

Final Project Part 1 Report

Team Zeta

Team members

Jamie Hayes (jah4yq)

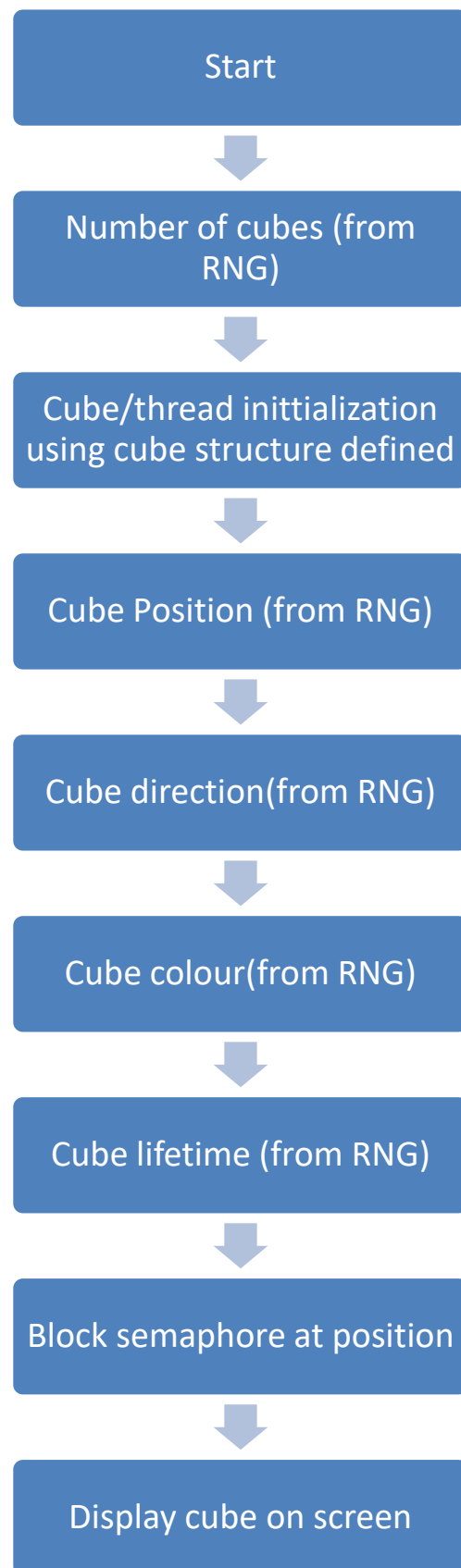
Dawit Kahsay (dak4zh)

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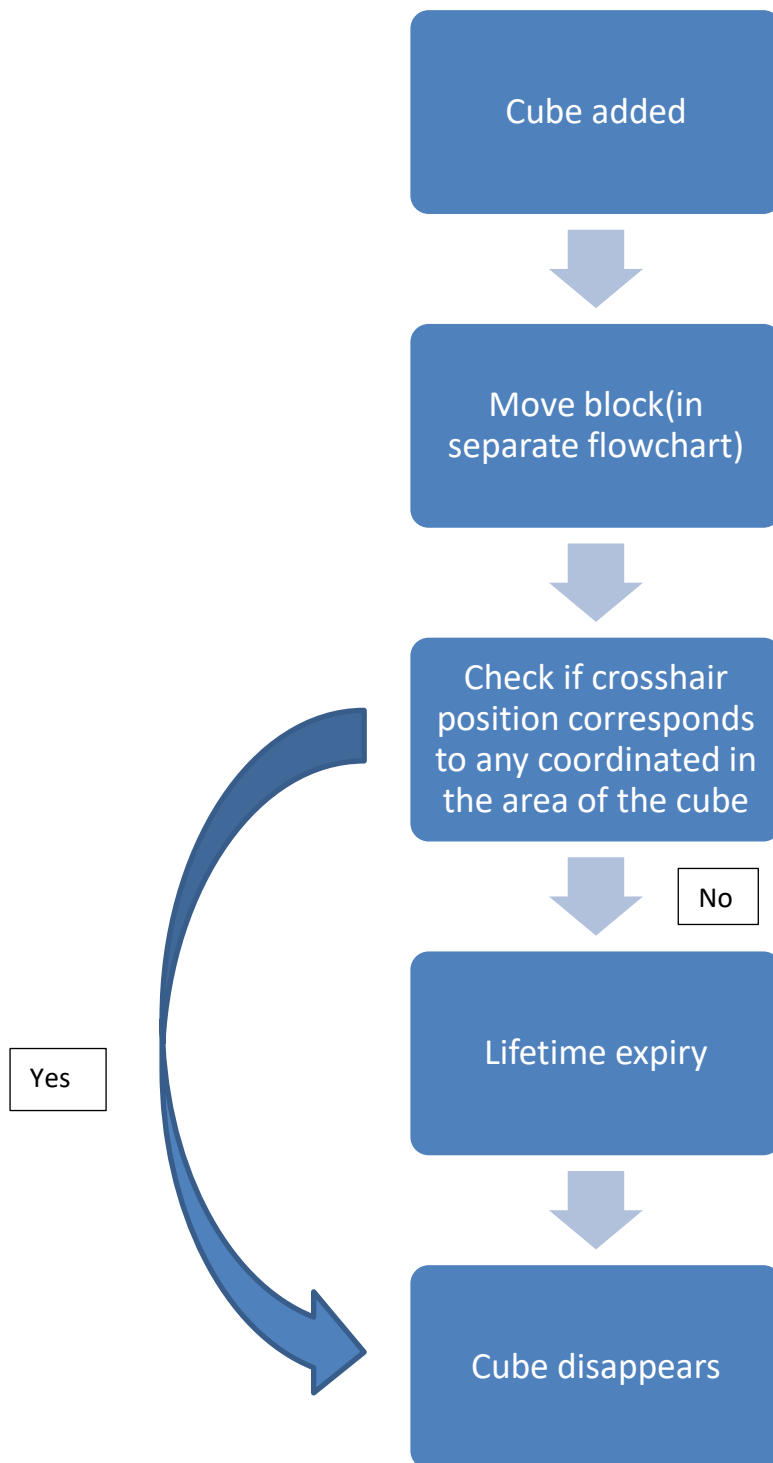
Task	Member
Cube characteristics	Jamie Hayes and Dawit Kahsay
Crosshair interaction and deadlock prevention	Jamie Hayes and Dawit Kahsay
Random Number generator	Eddie Russell and Mukundan Ram Mohan
Report	Eddie Russell and Mukundan Ram Mohan

Data Flow of a cube when it is added

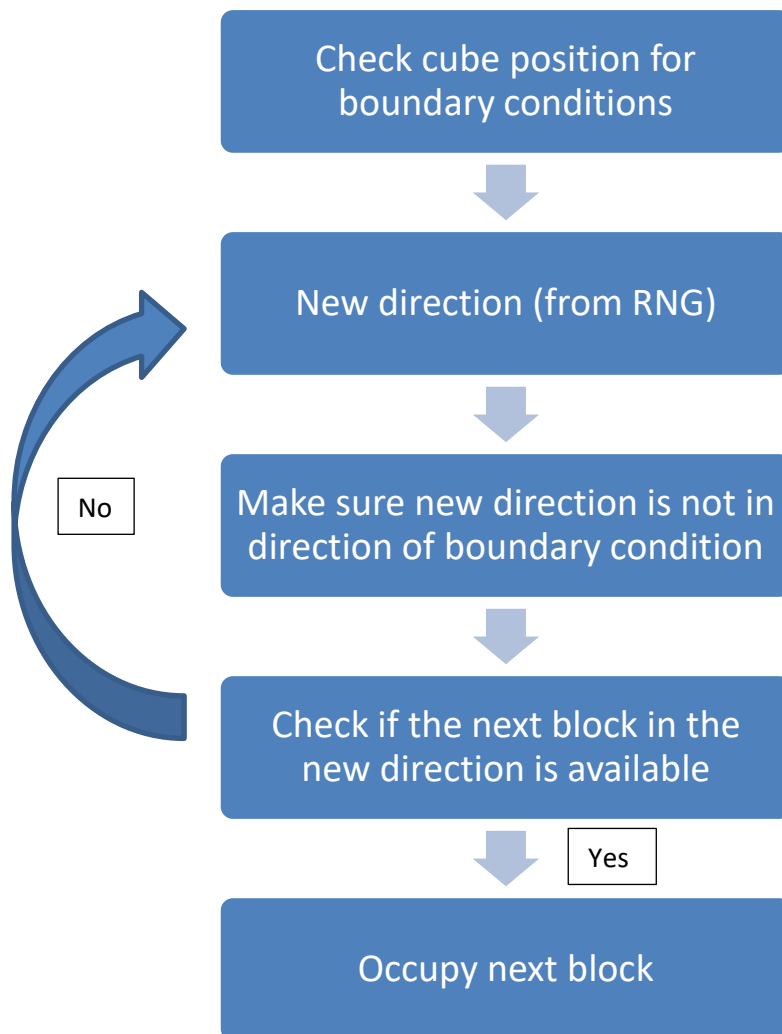


RNG- Random Number Generator

Data flow of a cube after it is added



Data flow for Cube Movement



The conditions for the block movement take care of deadlock prevention as they are constantly checking whether the next block is occupied or not and are switching over to new direction if the block is not available.

The random number generator (RNG) is a pseudo-random generator in which entropy has been introduced in the seed by using the value of the timers in the system (OS_Time). The RNG is implemented using a linear feedback shift register(as suggested in the document) of two values of 32 bit and 31 bit length 'exor'-ing the values of the two numbers by shifting them bit-by-bit and using polynomial bit mask in conditions when the output becomes 1. The entropy is the key as without it the RNG being a pseudo random generator gives out the same output always.

Video Link

https://drive.google.com/open?id=1oi4qXg_HHuldQeH96a828nKR0CbJXQTi

Feedback survey

Thank you for your feedback on the Final Project.

