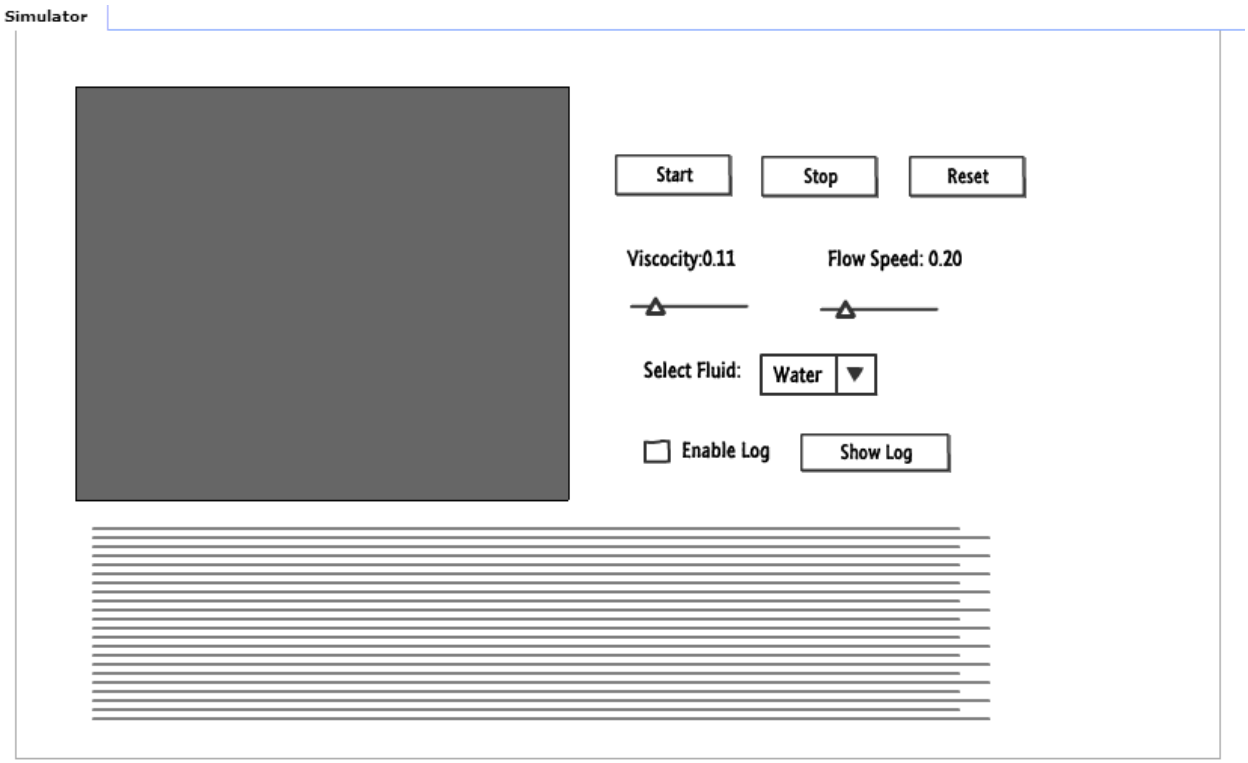
2-D Fluid Dynamics Simulator Application

Graphical User Interface :

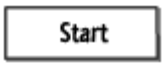


Work Flow for the above GUI:

1) Grey Box:

The Grey box (container) is used to replicate or reproduce the fluid simulation output based on the physical parameters that the user selected.

2) Start Button:



When the user clicks on the Start Button, the simulation starts its execution with the default or the selected physical parameters like Viscosity, Flow Speed and Fluid. In short

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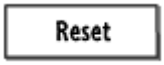
the simulator picks up its initialization. This initialization works based on the Lattice Boltzmann | Navier-Stokes engine substation.

3) Stop Button:

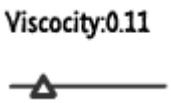
When the user clicks on the Stop Button, the simulation gets stopped with all the ongoing executions.

4) Reset Button:



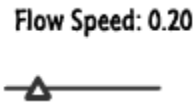
When the user clicks on the Reset Button, the simulator resets / clears all the current physical parameters with the default case parameters. Also it can be used to start a new simulation with other new physical parameters.

5) Viscosity:



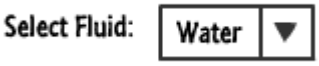
User should be able to select the appropriate or required Viscosity value for the simulation.

6) Flow Speed:



User should be able to select the appropriate or required Flow value for the simulation.

7) Select Fluid:



User can be able to select the type of fluid for which he wants to make the simulation for.

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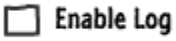
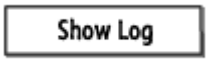
8) Enable Log:



User can be able to Enable or Disable the Log for the simulation which is currently running.

9) Show Log:



Clicking on the “Show Log” button will help the user to go through the log for his / her ongoing simulation which is shown in the below log container.

10) Log Container:

Here is the log container which will show all the simulation log for the user which helps to diagnosis the behavior of the simulation.