 구현 및 테스트 완료
#8 by wisewo Collaborator was merged 2 days ago • Approved
SensorInterface 구현 완료
#7 by wisewo Collaborator was merged 2 days ago • Approved

Code review

coderabbitai Bot commented 28 minutes ago • edited

▶ Walkthrough

▼ Pre-merge checks | ✅ 4 | ❌ 1

❌ Failed checks (1 warning)

Check name	Status	Explanation	Resolution
Docstring Coverage	⚠️ Warning	Docstring coverage is 45.61% which is insufficient. The required threshold is 80.00%.	Write docstrings for the functions missing them to satisfy the coverage threshold.

▼ ✅ Passed checks (4 passed)

Check name	Status	Explanation
Description Check	✅ Passed	Check skipped - CodeRabbit's high-level summary is enabled.
Title check	✅ Passed	The title summarizes the main implementation work (RVC System and RVC State core), but is somewhat vague and doesn't convey the full scope of architectural changes (observer pattern refactoring, event system redesign, controller/state machine implementation).
Linked Issues check	✅ Passed	Check skipped because no linked issues were found for this pull request.
Out of Scope Changes check	✅ Passed	Check skipped because no linked issues were found for this pull request.

CMakeLists.txt

Comment on lines +3 to +5

```
3 + if(NOT MSCV)
4 +     set(CMAKE_CXX_COMPILER "clang++")
5 + endif()
```

coderabbitai Bot 17 minutes ago

⚠️ *Potential issue* | 🟠 *Major* | ⚡ *Quick win*

▶ Analysis chain

Fix the `MSVC` variable typo to prevent incorrect compiler selection.

Line 3 contains a typo: `MSCV` instead of `MSVC`. Since `MSCV` is undefined, the condition `NOT MSCV` always evaluates true, forcing `clang++` as the compiler on all platforms—including MSVC environments where it should not apply. The correct CMake variable is `MSVC` (used correctly on line 22).

▶ Proposed fix

▶ Committable suggestion

▶ Prompt for AI Agents

CI

Triggered via push 17 minutes ago | Status | Total duration | Artifacts

tmdcks801 pushed 06cfb2e main | Success | 8m 9s | 1

build-test-analyze.yml
on: push

build-and-test 7m 57s

Annotations
2 warnings

build-and-test
Node.js 20 actions are deprecated. The following actions are running on Node.js 20 and may not
Show more

SonarScanner
This action is deprecated and will be removed in a future release. Please use the sonarqube-sc

Artifacts
Produced during runtime

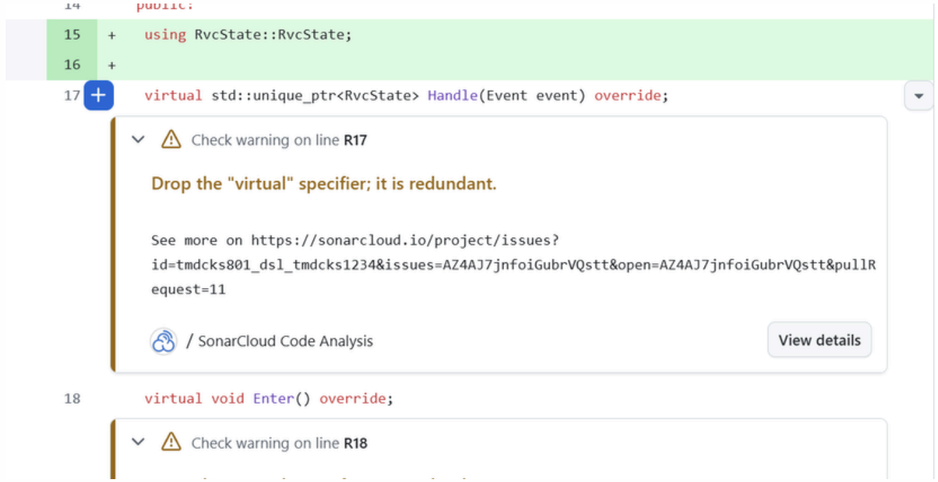
2 warnings

build-and-test
succeeded 10 minutes ago in 7m 57s

- Set up job
- Checkout code
- Install Analysis Tools
- Install Build Wrapper
- Configure CMake
- Build with Sonar Build Wrapper
- Run Tests
- SonarCloud Scan
- Upload Build Artifact
- Post SonarCloud Scan
- Post Checkout code
- Complete job

Static Code Analysis

```
/home/runner/work/dsl/dsl/tests/sensor/obstacle_sensor_controller.cpp:147:37: warning: 100 is a magic number; conside
magic-numbers]
  147 |       .WillOnce(Return(kThreshold + 100));
      |                                     ^
/home/runner/work/dsl/dsl/tests/sensor/obstacle_sensor_controller.cpp:149:37: warning: 100 is a magic number; conside
magic-numbers]
  149 |       .WillOnce(Return(kThreshold + 100));
      |                                     ^
/home/runner/work/dsl/dsl/tests/sensor/obstacle_sensor_controller.cpp:183:37: warning: 100 is a magic number; conside
magic-numbers]
  183 |       .WillOnce(Return(kThreshold + 100));
      |                                     ^
/home/runner/work/dsl/dsl/tests/mock/sensor/sensor_interface.h:10:3: style: Class 'MockSensorInterface' has a constru
[noExplicitConstructor]
  MockSensorInterface(
  ^
/home/runner/work/dsl/dsl/tests/sensor/obstacle_sensor_controller.cpp:39:24: style: class member 'ObstacleSensorContr
[unusedStructMember]
  static constexpr int kThreshold = std::numeric_limits<int>::max() / 2;
                      ^
/home/runner/work/dsl/dsl/include/sensor/obstacle_sensor_controller.h:20:0: style: The function 'CheckValue' is never
  [[nodiscard]] bool CheckValue(int raw_data) const noexcept override {
^
/home/runner/work/dsl/dsl/tests/sensor/obstacle_sensor_controller.cpp:13:0: style: The function 'SetUp' is never used
  void SetUp() override {
^
nofile:0:0: information: Active checkers: 172/592 (use --checkers-report=<filename> to see details) [checkersReport]
```



Simulator Result - 1

```
[FAST-SIM] Running Scenario: ../init_forward.txt
[FAST-SIM] Simulation Finished.
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../short_turbo.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[FAST-SIM] Running Scenario: ../short_turbo.txt
[SCENARIO] 5.00s: DUST0 set to 2000000000
[5.00s] CLEANER0 → TURBO
[SCENARIO] 5.10s: DUST0 set to 100
[8.08s] CLEANER0 → ON
[FAST-SIM] Simulation Finished.
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../long_turbo.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[FAST-SIM] Running Scenario: ../long_turbo.txt
[SCENARIO] 5.00s: DUST0 set to 2000000000
[5.00s] CLEANER0 → TURBO
[SCENARIO] 10.00s: DUST0 set to 2000000000
[FAST-SIM] Simulation Finished.
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../turbo_to_normal.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[FAST-SIM] Running Scenario: ../turbo_to_normal.txt
[SCENARIO] 5.00s: DUST0 set to 2000000000
[5.00s] CLEANER0 → TURBO
[SCENARIO] 8.10s: DUST0 set to 100
[11.08s] CLEANER0 → ON
[FAST-SIM] Simulation Finished.
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../no_event_run.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[SCENARIO] 0.00s: DUST0 set to 100
[FAST-SIM] Running Scenario: ../no_event_run.txt
[SCENARIO] 15.00s: OBSTACLE0 set to 2000000000
[FAST-SIM] Simulation Finished.
```

```
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../front_wall.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[FAST-SIM] Running Scenario: ../front_wall.txt
[SCENARIO] 3.02s: OBSTACLE0 set to 100
[3.02s] MOTOR0 → BACKWARD
[3.02s] MOTOR1 → BACKWARD
[3.02s] CLEANER0 → OFF
[6.05s] MOTOR0 → STOP
[6.05s] MOTOR1 → STOP
[6.08s] MOTOR0 → BACKWARD
[6.08s] MOTOR1 → BACKWARD
[9.10s] MOTOR0 → STOP
[9.10s] MOTOR1 → STOP
[9.13s] MOTOR0 → BACKWARD
[9.13s] MOTOR1 → BACKWARD
[12.15s] MOTOR0 → STOP
[12.15s] MOTOR1 → STOP
[12.18s] MOTOR0 → BACKWARD
[12.18s] MOTOR1 → BACKWARD
[15.20s] MOTOR0 → STOP
[15.20s] MOTOR1 → STOP
[15.23s] MOTOR0 → BACKWARD
[15.23s] MOTOR1 → BACKWARD
[18.25s] MOTOR0 → STOP
[18.25s] MOTOR1 → STOP
[18.28s] MOTOR0 → BACKWARD
[18.28s] MOTOR1 → BACKWARD
[FAST-SIM] Simulation Finished.
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../right_side_only.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[FAST-SIM] Running Scenario: ../right_side_only.txt
[SCENARIO] 3.02s: OBSTACLE1 set to 100
[FAST-SIM] Simulation Finished.
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../left_side_only.txt
Failed to load scenario: ../left_side_only.txt
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../left_side_only.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[FAST-SIM] Running Scenario: ../left_side_only.txt
[SCENARIO] 3.02s: OBSTACLE2 set to 100
[FAST-SIM] Simulation Finished.
```

Simulator Result - 2

```
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../clear_during_turn.txt
[FAST-SIM] Running Scenario: ../clear_during_turn.txt
[0.00s] MOTOR0 → BACKWARD
[0.00s] MOTOR1 → BACKWARD
[0.00s] CLEANER0 → OFF
[SCENARIO] 2.02s: OBSTACLE0 set to 100
[SCENARIO] 3.02s: OBSTACLE0 set to 2000000000
[3.02s] MOTOR0 → STOP
[3.02s] MOTOR1 → STOP
[3.05s] MOTOR0 → BACKWARD
[3.05s] MOTOR1 → BACKWARD
[6.08s] MOTOR0 → STOP
[6.08s] MOTOR1 → STOP
[6.10s] MOTOR0 → BACKWARD
[6.10s] MOTOR1 → BACKWARD
[9.13s] MOTOR0 → STOP
[9.13s] MOTOR1 → STOP
[9.15s] MOTOR0 → BACKWARD
[9.15s] MOTOR1 → BACKWARD
[12.18s] MOTOR0 → STOP
[12.18s] MOTOR1 → STOP
[12.20s] MOTOR0 → BACKWARD
[12.20s] MOTOR1 → BACKWARD
[15.23s] MOTOR0 → STOP
[15.23s] MOTOR1 → STOP
[15.25s] MOTOR0 → BACKWARD
[15.25s] MOTOR1 → BACKWARD
[18.28s] MOTOR0 → STOP
[18.28s] MOTOR1 → STOP
[18.30s] MOTOR0 → BACKWARD
[18.30s] MOTOR1 → BACKWARD
[FAST-SIM] Simulation Finished.
```

```
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../avoid_and_return.txt
[FAST-SIM] Running Scenario: ../avoid_and_return.txt
[0.00s] MOTOR0 → BACKWARD
[0.00s] MOTOR1 → BACKWARD
[0.00s] CLEANER0 → OFF
[SCENARIO] 2.02s: OBSTACLE0 set to 100
[3.02s] MOTOR0 → STOP
[3.02s] MOTOR1 → STOP
[3.05s] MOTOR0 → BACKWARD
[3.05s] MOTOR1 → BACKWARD
[SCENARIO] 5.10s: OBSTACLE0 set to 2000000000
[6.08s] MOTOR0 → STOP
[6.08s] MOTOR1 → STOP
[6.10s] MOTOR0 → BACKWARD
[6.10s] MOTOR1 → BACKWARD
[9.13s] MOTOR0 → STOP
[9.13s] MOTOR1 → STOP
[9.15s] MOTOR0 → BACKWARD
[9.15s] MOTOR1 → BACKWARD
[12.18s] MOTOR0 → STOP
[12.18s] MOTOR1 → STOP
[12.20s] MOTOR0 → BACKWARD
[12.20s] MOTOR1 → BACKWARD
[15.23s] MOTOR0 → STOP
[15.23s] MOTOR1 → STOP
[15.25s] MOTOR0 → BACKWARD
[15.25s] MOTOR1 → BACKWARD
[18.28s] MOTOR0 → STOP
[18.28s] MOTOR1 → STOP
[18.30s] MOTOR0 → BACKWARD
[18.30s] MOTOR1 → BACKWARD
[FAST-SIM] Simulation Finished.
```

Simulator Result - 3

```
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../front_right_blocked.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[FAST-SIM] Running Scenario: ../front_right_blocked.txt
[SCENARIO] 2.02s: OBSTACLE1 set to 100
[SCENARIO] 2.12s: OBSTACLE0 set to 100
[2.12s] MOTOR0 → BACKWARD
[2.12s] MOTOR1 → BACKWARD
[2.12s] CLEANER0 → OFF
[5.15s] MOTOR0 → STOP
[5.15s] MOTOR1 → STOP
[5.18s] MOTOR0 → BACKWARD
[5.18s] MOTOR1 → BACKWARD
[8.20s] MOTOR0 → STOP
[8.20s] MOTOR1 → STOP
[8.23s] MOTOR0 → BACKWARD
[8.23s] MOTOR1 → BACKWARD
[11.25s] MOTOR0 → STOP
[11.25s] MOTOR1 → STOP
[11.28s] MOTOR0 → BACKWARD
[11.28s] MOTOR1 → BACKWARD
[14.30s] MOTOR0 → STOP
[14.30s] MOTOR1 → STOP
[14.33s] MOTOR0 → BACKWARD
[14.33s] MOTOR1 → BACKWARD
[17.35s] MOTOR0 → STOP
[17.35s] MOTOR1 → STOP
[17.38s] MOTOR0 → BACKWARD
[17.38s] MOTOR1 → BACKWARD
[FAST-SIM] Simulation Finished.
```

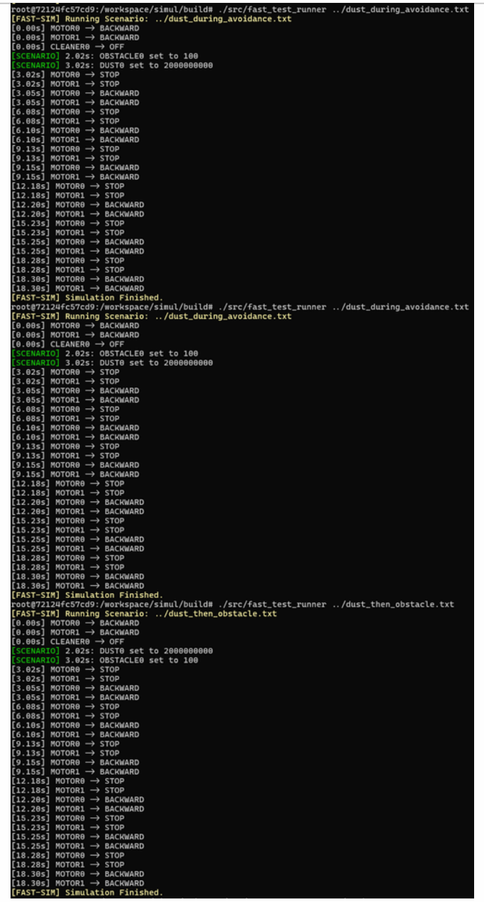
```
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../front_left_blocked.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[FAST-SIM] Running Scenario: ../front_left_blocked.txt
[SCENARIO] 2.02s: OBSTACLE2 set to 100
[SCENARIO] 2.12s: OBSTACLE0 set to 100
[2.12s] MOTOR0 → BACKWARD
[2.12s] MOTOR1 → BACKWARD
[2.12s] CLEANER0 → OFF
[5.15s] MOTOR0 → STOP
[5.15s] MOTOR1 → STOP
[5.18s] MOTOR0 → BACKWARD
[5.18s] MOTOR1 → BACKWARD
[8.20s] MOTOR0 → STOP
[8.20s] MOTOR1 → STOP
[8.23s] MOTOR0 → BACKWARD
[8.23s] MOTOR1 → BACKWARD
[11.25s] MOTOR0 → STOP
[11.25s] MOTOR1 → STOP
[11.28s] MOTOR0 → BACKWARD
[11.28s] MOTOR1 → BACKWARD
[14.30s] MOTOR0 → STOP
[14.30s] MOTOR1 → STOP
[14.33s] MOTOR0 → BACKWARD
[14.33s] MOTOR1 → BACKWARD
[17.35s] MOTOR0 → STOP
[17.35s] MOTOR1 → STOP
[17.38s] MOTOR0 → BACKWARD
[17.38s] MOTOR1 → BACKWARD
[FAST-SIM] Simulation Finished.
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../dead_end_backward.txt
[FAST-SIM] Running Scenario: ../dead_end_backward.txt
[0.00s] MOTOR0 → BACKWARD
[0.00s] MOTOR1 → BACKWARD
[0.00s] CLEANER0 → OFF
[SCENARIO] 2.02s: OBSTACLE1 set to 100
[SCENARIO] 2.02s: OBSTACLE2 set to 100
[SCENARIO] 2.12s: OBSTACLE0 set to 100
[3.02s] MOTOR0 → STOP
[3.02s] MOTOR1 → STOP
[3.05s] MOTOR0 → BACKWARD
[3.05s] MOTOR1 → BACKWARD
[6.08s] MOTOR0 → STOP
[6.08s] MOTOR1 → STOP
[6.10s] MOTOR0 → BACKWARD
[6.10s] MOTOR1 → BACKWARD
[9.13s] MOTOR0 → STOP
[9.13s] MOTOR1 → STOP
[9.15s] MOTOR0 → BACKWARD
[9.15s] MOTOR1 → BACKWARD
[12.18s] MOTOR0 → STOP
[12.18s] MOTOR1 → STOP
[12.20s] MOTOR0 → BACKWARD
[12.20s] MOTOR1 → BACKWARD
[15.23s] MOTOR0 → STOP
[15.23s] MOTOR1 → STOP
[15.25s] MOTOR0 → BACKWARD
[15.25s] MOTOR1 → BACKWARD
[18.28s] MOTOR0 → STOP
[18.28s] MOTOR1 → STOP
[18.30s] MOTOR0 → BACKWARD
[18.30s] MOTOR1 → BACKWARD
[FAST-SIM] Simulation Finished.
```

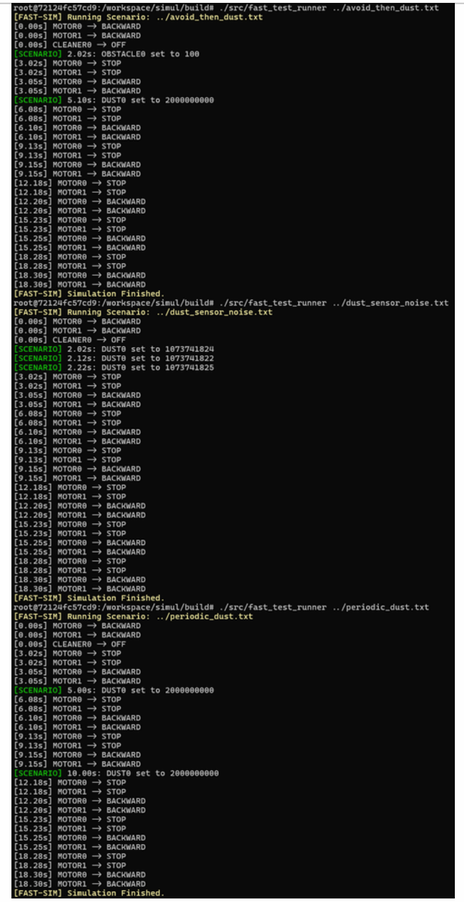
Simulator Result - 4

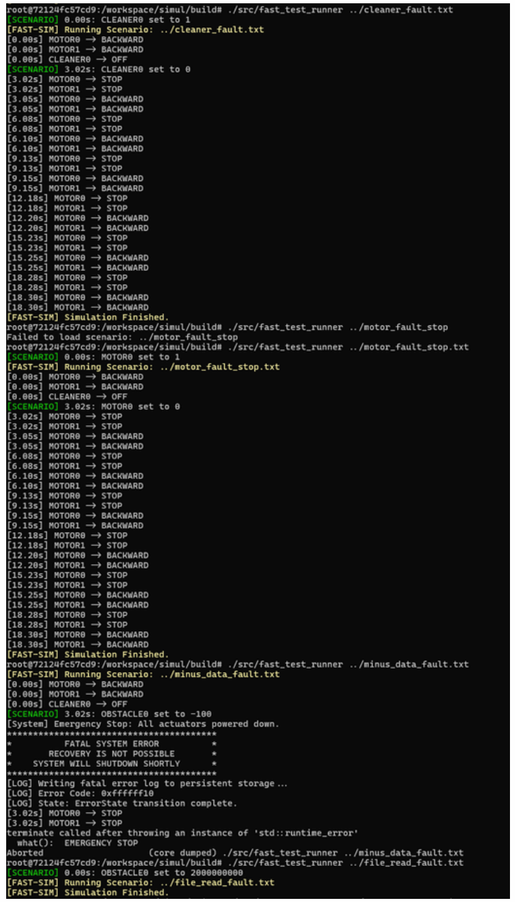
```
root@8a500be6b8d7:/workspace/simul/build# ./src/fast_test_runner ../successive_obstacles.txt
[FAST-SIM] Running Scenario: ../successive_obstacles.txt
[0.00s] MOTOR0 → BACKWARD
[0.00s] MOTOR1 → BACKWARD
[0.00s] CLEANER0 → OFF
[SCENARIO] 2.02s: OBSTACLE0 set to 100
[3.02s] MOTOR0 → STOP
[3.02s] MOTOR1 → STOP
[3.05s] MOTOR0 → BACKWARD
[3.05s] MOTOR1 → BACKWARD
[SCENARIO] 5.50s: OBSTACLE0 set to 2000000000
[SCENARIO] 6.00s: OBSTACLE0 set to 100
[6.08s] MOTOR0 → STOP
[6.08s] MOTOR1 → STOP
[6.10s] MOTOR0 → BACKWARD
[6.10s] MOTOR1 → BACKWARD
[9.13s] MOTOR0 → STOP
[9.13s] MOTOR1 → STOP
[9.15s] MOTOR0 → BACKWARD
[9.15s] MOTOR1 → BACKWARD
[12.18s] MOTOR0 → STOP
[12.18s] MOTOR1 → STOP
[12.20s] MOTOR0 → BACKWARD
[12.20s] MOTOR1 → BACKWARD
[15.23s] MOTOR0 → STOP
[15.23s] MOTOR1 → STOP
[15.25s] MOTOR0 → BACKWARD
[15.25s] MOTOR1 → BACKWARD
[18.28s] MOTOR0 → STOP
[18.28s] MOTOR1 → STOP
[18.30s] MOTOR0 → BACKWARD
[18.30s] MOTOR1 → BACKWARD
[FAST-SIM] Simulation Finished.
```

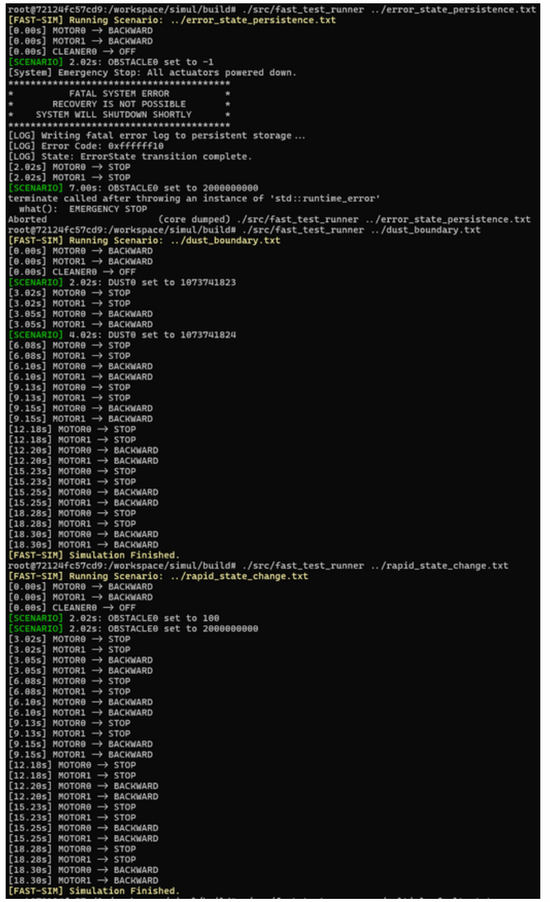
```
root@72124fc57cd9:/workspace/simul/build# ./src/fast_test_runner ../narrow_pass.txt
[FAST-SIM] Running Scenario: ../narrow_pass.txt
[0.00s] MOTOR0 → BACKWARD
[0.00s] MOTOR1 → BACKWARD
[0.00s] CLEANER0 → OFF
[SCENARIO] 2.02s: OBSTACLE1 set to 100
[SCENARIO] 2.02s: OBSTACLE2 set to 100
[SCENARIO] 2.02s: OBSTACLE0 set to 2000000000
[3.02s] MOTOR0 → STOP
[3.02s] MOTOR1 → STOP
[3.05s] MOTOR0 → BACKWARD
[3.05s] MOTOR1 → BACKWARD
[6.08s] MOTOR0 → STOP
[6.08s] MOTOR1 → STOP
[6.10s] MOTOR0 → BACKWARD
[6.10s] MOTOR1 → BACKWARD
[9.13s] MOTOR0 → STOP
[9.13s] MOTOR1 → STOP
[9.15s] MOTOR0 → BACKWARD
[9.15s] MOTOR1 → BACKWARD
[12.18s] MOTOR0 → STOP
[12.18s] MOTOR1 → STOP
[12.20s] MOTOR0 → BACKWARD
[12.20s] MOTOR1 → BACKWARD
[15.23s] MOTOR0 → STOP
[15.23s] MOTOR1 → STOP
[15.25s] MOTOR0 → BACKWARD
[15.25s] MOTOR1 → BACKWARD
[18.28s] MOTOR0 → STOP
[18.28s] MOTOR1 → STOP
[18.30s] MOTOR0 → BACKWARD
[18.30s] MOTOR1 → BACKWARD
[FAST-SIM] Simulation Finished.
```

Simulator Result - 5









Simulator Result - 6

```
root@72124fc57cd9:/workspace/simul/build# ./src/fast_test_runner ../multiple_faults.txt
[FAST-SIM] Running Scenario: ../multiple_faults.txt
[0.00s] MOTOR0 → BACKWARD
[0.00s] MOTOR1 → BACKWARD
[0.00s] CLEANER0 → OFF
[SCENARIO] 3.02s: MOTOR0 set to 0
[SCENARIO] 3.02s: CLEANER0 set to 0
[3.02s] MOTOR0 → STOP
[3.02s] MOTOR1 → STOP
[3.05s] MOTOR0 → BACKWARD
[3.05s] MOTOR1 → BACKWARD
[6.08s] MOTOR0 → STOP
[6.08s] MOTOR1 → STOP
[6.10s] MOTOR0 → BACKWARD
[6.10s] MOTOR1 → BACKWARD
[9.13s] MOTOR0 → STOP
[9.13s] MOTOR1 → STOP
[9.15s] MOTOR0 → BACKWARD
[9.15s] MOTOR1 → BACKWARD
[12.18s] MOTOR0 → STOP
[12.18s] MOTOR1 → STOP
[12.20s] MOTOR0 → BACKWARD
[12.20s] MOTOR1 → BACKWARD
[15.23s] MOTOR0 → STOP
[15.23s] MOTOR1 → STOP
[15.25s] MOTOR0 → BACKWARD
[15.25s] MOTOR1 → BACKWARD
[18.28s] MOTOR0 → STOP
[18.28s] MOTOR1 → STOP
[18.30s] MOTOR0 → BACKWARD
[18.30s] MOTOR1 → BACKWARD
[FAST-SIM] Simulation Finished.
root@72124fc57cd9:/workspace/simul/build# ./src/fast_test_runner ../long_term_stability.txt
[SCENARIO] 0.00s: OBSTACLE0 set to 2000000000
[SCENARIO] 0.00s: DUST0 set to 100
[FAST-SIM] Running Scenario: ../long_term_stability.txt
[FAST-SIM] Simulation Finished.
```