Description Breakdown

OOD2

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# Components

1. Pump

* Pumps fuel into pipeline
* Has one output
* Has no input
* Has certain capacity (Max amount of fuel that can leave the pump)
* Has Current flow (the current amount of fuel leaving the pump every time-unit)

1. Splitter

* Has one pipeline as an input
* Has two pipelines as an output
* Always half of incoming fuel leaves via the upper output and half via the lower output

1. Adjustable splitter

* Gives possibility to adjust the percentage fuel that leaves the splitter via the upper output (and the rest leaves via the lower output, of course)

1. Merger

* Has two inputs
* Has one output
* Merges the incoming fuel together

1. Sink

* It is a destination of the fuel
* One input
* No output

1. Pipeline

* Starts at an output of a component
* Ends at an input of a different component
* Has currently flow of fuel
* Has a safety limit – If current flow is exceeding safety limit it is dangerous

# Minimum Requirements

1. It must be possible to add components to a flow network
2. It is not allowed to have components overlapping each other
3. It must be possible to place pipelines between components. A pipeline should be between the output of a component and the input of another component and it has some in-between-points.
4. Every input of a component can be connected with 0 or 1 pipeline
5. Every output of a component can be connected with 0 or 1 pipeline.
6. It must be possible to remove components. When a component is removed, all pipelines connected to that component should be removed too.
7. It must be possible to remove pipelines.
8. It must be possible to change the current flow of a pump. Of course, the current flow cannot exceed its capacity.
9. It must be possible to change the percentage of fuel leaving by the upper output of an adjustable splitter. Of course, this percentage is at least 0% and at most 100%.
10. It must be possible to see the current flow through every pipeline. You should warn the user if it exceeds the safety limit (for instance by using colours: a colour for a safe flow and another colour for the a critical flow (a flow bigger that the safety limit)
11. For every sink it must be possible to see how much fuel will be transported to this sink.
12. It must be possible to store a flow network and it must be possible to use a stored flow network again.

Extra requirements: that's up to you. Negotiate with your teacher.

# Things to be delivered

**All deliverables** should have

* Title, names group members, date, status (second draft?, final version?).
* If it is a document, it should have a table of contents
* The contents itself.

1. **Layout of the User Requirements Specification (the URS)**

1. Table of Contents
2. Introduction
3. Functional Requirements (use-cases)
4. User Interface
5. Non-functional Requirements (other requirements)

**- functional requirements (how should it work?, use cases)  
- user interface (how does it look like on the screen?)  
- non functional requirements (rules, restrictions?)**

2. **Layout of a** **Design document**

1. Table of Contents
2. Introduction
3. Class diagram
4. Description of the classes and their members (for instance, with the three slashes?)
5. Some sequence diagrams

**- class diagram  
- some sequence diagrams  
- a description of the members of the classes (three slashes ///)  
- (database design)**

3. **Implementation of the project**

4. **Process report:**

The process report should consist of two parts: a group-part and for every group-member an individual part.

It should contain at least:

* All understandings made with the fellow group members and with the teacher
* Division of labour amongst the group members: who has accomplished what task; which tasks were carried out as a group; ...
* An explanation of the choices you have made in your program
* The problems you encountered and how your group has solved these problems
* Evaluation, recommendations: everybody's personal view on the assignment and why this project was important for you (what you learned from it).

# Timetable for Deliveries

