

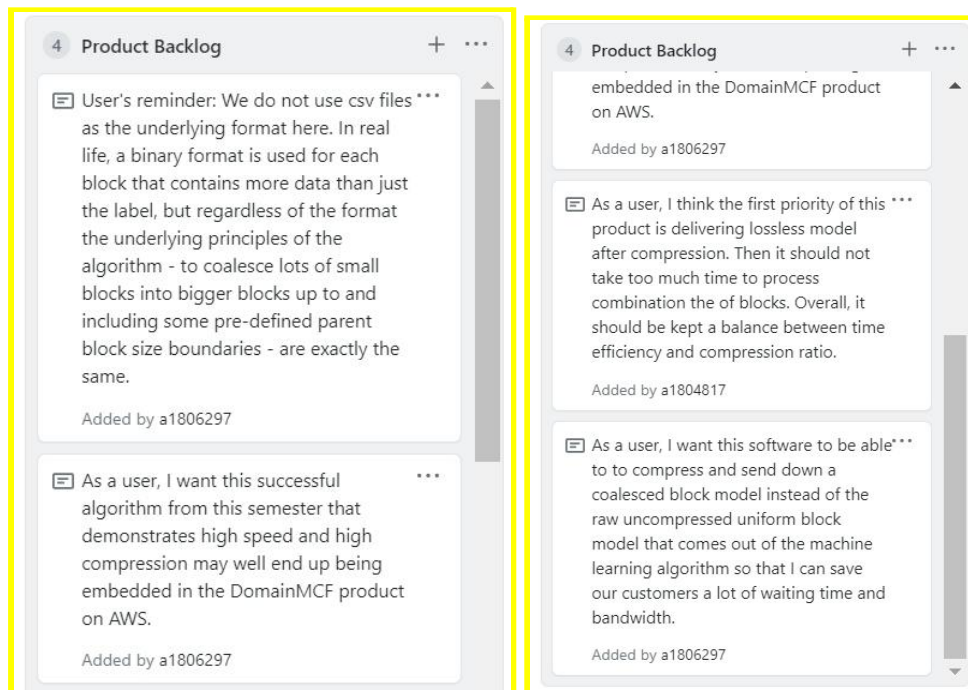
Snapshot Week 3 of Group BLOCKS7PG

Block Model Compression Algorithm

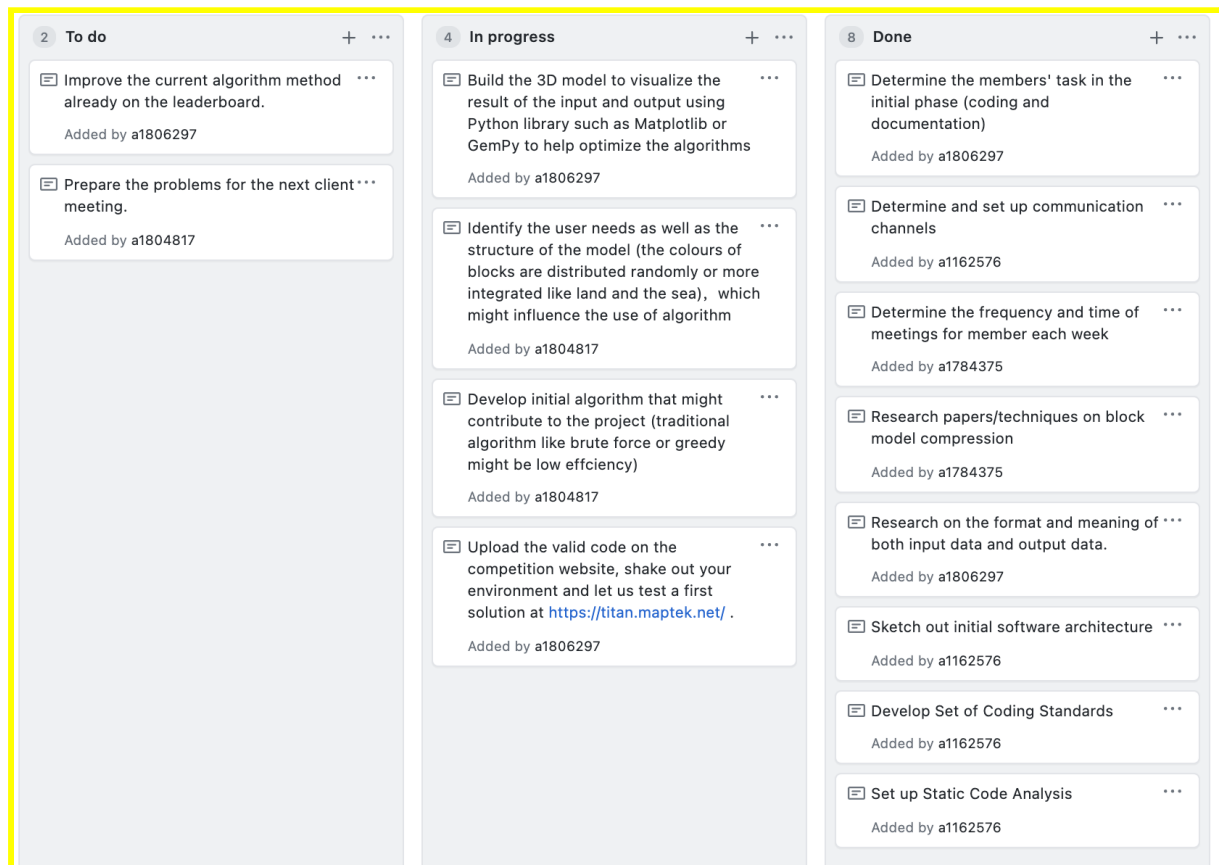
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Product Backlog and Task Board

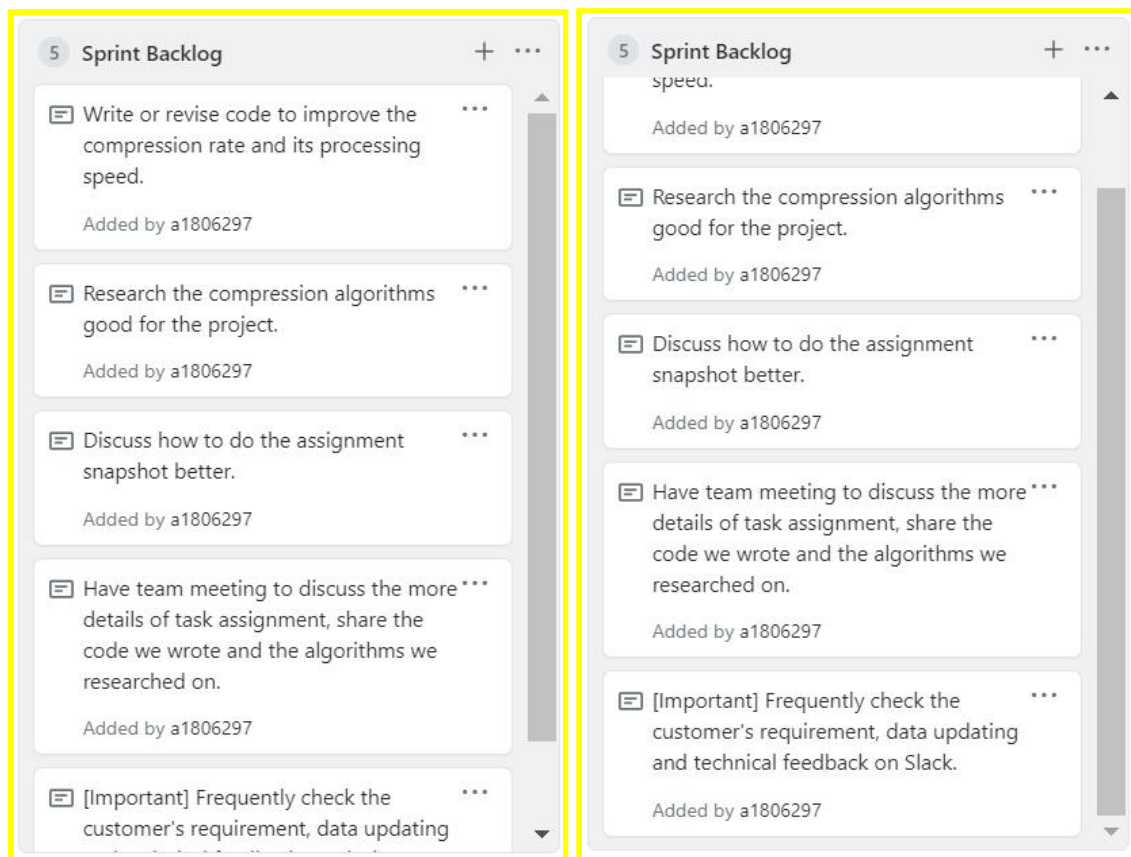
Product Backlog:



Task Board:



Sprint Backlog and User Stories



In the middle of the week, Yuanpeng has written and submitted the first version of code to the competition system and have a compression rate of 89.23% and processing speed of 37.32% for the input data "the_intro_one_32768_4x4x4" and compression rate 74.59 % and processing speed 36.18% for the input data "the_fast_one_376000_2x2x2 ". In the sprint, we would revise the current code to **improve its compression rate and processing speed**. In addition to the code written from scratch, we also **research the algorithm methods** such as Run Length Encoding (RLE) to achieve better compression and speed.

In the team meeting, we **discuss how to assign tasks and assignments better** to implement the project more efficiently. The Scrum Master asks the team to frequently check the updated information on Slack, where the customer will update the user stories and any technical feedback. It can assist the team in designing and implementing the programs.

Definition of Done

In the current phase:

- The code we develop is required to take standard input (strings of the form "x, y, z, x_size, y_size, z_size, 'domain'") and produce the result on standard output described in the project documentation.
- Either a .exe file or a Python script must be submitted to a verification service: MAPTEK TITAN.
- According to the user stories, we can submit our code once it improves the compression rate and processing speed, no matter how good they are.
- The datasets of input block models we implement must be comma-separated values (CSV) where each line encodes a block as a string of the form "x, y, z, x_size, y_size, z_size, 'domain'" and the code we develop is required to output a stream of the same format.
- The algorithm we develop must process a block model in slices of no more than parent block thickness at a time, rather than loading the entire input stream into memory first.
- All pull requests of code must be submitted on our Github repository, tested, and reviewed by two other team members (or one in the case of documentation/admin).
- The branches must pass the static code analysis before being merged. The Static Analysis ensures that the codes meet the PEP8 style standards (what all python code should aim for) and other issues such as unused variables and cyclomatic complexity. PEP8 is especially important for the developers because it mandates a set of conventions for things such as class/function names, spacing, and comment style. It allows all the developers to be able to read every developer's code in the same way.

Summary of Changes:

In the first week of the first sprint, we set up the communication tools, scheduled regular weekly meetings, collected the team member's ideas, assigned the tasks, etc. We also added user stories in the Product Backlog on our Github Projects and revised the Definition of Done (DOD).

The sprint goals have been set in the Sprint Backlog, including figuring out the project and user stories. We executed the tasks such as designing the algorithms and figuring out how to use the competition system and successfully wrote the first version of the code. We managed to revise and develop better algorithms.