Fluid Simulator

Deliverable 2

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Tasks Breakdown

Brendon

- User and Graphical Interfaces
- Settings

  (Language, Light/Dark mode, Font, etc.)

Eric

- External Library Integration
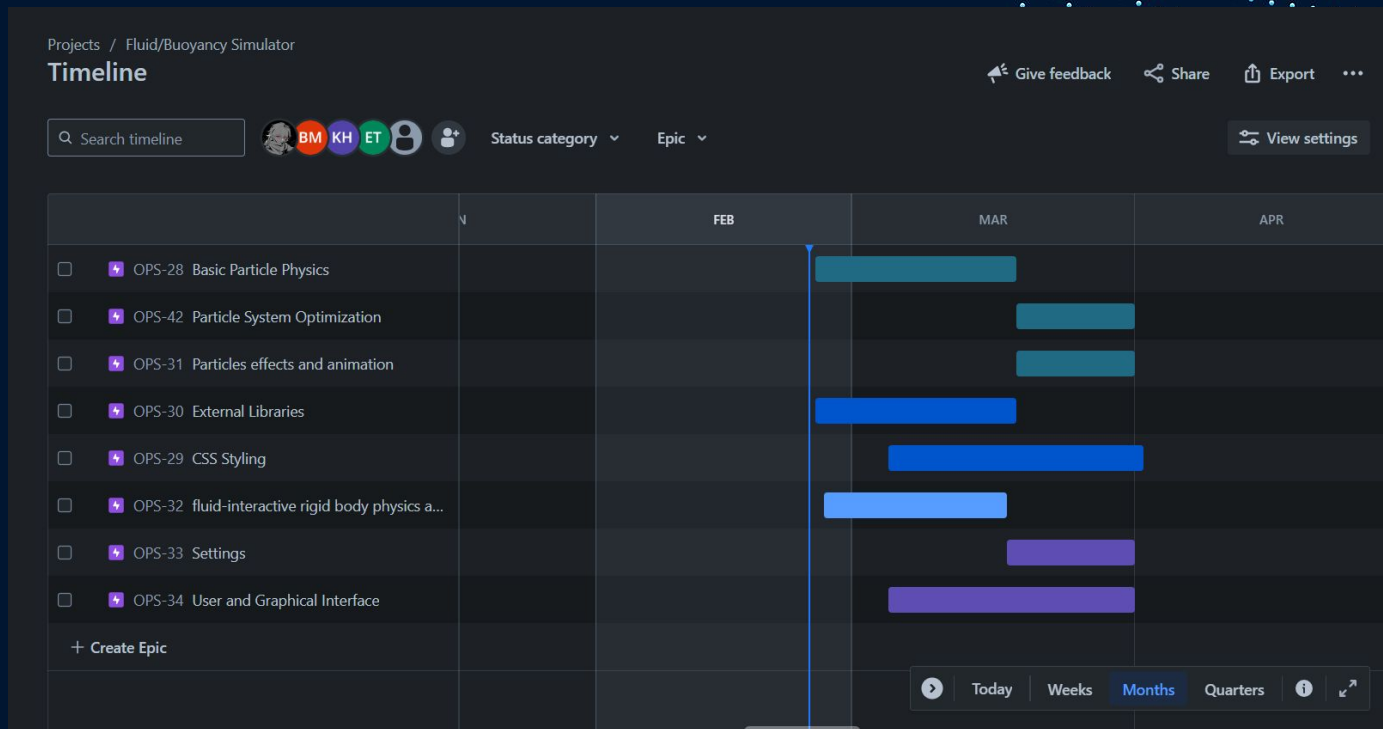- CSS Styling

Kamran

- Particle Object Interaction
- Buoyancy Implementation

Hamza

- Basic Particle Physics
- Particle effects & animations
- Particle System Optimization

Task Timeline

Projects / Fluid/Buoyancy Simulator

Timeline

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	FEB	MAR	APR
☐ ⚡ OPS-28 Basic Particle Physics			
☐ ⚡ OPS-42 Particle System Optimization			
☐ ⚡ OPS-31 Particles effects and animation			
☐ ⚡ OPS-30 External Libraries			
☐ ⚡ OPS-29 CSS Styling			
☐ ⚡ OPS-32 fluid-interactive rigid body physics a...			
☐ ⚡ OPS-33 Settings			
☐ ⚡ OPS-34 User and Graphical Interface			
+ Create Epic			

Today   Weeks   Months   Quarters

BuoyancySimulatorApp: Start()
BuoyancyController: processes user input.
BuoyancyModel: Holds simulation logic (buoyancy force, object movement).
BuoyancyView: User and graphical interface. All visual stuff.
ObjectModel: Object's properties/parameters
ParticleModel: Particle properties
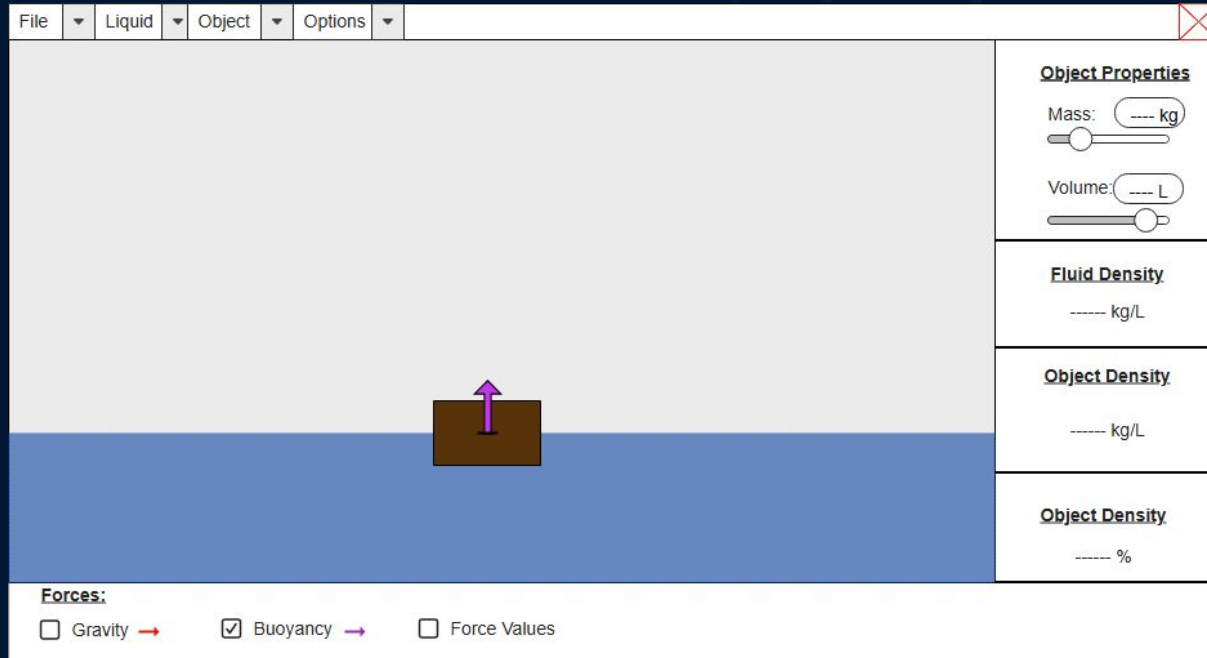WaterView: Water visuals

BuoYancySimAPP

BuoYancyModel → BuoYancyController ← BuoYancyView

ObjectModel

ParticleModel

LiquidView
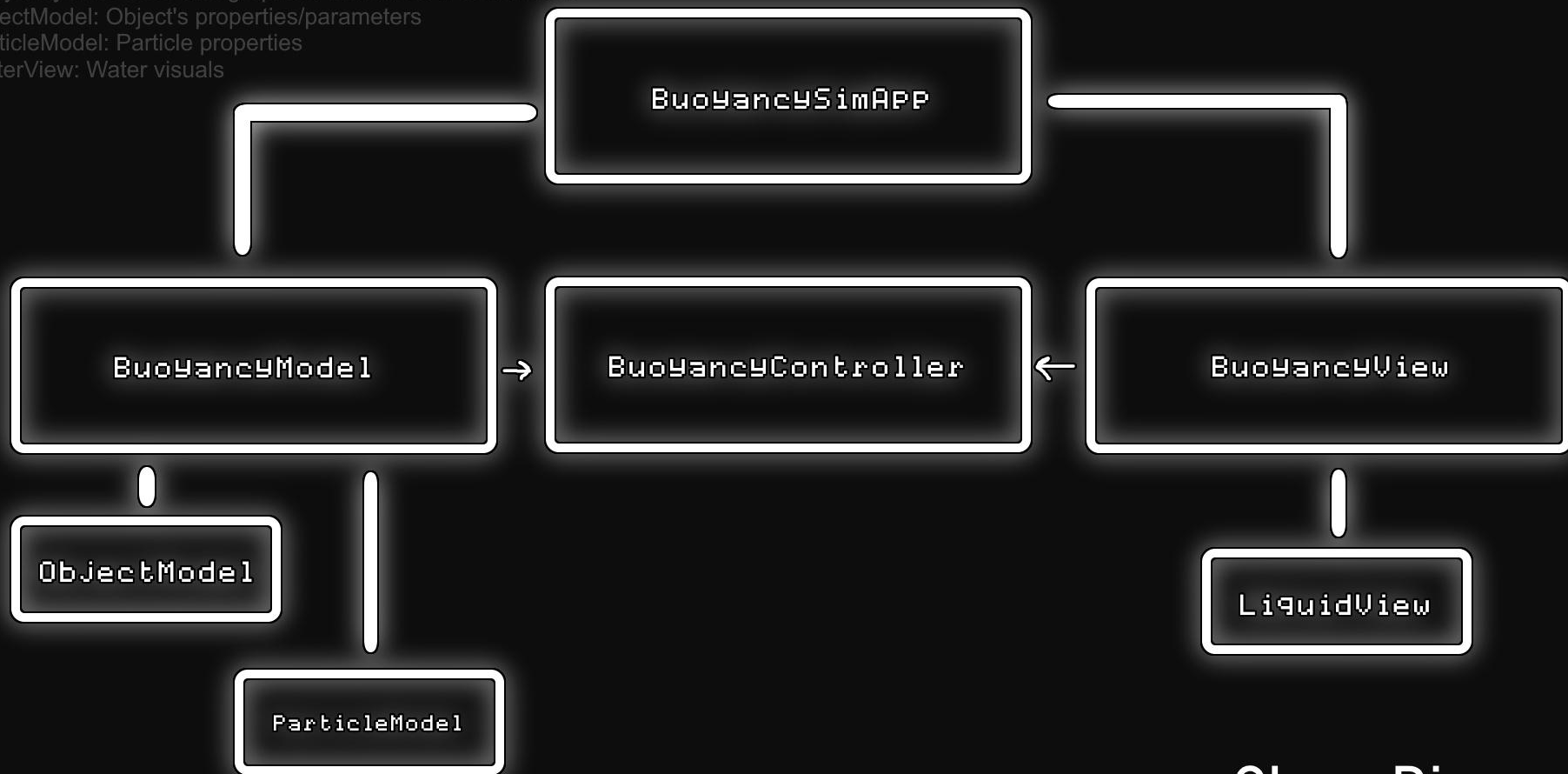
Class Diagram

Sample Input Output (Grid)

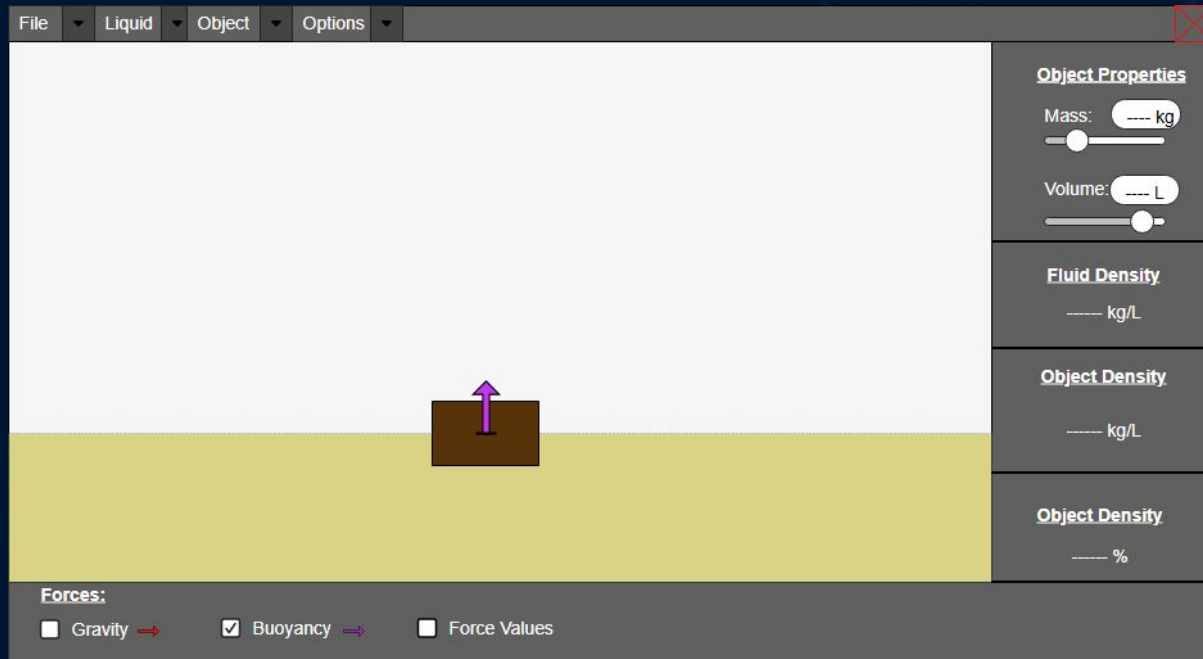| Input	Output
Add object (density < liquid)	Object floats at equilibrium level
Add object (density > liquid)	Object sinks to bottom
Change liquid density	Floating objects rise higher or sink, sinking objects may start floating
Change object density	Object becomes more or less dense, may start floating or sinking
Move object manually	Object floats or sinks and the fluid responds accordingly
Remove object	Object disappears from simulation

Wireframes and Mockups

Light mode

Wireframes and Mockups

Dark mode

Sprint Report

Sprint Report (cont.)

Brendon

Received	Resolved	Carry Over	Blocked
Basic User Interface (3)	Wireframe (1)		
Settings (2)			
Save Load Implementation (2)			
Total Points: 7	Total Points: 1	Total Points:	Total Points:

Eric

Received	Resolved	Carry Over	Blocked
CSS Styling (3)	Class Diagrams (1)		
External Library Implementation (3)			
Total Points: 6	Total Points: 1	Total Points:	Total Points:

Sprint Report (cont.)

Hamza

Received	Resolved	Carry Over	Blocked
Basic Particle Physics (3)		Particle System Start (1)	
Particle Effects(2)			
Particle Optimization (1)			
Total Points: 6	Total Points:	Total Points: 1	Total Points:

Kamran

Received	Resolved	Carry Over	Blocked
Rigid Body Implementation (3)	Sample I/O Grid (1)		
Buoyancy Implementation (3)			
Total Points: 6	Total Points: 1	Total Points:	Total Points:

Thank You