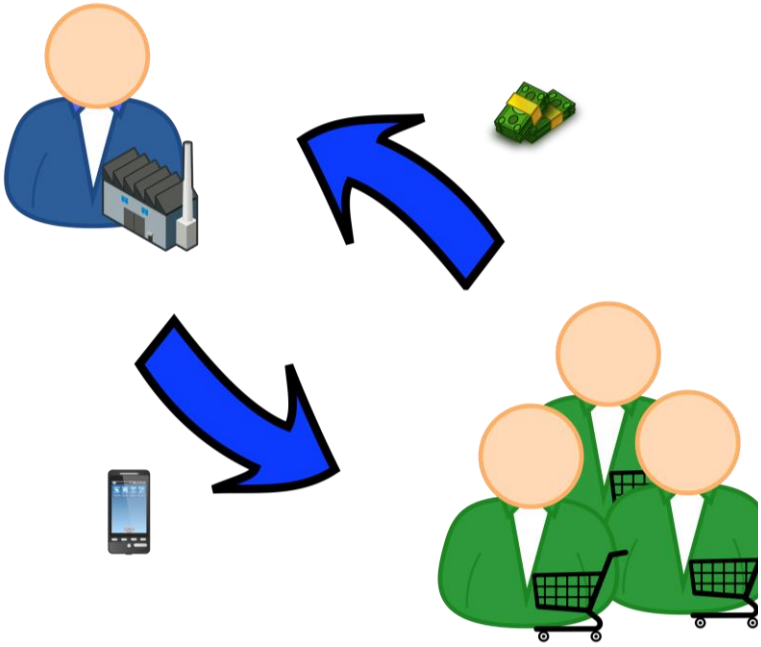
Producer - Consumer Simulation Program



MEMBERS

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How to download the project ?

- **GitHub Repositories :**

https://github.com/RafyHany/Producer-Consumer-Simulation

Instruction to Run Back-End Server and Frond-End server:

- **Running Back-End codes:**

1. Open Back-End files to your favorite IDE to be run.

2. Use the normal Run button in your IDE.

- **Running Front-End codes:**

1. Install Node.js from the official website

2. Open your Command Prompt.

3. In your Command Prompt “npm install -g @Vue/cli”.

4. Open Front-End files to your favorite IDE to be run.

5. install konva in terminal .

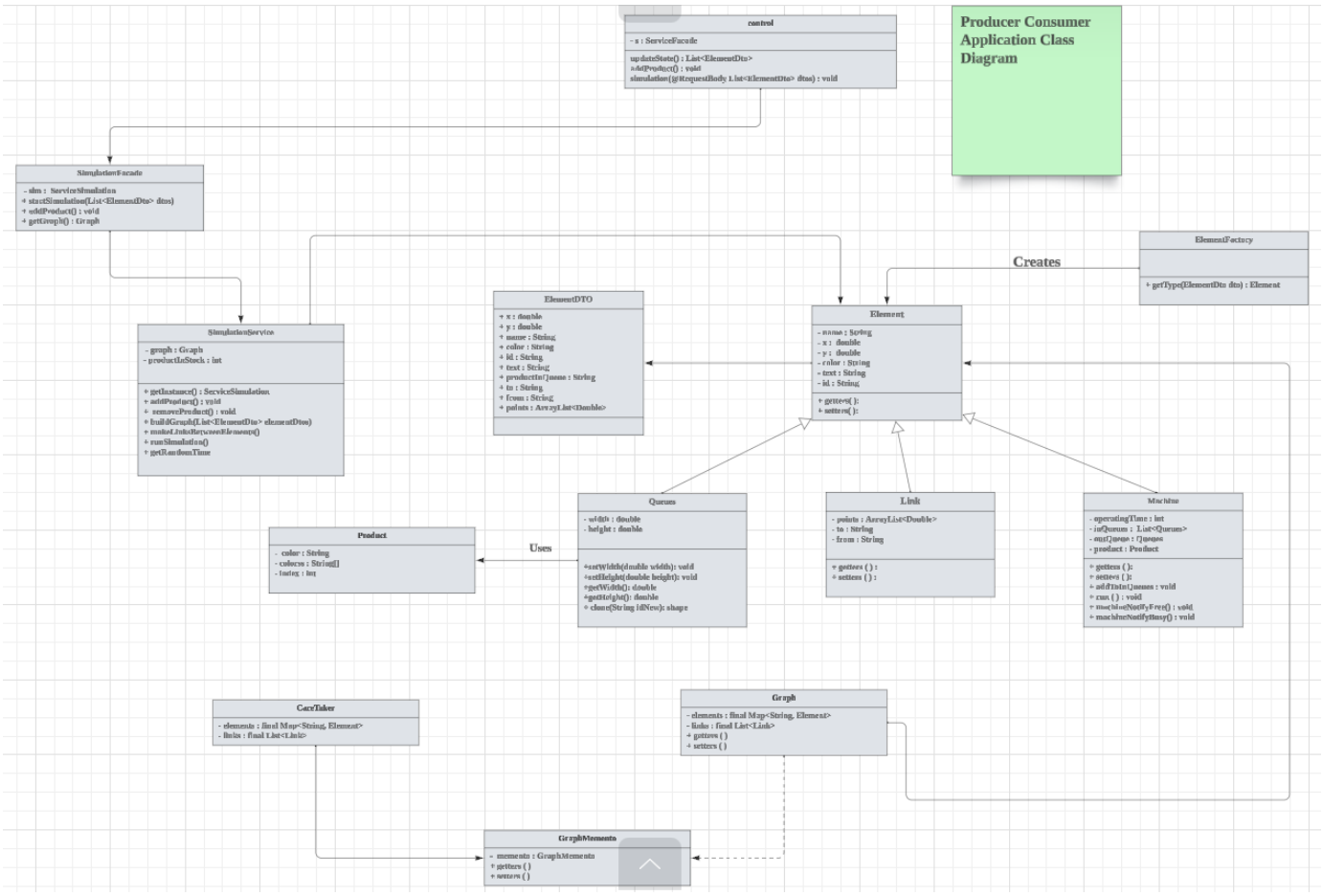
6. “npm install vue-konva konva –save”

7. Running Vue server from prompt “npm run serve”.

Full UML link:

- https://lucid.app/lucidchart/2338aff9-f509-4bff-9419-fb32cb332497/edit?invitationId=inv_150e3f83-e55d-4134-9ca0-a76ddd3728c5&page=DUNIB9E80keZ#

UML snippet :



Used design patterns:

1.

2.

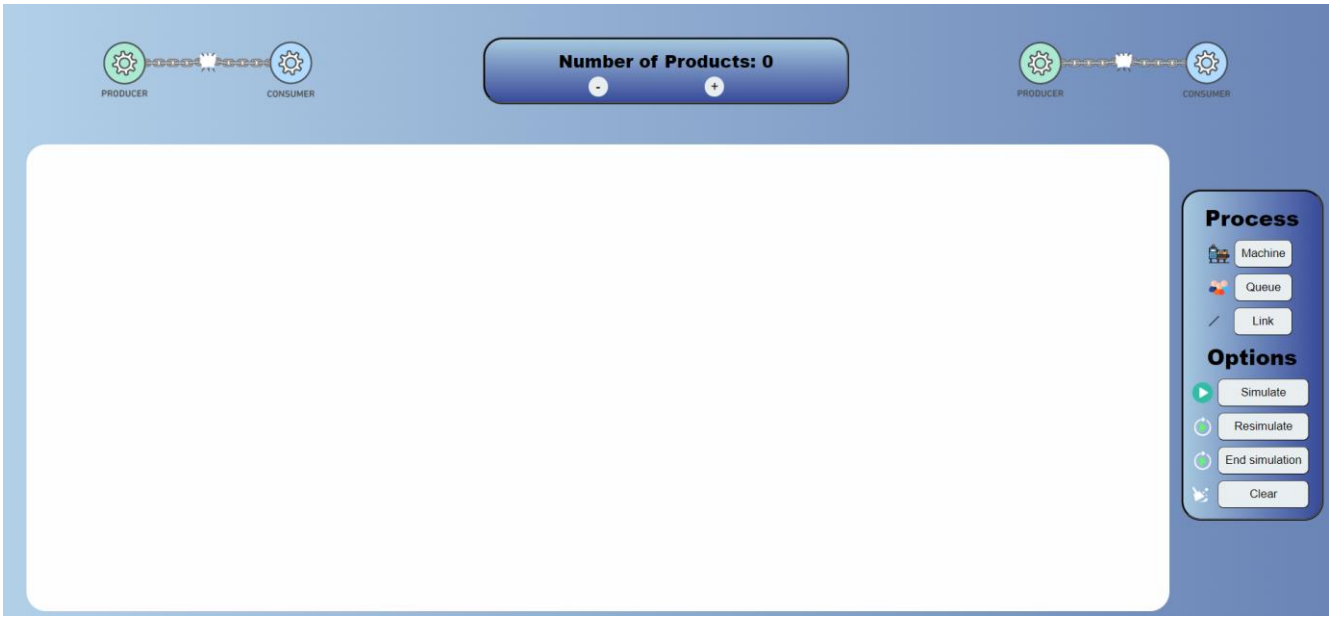
3.

Decisions:

- Using konva library for drawing in front-end.

Ui snippets:

- **Program interface:**



Our simulation program single page is divided into 3 main sections:

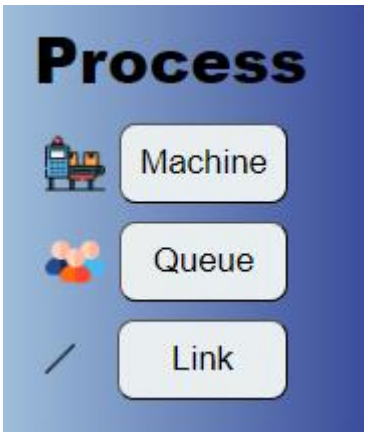
1) **The tool bar which includes:**
1. **Process section:**
    - **Machine (M)**
    - **Queue (Q)**
    - **Link between producer and consumer**
2. **Options section:**
    - **Simulate (to start the simulation)**
    - **Re-Simulate (to replay the recent simulation)**
    - **End Simulation (to stop a simulation)**
    - **Clear all board (to clear all components)**

2) **Header where the user specifies the number of products by the incrementing and decrementing buttons.**

3) **The main board on which we put (Q) & (M) and start simulating.**

User Guide:

- **From the tool bar specifically the "Process Section":**



You can add your machines "consumers" through the "Machine button".

Then, you can add the queues which handle product's movements through the "Queue button".

Finally, link the machines and the queues to produce a queuing network using "Link button".

From the "Options Section", you can:

1. **Start the simulation through “Simulate” button.**
2. **Replay the recent simulation through “Re-Simulate” button.**
3. **Stop the current simulation through “End Simulation” button.**
4. **Clear the board through “Clear” button.**

- **On top of your simulation page, you can decide on the number of products through the incrementing & decrementing buttons.**

- **Your shapes and the whole simulation thing is displayed on the white simulation board.**