

## Snapshot Week 7 of Group COMPLEX 8

# Defence Science and Technology Group (DSTG) and Swordfish Computing Project Proposal: Distributed Decision-Making



THE UNIVERSITY  
*of* ADELAIDE

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## 1. Product Backlog and Task Board

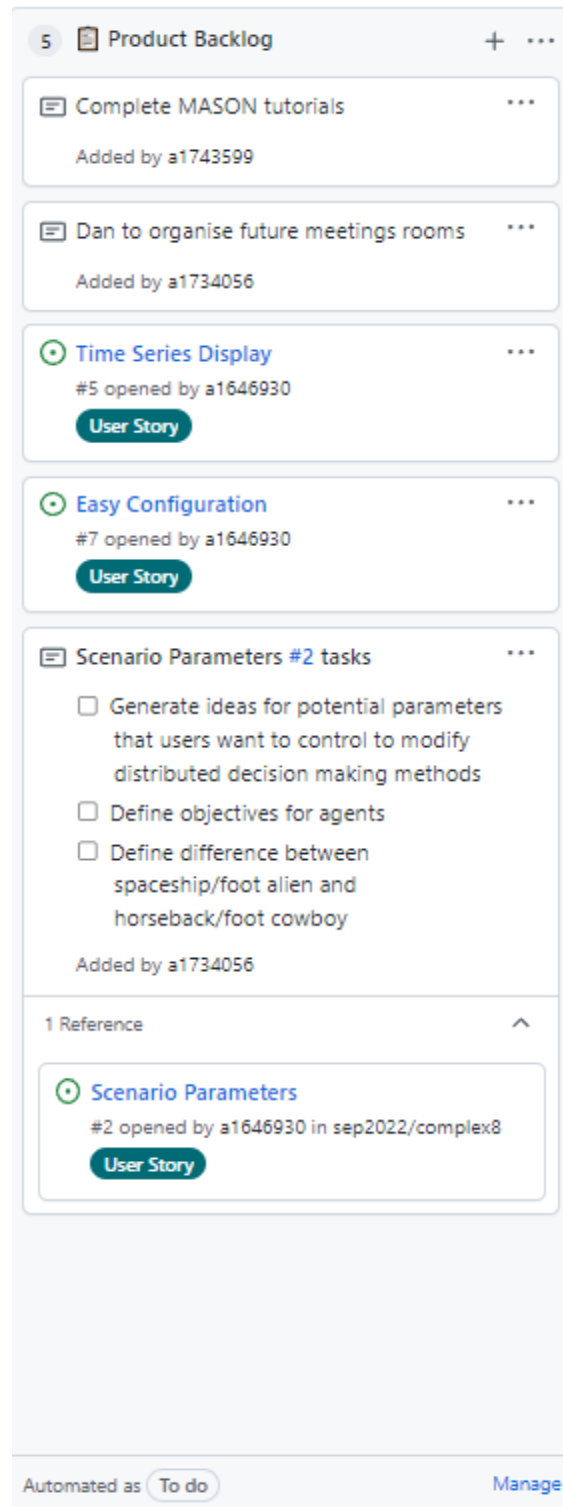


Figure 1: Product Backlog Screenshot

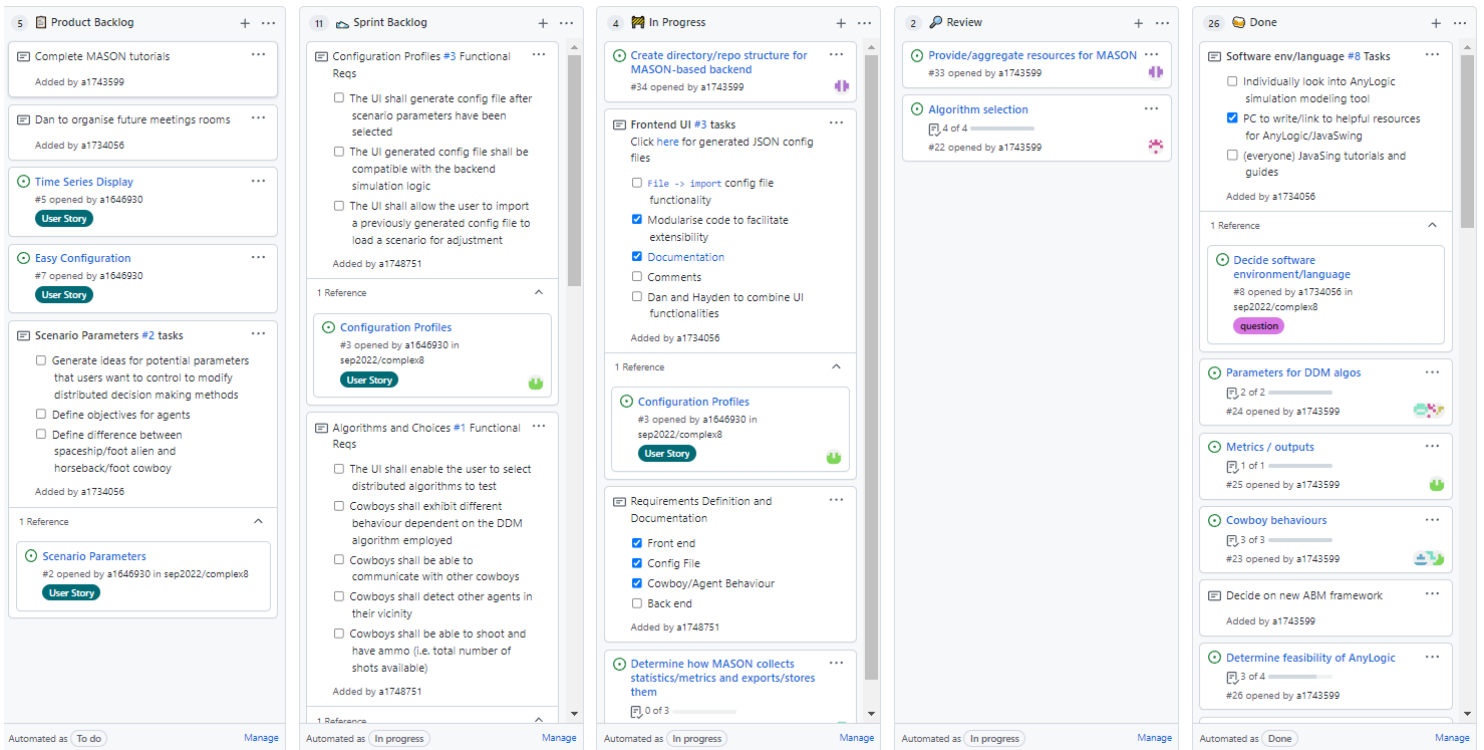


Figure 2: Task Board Screenshot

## 2. Sprint Backlog and User Stories:

11 Sprint Backlog + ...

Configuration Profiles #3 Functional Reqs ...

☐ The UI shall generate config file after scenario parameters have been selected

☐ The UI generated config file shall be compatible with the backend simulation logic

☐ The UI shall allow the user to import a previously generated config file to load a scenario for adjustment

Added by a1748751

1 Reference ^

Configuration Profiles

#3 opened by a1646930 in sep2022/complex8

User Story

Algorithms and Choices #1 Functional Reqs ...

☐ The UI shall enable the user to select distributed algorithms to test

☐ Cowboys shall exhibit different behaviour dependent on the DDM algorithm employed

☐ Cowboys shall be able to communicate with other cowboys

☐ Cowboys shall detect other agents in their vicinity

☐ Cowboys shall be able to shoot and have ammo (i.e. total number of shots available)

Added by a1748751

1 Reference ^

Automated as In progress Manage

11 Sprint Backlog + ...

Scenario Parameter #2 Functional Reqs ...

☐ The UI shall enable the user to add agents at specified XY positions

☐ The UI shall enable the user to modify agent parameters

☐ Agents shall have several properties e.g. HP, speed, Line of sight range, shooting range, shooting damage, communication range

☐ Agents shall exhibit different behaviour depending on the agent properties

☐ Agent properties shall be changed through the UI

☐ Agents shall not change behaviour depending on the information they should not know about

Added by a1748751

1 Reference ^

Scenario Parameters

#2 opened by a1646930 in sep2022/complex8

User Story

Actually implement DDM algos ...

0 of 2

#32 opened by a1734069




















Implement MVP scenario in MASON simulation framework ...

0 of 3

#30 opened by a1734069

#1 Find implementations of ...

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-  #1 Find implementations of algorithms or begin implementing from scratch.   
 0 of 3  
#29 opened by a1734069
-  Configuration Profiles   
#3 opened by a1646930  
 
-  Scenario Parameters   
#2 opened by a1646930  

-  Algorithms and Choices   
#1 opened by a1646930  

-  Results Export   
#6 opened by a1646930  

-  Extensible Algorithm Choices   
#4 opened by a1646930  


## In-progress items:

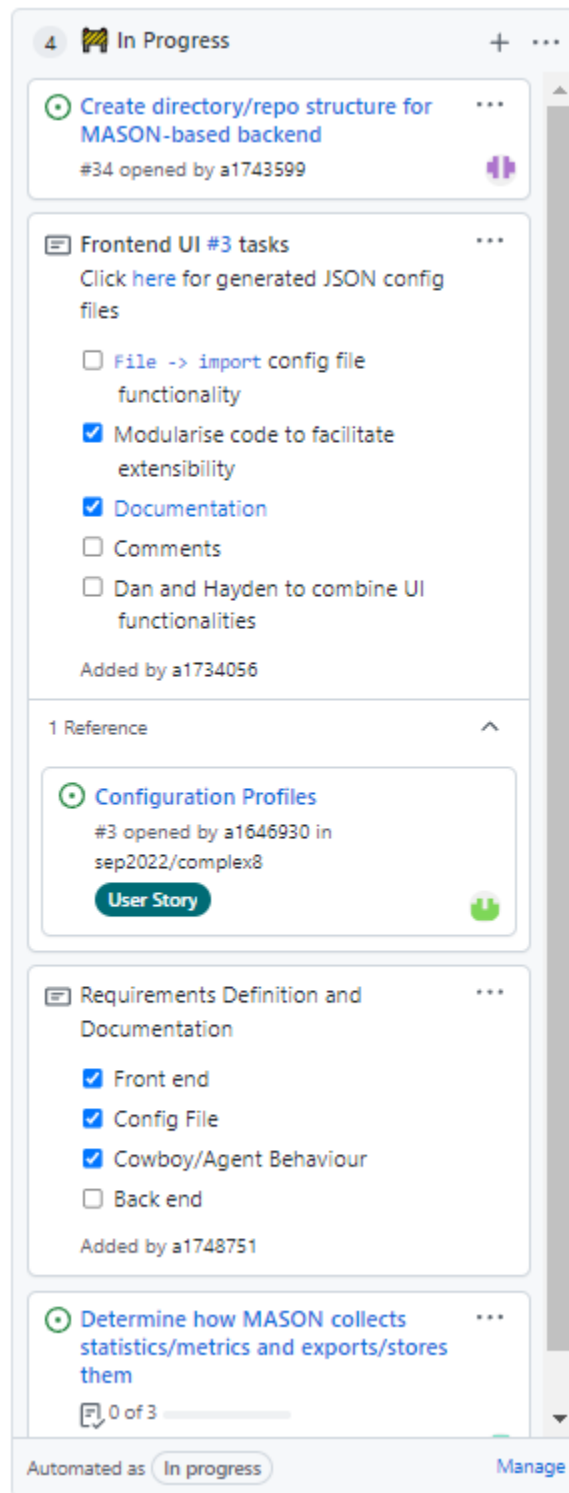


Figure 3: Sprint 3 in-progress items

The current user stories for this sprint are:

1. Configuration Profiles
2. Scenario Parameters
3. Algorithm and Choices
- 4. Results Export**
- 5. Extensible Algorithm Choices**

Of the 5 user stories, 'Configuration Profiles', 'Scenario Parameters', and 'Algorithm and Choices' are from the previous sprint and are intended to be finished this sprint. This means that the designed software will be able to store configuration settings, change parameters of the scenario, and store these configurations settings respectively.

Following the previous sprint, the software architecture was chosen to be MASON and the 'Results Export' user story is focused on how MASON can export results and metrics.

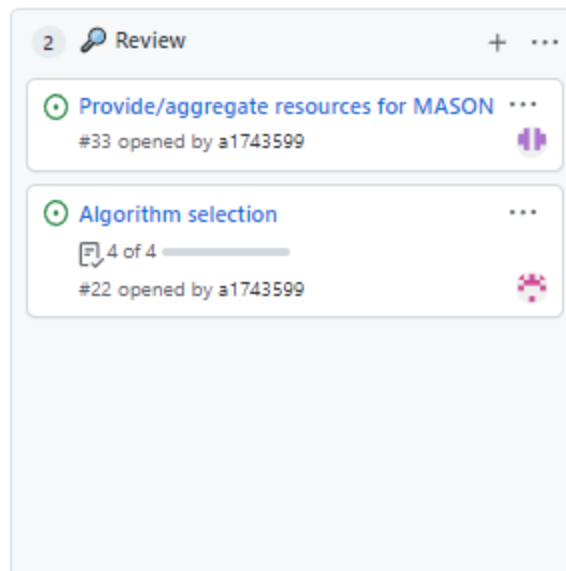
Extensible Algorithm Choices relates to the tasks of finding implementations of DDM algorithms already produced, and investigating how these may be interfaced with MASON.

### 3. Definition of Done:

- Code written and commented
- Documentation written and updated
- Code peer-reviewed
- Documentation peer-reviewed
- Code architecture conforms to specified design pattern.
- Tests written and passing
- Non-functional requirements met (UX, performance, availability)
- Acceptance criteria fulfilled

### 4. Summary of Changes:

Since the last team snapshot, these items on the sprint backlog were completed:



These items will be moved to 'Done' during the sprint review meeting.

Following the team choice to use MASON for the simulation framework, issue #33 relates to the aggregation of training/useful information for the team to learn about how MASON works. These resources include MASON download and installation guides, tutorials to follow, and the MASON manual to study. Nathan, Harry, Vinh, Patrick, and Hayley among others have been learning how to use MASON through these resources.

Issue #22 relates to choosing the DDM algorithms to test in the software framework, and subtasks included determining the required inputs and outputs of these algorithms and a summary was written. As of now, the ring algorithm and PAXOS algorithm were chosen and a summary of their inputs/outputs, and how they work has been documented in the team's OneDrive.

The Front-end UI is still currently in progress, as Hayden and Dan combine their UI features into a cohesive front-end design.