# The Project

## Themes

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| ***THEME 1*** | |
| *I need a* | Plugin Manager |
| *For* | Loading different plugins to change the program function |

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| ***THEME 2*** | |
| *I need a* | Threading Facility |
| *For* | Improved traffic modelling |

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| ***THEME 3*** | |
| *I need a* | Service Handler |
| *For* | Uninterrupted use |

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| ***THEME 4*** | |
| *I need a* | API |
| *For* | Allowing program expansion |

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| ***THEME 5*** | |
| *I need a* | Testcase analyser |
| *For* | Reading testcases |

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| ***THEME 6*** | |
| *I need a* | Test Runner |
| *For* | Running testcases |

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| ***THEME 7*** | |
| *I need a* | Logger |
| *For* | Logging |

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| ***THEME 8*** | |
| *I need a* | Database |
| *For* | Tracking results and configuration |

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| ***THEME 9*** | |
| *I need a* | Extra server communication |
| *For* | More realistic traffic from more locations |

## Epics

### THEME 1 Epics (Plugin Manager)

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| --- | --- |
| ***EPIC 1.1*** | |
| *The* | Plugin Manager |
| *Needs to* | Dynamically load plugins |

### THEME 2 Epics (Threading Facility)

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| ***EPIC 2.2*** | |
| *The* | Thread Facility |
| *Needs to* | Manage the maximum number of threads |

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| ***EPIC 2.2*** | |
| *The* | Thread Facility |
| *Needs to* | Spin up new threads |

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| ***EPIC 2.3*** | |
| *The* | Thread Facility |
| *Needs to* | Have a generic thread handler |

### THEME 3 Epics (Service Handler)

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| ***EPIC 3.1*** | |
| *The* | Service Handler |
| *Needs to* | Keep the program running |

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| ***EPIC 3.2*** | |
| *The* | Service Handler |
| *Needs to* | Receive commands from the user |

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| ***EPIC 3.3*** | |
| *The* | Service Handler |
| *Needs to* | Spin up new Jobs |

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| ***EPIC 3.4*** | |
| *The* | Service Handler |
| *Needs to* | Work with the OS service handler |

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| ***EPIC 3.5*** | |
| *The* | Service Handler |
| *Needs to* | Not interrupt running tests |

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| ***EPIC 3.6*** | |
| *The* | Service Handler |
| *Needs to* | Handle program start-up |

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| ***EPIC 3.7*** | |
| *The* | Service Handler |
| *Needs to* | Handle program first start-up |

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| ***EPIC 3.8*** | |
| *The* | Service Handler |
| *Needs to* | Handle program Shutdown |

### THEME 4 Epics (API)

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| ***EPIC 4.1*** | |
| *The* | API |
| *Needs to* | Allow the program to be controlled |

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| ***EPIC 4.2*** | |
| *The* | API |
| *Needs to* | Allow data to be requested |

### THEME 5 Epics (Testcase Analyser)

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| --- | --- |
| ***EPIC 5.1*** | |
| *The* | Testcase Analyser |
| *Needs to* | Read in serialised testcases |

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| ***EPIC 5.2*** | |
| *The* | Testcase Analyser |
| *Needs to* | De-serialise testcases |

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| ***EPIC 5.3*** | |
| *The* | Testcase Analyser |
| *Needs to* | Configure jobs based on testcase |

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| ***EPIC 5.4*** | |
| *The* | Testcase Analyser |
| *Needs to* | Have a generic format to appease many protocols |

### THEME 6 Epics (Test Runner)

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| --- | --- |
| ***EPIC 6.1*** | |
| *The* | Test Runner |
| *Needs to* | Send data to a target |

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| ***EPIC 6.2*** | |
| *The* | Test Runner |
| *Needs to* | Receive Data from a target |

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| ***EPIC 6.3*** | |
| *The* | Test Runner |
| *Needs to* | Configure plugins |

### THEME 7 Epics (Logger)

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| --- | --- |
| ***EPIC 7.1*** | |
| *The* | Logger |
| *Needs to* | Log what is happening |

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| ***EPIC 7.2*** | |
| *The* | Logger |
| *Needs to* | Be used by whatever requires it |

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| ***EPIC 7.3*** | |
| *The* | Logger |
| *Needs to* | Not slow down operation/slow it down very little |

### THEME 8 Epics (Database)

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| --- | --- |
| ***EPIC 8.1*** | |
| *The* | Database |
| *Needs to* | Be query’d by the program |

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| ***EPIC 8.2*** | |
| *The* | Database |
| *Needs to* | Store results |

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| ***EPIC 8.3*** | |
| *The* | Database |
| *Needs to* | Be Accessible via the API |

### THEME 9 Epics (Extra Server Comms)

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| ***EPIC 9.1*** | |
| *The* | Service |
| *Needs to* | Communicate with other instances |

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| ***EPIC 9.2*** | |
| *The* | Service |
| *Needs to* |  |

## User Stories

### Theme 1, Epic 1

|  |  |
| --- | --- |
| ***USER STORY 1.1.1*** | |
| *As a* | Tester |
| *I want to* | Dynamically load protocol plugins |
| *So that I can* | Build traffic based on a protocol message builder |

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| --- | --- |
| ***USER STORY 1.1.2*** | |
| *As a* | Tester |
| *I want to* | Dynamically load communication plugins |
| *So that I can* | Change the target of built messages |

### Theme 2, Epic 1

|  |  |
| --- | --- |
| ***USER STORY 2.1.1*** | |
| *As a* | Tester |
| *I want to* | Configure the number of threads to use per testcase |
| *So that I can* | Not worry about the default and run different kinds of tests |

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| ***USER STORY 2.1.2*** | |
| *As a* | Sysadmin |
| *I want to* | Apply a hard limit to the number of threads to use |
| *So that I can* | Limit the resources the program will use |

### Theme 2, Epic 2

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| --- | --- |
| ***USER STORY 2.2.1*** | |
| *As a* | Tester |
| *I want to* | Interact with the software without interrupting anything |
| *So that I can* | Not disturb any running tests |

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| ***USER STORY 2.2.2*** | |
| *As a* | Sysadmin |
| *I want to* | Interact with the software without interrupting anything |
| *So that I can* | Not disturb any running tests |

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| ***USER STORY 2.2.3*** | |
| *As a* | Developer |
| *I want to* | Interact with the software without interrupting anything |
| *So that I can* | Not disturb any running tests |

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| ***USER STORY 2.2.4*** | |
| *As a* | UX Designer |
| *I want to* | Interact with the software without interrupting anything |
| *So that I can* | Not disturb any running tests |

### Theme 2, Epic 3

|  |  |
| --- | --- |
| ***USER STORY 2.3.1*** | |
| *As a* | Maintainer |
| *I want to* | Worry about less code |
| *So that I can* | Get more work done on the code base |

### Theme 3, Epic 1

|  |  |
| --- | --- |
| ***USER STORY 3.1.1*** | |
| *As a* | Sys admin |
| *I want to* | Not worry about having to start the software repeatedly |
| *So that I can* | Be bothered less to start the service |

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| ***USER STORY 3.1.2*** | |
| *As a* | Sysadmin |
| *I want to* | Start the program as a service |
| *So that I can* | Run it in the background |

### Theme 3, Epic 2

|  |  |
| --- | --- |
| ***USER STORY 3.2.1*** | |
| *As a* | Tester |
| *I want to* | Start a Test |
| *So that I can* | Evaluate a protocol or how a server handles load |

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| ***USER STORY 3.2.2*** | |
| *As a* | Tester |
| *I want to* | Stop a test |
| *So that I can* | Cancel any currently running tests for whatever reason |

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| ***USER STORY 3.2.3*** | |
| *As a* | Tester |
| *I want to* | Query running tests |
| *So that I can* | Check on their progress |

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| ***USER STORY 3.2.4*** | |
| *As a* | Sysadmin |
| *I want to* | Query program running stats |
| *So that I can* | To verify how well it’s running |

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| ***USER STORY 3.2.5*** | |
| *As a* | UX Designer |
| *I want to* | Be able to access the API |
| *So that I can* | Create graphical front ends |

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| ***USER STORY 3.2.6*** | |
| *As a* | Developer |
| *I want to* | Load plugins |
| *So that I can* | Verify they can be loaded correctly |

### Theme 3, Epic 3

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| --- | --- |
| ***USER STORY 3.3.1*** | |
| *As a* | Tester |
| *I want to* | Multi-task |
| *So that I can* | Not interrupt any other currently running tasks |

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| ***USER STORY 3.3.2*** | |
| *As a* | UX Designer |
| *I want to* | Interact with the software without touching the normal running |
| *So that I can* | Create more seamless and less intrusive Front-ends |

### Theme 3, Epic 4

|  |  |
| --- | --- |
| ***USER STORY 3.4.1*** | |
| *As a* | Sysadmin |
| *I want to* | Start the service in a standard way |
| *So that I can* | Trust the OS to handle it better |

### Theme 3, Epic 5

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| --- | --- |
| ***USER STORY 3.5.1*** | |
| *As a* | Tester |
| *I want to* | Not interrupt the program’s normal running |
| *So that I can* | Guarantee more accurate results |

### Theme 3, Epic 6

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| --- | --- |
| ***USER STORY 3.6.1*** | |
| *As a* | Sysadmin |
| *I want to* | Start the service and it look after itself |
| *So that I can* | Worry about other things |

### Theme 3, Epic 7

|  |  |
| --- | --- |
| ***USER STORY 3.7.1*** | |
| *As a* | Sysadmin |
| *I want to* | Not have to prepare for the program’s first launch |
| *So that I can* | Have an easier time with setting it up |

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| ***USER STORY 3.7.2*** | |
| *As a* | Sysadmin |
| *I want to* | Have the program clean up when removed/uninstalled |
| *So that I can* | Worry less about floating files |

### Theme 3, Epic 8

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| ***USER STORY 3.8.1*** | |
| *As a* | Sysadmin |
| *I want to* | Kill the program |
| *So that I can* | End any strange behaviour |

### Theme 4, Epic 1

|  |  |
| --- | --- |
| ***USER STORY 4.1.1*** | |
| *As a* | Tester |
| *I want to* | Control the program using scripts |
| *So that I can* | Automate testing for different scenarios |

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| ***USER STORY 4.1.2*** | |
| *As a* | UX Designer |
| *I want to* | Have a way of controlling the software using an API |
| *So that I can* | Create graphical front ends for controlling the program |

### Theme 4, Epic 2

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| ***USER STORY 4.2.1*** | |
| *As a* | Tester |
| *I want to* | Fetch data about currently running tests |
| *So that I can* | Verify the results |

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| ***USER STORY 4.2.2*** | |
| *As a* | UX Designer |
| *I want to* | Fetch data from the software |
| *So that I can* | Create graphical front ends for viewing the data |

### Theme 5, Epic 1

|  |  |
| --- | --- |
| ***USER STORY 5.1.1*** | |
| *As a* | Tester |
| *I want to* | Send testcases to the software for running |
| *So that I can* | Run test cases |

### Theme 5, Epic 2

|  |  |
| --- | --- |
| ***USER STORY 5.2.1*** | |
| *As a* | Tester |
| *I want to* | Be told where my testcase is syntactically or lexically wrong |
| *So that I can* | Fix it more easily |

### Theme 5, Epic 3

|  |  |
| --- | --- |
| ***USER STORY 5.3.1*** | |
| *As a* | Tester |
| *I want to* | Configure the number of threads to use from within the testcase |
| *So that I can* | I don’t have to edit the program configuration directly |

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| ***USER STORY 5.3.2*** | |
| *As a* | Tester |
| *I want to* | Configure what protocol is to be loaded from within the testcase |
| *So that I can* | I don’t have to edit the program configuration directly |

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| ***USER STORY 5.3.3*** | |
| *As a* | Tester |
| *I want to* | Configure the rate that traffic is sent from within the test case |
| *So that I can* | I don’t have to edit the program configuration directly |

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| ***USER STORY 5.3.4*** | |
| *As a* | Tester |
| *I want to* | Configure whether chaos should be applied to the traffic |
| *So that I can* | I don’t have to edit the program configuration directly |

### Theme 5, Epic 4

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| --- | --- |
| ***USER STORY 5.4.1*** | |
| *As a* | Tester |
| *I want to* | Write testcases for many protocols |
| *So that I can* | Test many aspects of a server |

### Theme 6, Epic 1

|  |  |
| --- | --- |
| ***USER STORY 6.1.1*** | |
| *As a* | Tester |
| *I want to* | Send data to a target |
| *So that I can* | Measure it’s load or test a protocol |

### Theme 6, Epic 2

|  |  |
| --- | --- |
| ***USER STORY 6.2.1*** | |
| *As a* | Tester |
| *I want to* | Have the data results recorded |
| *So that I can* | Verify everything is working |

### Theme 6, Epic 3

|  |  |
| --- | --- |
| ***USER STORY 6.3.1*** | |
| *As a* | Tester |
| *I want to* | Have the test runner configure itself automatically |
| *So that I can* | Make less API calls |

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| ***USER STORY 6.3.2*** | |
| *As a* | Tester |
| *I want to* | Select the branching method |
| *So that I can* | Configure the software based on present resources |

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| ***USER STORY 6.3.3*** | |
| *As a* | Tester |
| *I want to* | Know the test runner will read what protocol it needs |
| *So that I can* | Make less API calls |

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| ***USER STORY 6.3.4*** | |
| *As a* | Tester |
| *I want to* | Know the test runner will read what Comms handler it needs |
| *So that I can* | Make less API calls |

### Theme 7, Epic 1

|  |  |
| --- | --- |
| ***USER STORY 7.1.1*** | |
| *As a* | Sysadmin |
| *I want to* | Read logs |
| *So that I can* | Verify the program is working correctly |

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| ***USER STORY 7.1.2*** | |
| *As a* | Tester |
| *I want to* | Read logs |
| *So that I can* | Verify tests are running |

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| ***USER STORY 7.1.3*** | |
| *As a* | Developer |
| *I want to* | Read logs |
| *So that I can* | Verify tests are completed |

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| ***USER STORY 7.1.4*** | |
| *As a* | Manager |
| *I want to* | Read logs |
| *So that I can* | Verify tests are performing as expected |

### Theme 7, Epic 2

|  |  |
| --- | --- |
| ***USER STORY 7.2.1*** | |
| *As a* | Sysadmin |
| *I want to* | Receive reports from all aspects of the system |
| *So that I can* | Get a better picture of what is going on |

### Theme 7, Epic 3

|  |  |
| --- | --- |
| ***USER STORY 7.3.1*** | |
| *As a* | Tester |
| *I want to* | Know that the logger won’t hinder the system too much |
| *So that I can* | Guarantee more accurate results |

### Theme 8, Epic 1

|  |  |
| --- | --- |
| ***USER STORY 8.1.1*** | |
| *As a* | Tester |
| *I want to* | Read data from the database |
| *So that I can* | Look over past results |

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| ***USER STORY 8.1.2*** | |
| *As a* | UX Designer |
| *I want to* | Read data from the database |
| *So that I can* | Create data visualisations |

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| ***USER STORY 8.1.3*** | |
| *As a* | Manager |
| *I want to* | Read data from the database |
| *So that I can* | Make sure everything is going well |

### Theme 8, Epic 2

|  |  |
| --- | --- |
| ***USER STORY 8.2.1*** | |
| *As a* | Tester |
| *I want to* | Compare previous runs |
| *So that I can* | Draw conclusions as to how the target is dealing with things |

### Theme 8, Epic 3

|  |  |
| --- | --- |
| ***USER STORY 8.3.1*** | |
| *As a* | UX Designer |
| *I want to* | Access the database |
| *So that I can* | Create data visualisation front ends |

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| ***USER STORY 8.3.3*** | |
| *As a* | Tester |
| *I want to* | Access the database via a command line |
| *So that I can* | Create automated verification scripts |

### Theme 9, Epic 1

|  |  |
| --- | --- |
| ***USER STORY 9.1.1*** | |
| *As a* | Tester |
| *I want to* | Run tests from many locations |
| *So that I can* | Get a better and more accurate idea of how something handles load |

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| ***USER STORY 9.1.2*** | |
| *As a* | Tester |
| *I want to* | Run tests from many locations |
| *So that I can* | Perform larger scale tests to further improve how load is handled |

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| ***USER STORY 9.1.3*** | |
| *As a* | Tester |
| *I want to* | Verify results from multiple instances |
| *So that I can* | See how well the software performed |

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| --- | --- |
| ***USER STORY 9.1.4*** | |
| *As a* | Tester |
| *I want to* | Worry only about using a single instance |
| *So that I can* | Trust the service will handle using other instances appropriately |