

Integration and Regression Testing Log

Software Engineering Project (SEPR)

Team “EEP”

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Development work was split into two areas:

1. Replay Mode
2. Connection Modifications

Each area had its own branch using Git. Before a branch could be merged back into the master branch, the following conditions had to be met:

1. All required new features for this branch are implemented.
2. All new unit tests had been written that were required.
3. The master branch has been merged **into** this branch.
4. **Regression Testing** - All tests passed - we configured Git such that it would not allow a branch to be merged into master until all previous unit tests passed..


Once these conditions had been met, we can be satisfied that integrating the new functionality should not break the game. Once they have been integrated this can be verified by means of black-box system testing.

Integration Log













Branch	Implemented	New unit tests written	All of system's unit tests passed	Test Status
Replay Mode	Done	3.1, 3.2	True	Passed - branch merged
Connection Modifications	Done	1.1, 1.2, 1.3, 2.1	True	Passed - branch merged

Evidence of testing branches via Travis (<https://travis-ci.org/SEPR-EEP/taxe-game-3>)

The Extension report discusses how we used Travis as one of our development tools.

SEPR-EEP/taxe-game-3 

Current **Branches** Build History Pull Requests Settings

	master Merge branch 'connection-replay-stefan' of ssh://github.com:20222:taxe-game-3  AlfioEmanueleFresta committed	# 72 passed  6f3c185	3 min 28 sec about 2 hours ago
	connection-replay-stefan Added new unit tests  Richard Cosgrove committed	# 71 passed  80fd217	2 min 24 sec about 2 hours ago
	connections-replay Ref. #19, volcano in london?  AlfioEmanueleFresta committed	# 65 failed  ca4b38b	2 min 51 sec about 6 hours ago
	modifying-connections Fixed typo for number of resource modification  Richard Cosgrove committed	# 49 failed  85c30fc	3 min 26 sec a day ago

A branch with a red cross to the left of it would not be allowed by Git to be merged.

Regression Testing Evidence

Travis ensured that branches with failing unit tests could not be merged back into the master branch. However, before we even attempted to merge branches, we would run old unit tests using our IDE to ensure new features and changes had not broken existing units. The IDE can produce a report, to be used as evidence. For instance:

Package test

all > test

20	0	0	0.476s	100%
tests	failures	ignored	duration	successful

Classes

Class	Tests	Failures	Ignored	Duration	Success rate
GameTest	1	0	0	0.111s	100%
GdxFileTest	1	0	0	0.010s	100%
GoalManagerTest	1	0	0	0.218s	100%
MapTest	4	0	0	0.015s	100%
ObstacleTest	4	0	0	0.001s	100%
PlayerManagerTest	2	0	0	0.001s	100%
ResourceManagerTest	2	0	0	0.004s	100%
SnapshotTest	2	0	0	0.110s	100%
StationHelperTest	1	0	0	0.003s	100%
StationTest	1	0	0	0.003s	100%
TrainTest	1	0	0	0s	100%