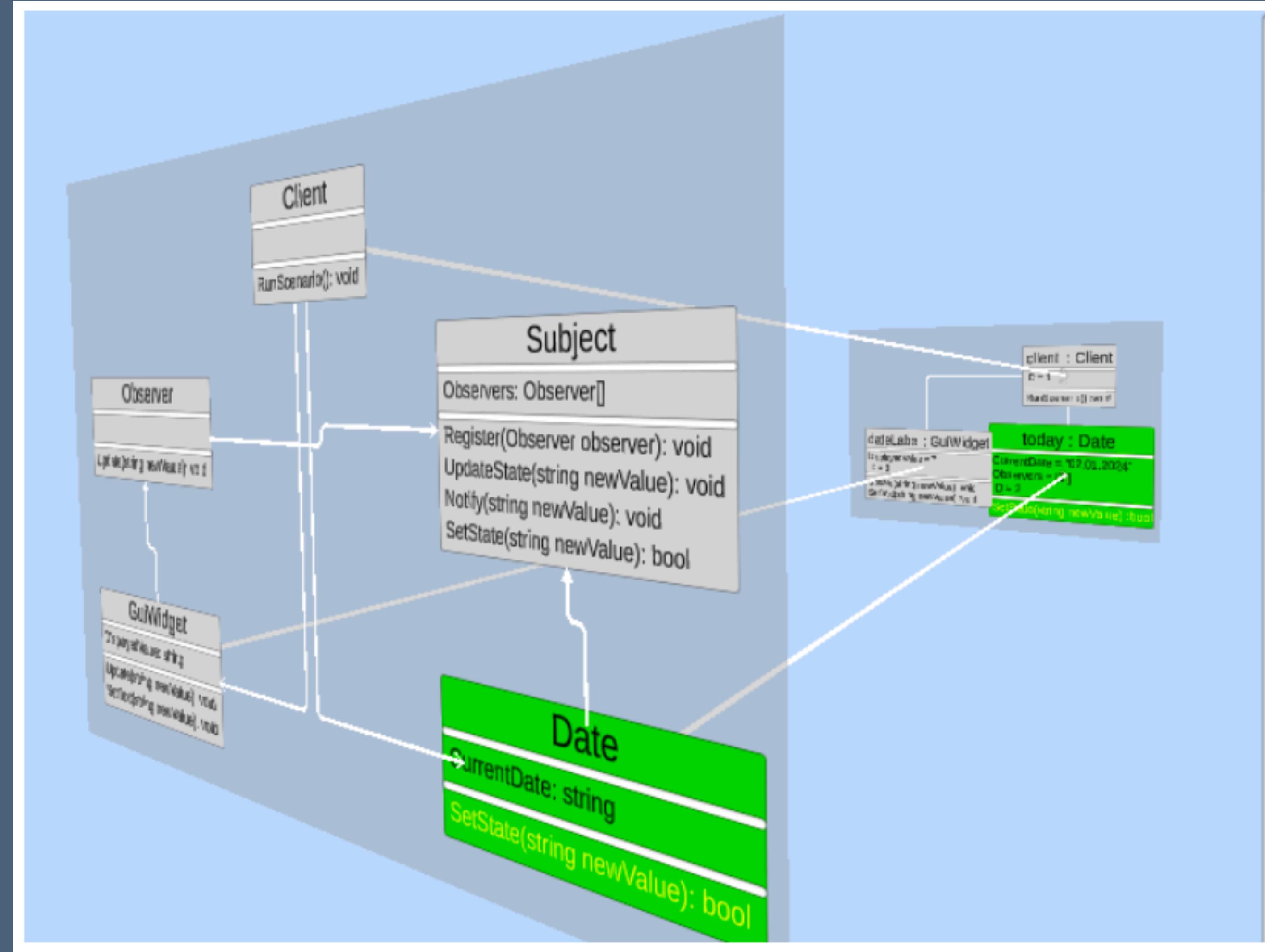


AI-assisted software modelling

Viktor Ovchinnikov

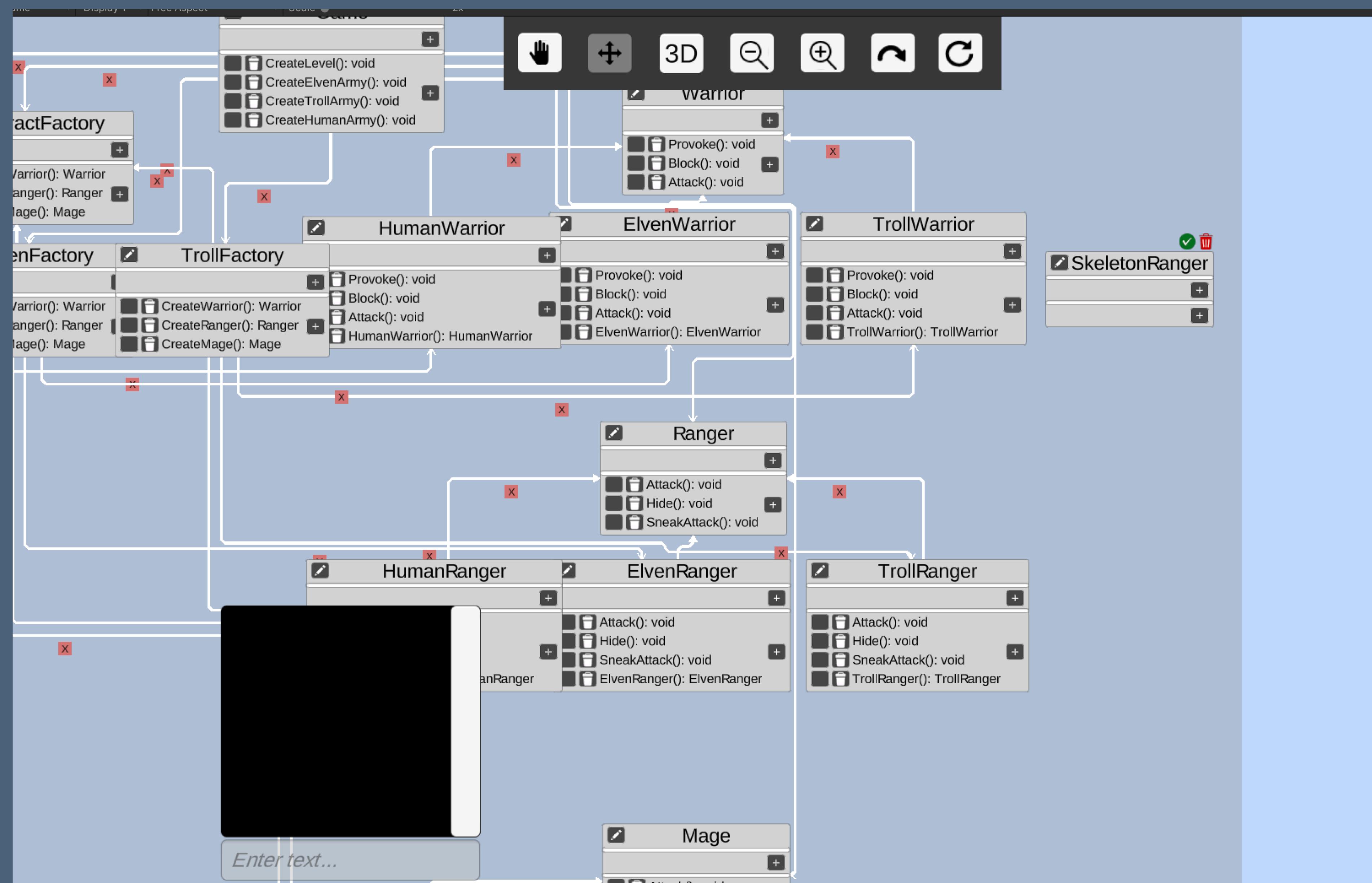
COMENIUS UNIVERSITY IN BRATISLAVA



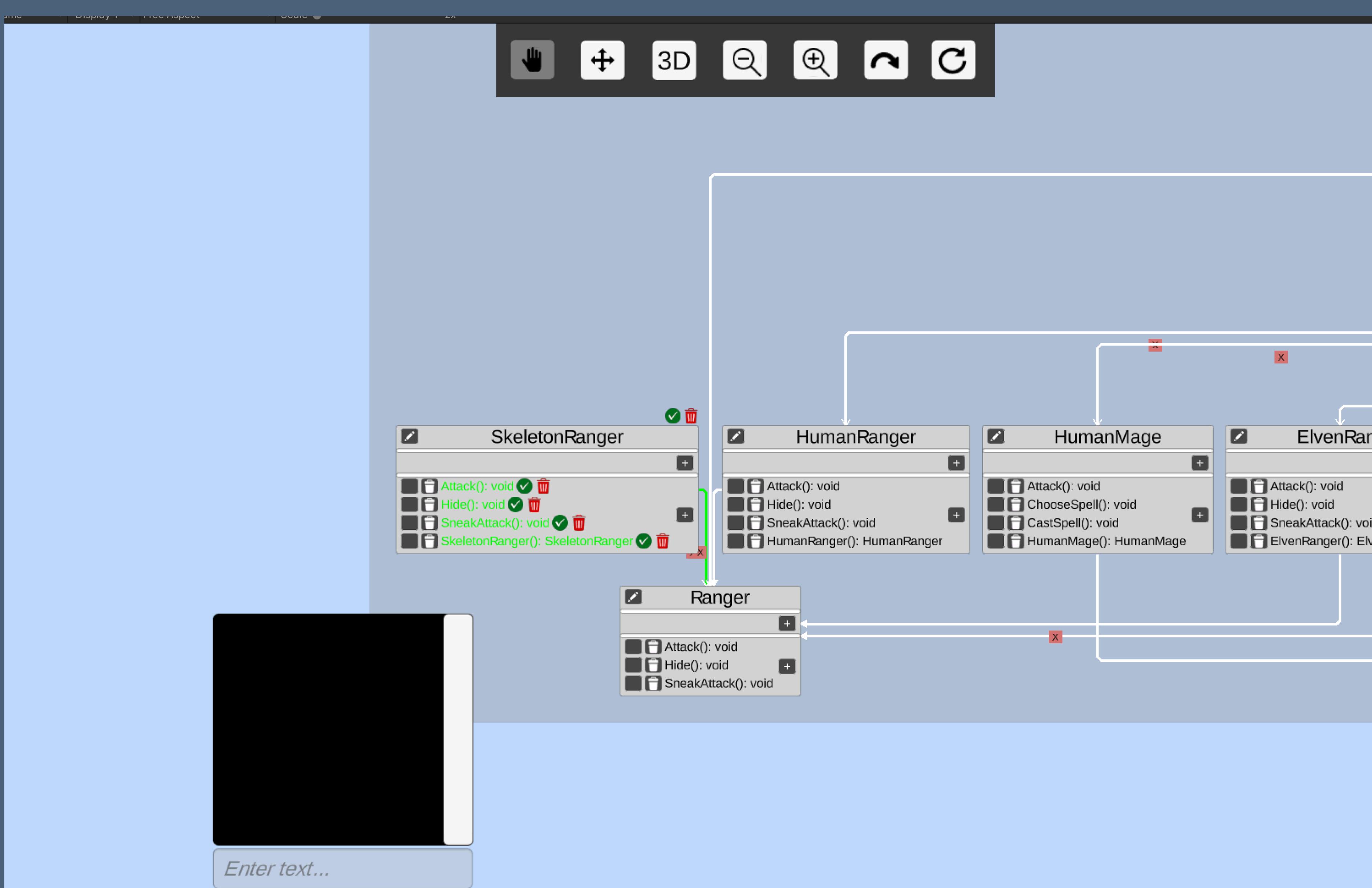
```

valuesNew = self.SetState(newValue);
if (valuesNew)
    self.Notify(newValue);
end if;
    
```

AnimArch. The starting point for creating the suggestions system for the UML class diagram editor.



A new class called `SkeletonRanger` has been added. Model before enabling suggestions mode.



Suggestions were obtained and visualized here. Model after enabling suggestions mode. The proposed methods that LLM has suggested can be viewed in analogy with similar methods from other classes.

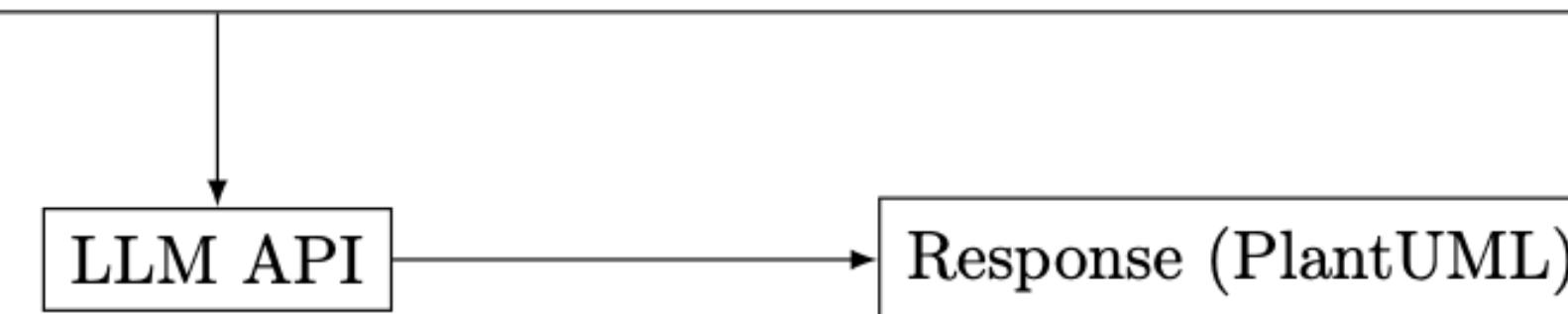
Prompt

Imagine you're an experienced software engineer. You will be given a UML diagram in the form of PlantUML code. Your task is to suggest a couple of small changes that the user would most likely want to make in the next step of their work. The changes don't have to be significant. Your limit on the number of changes: 3. Changes can be such as: - Adding/Removing relations/classes/methods or class attributes - Changing the name of a class/method/attribute Your answer should contain only PlantUML code. (starting with the @startuml tag and ending with @enduml). Your answer should contain not only the changes, but simply all the code you received with your changes. The PlantUML code is provided below:

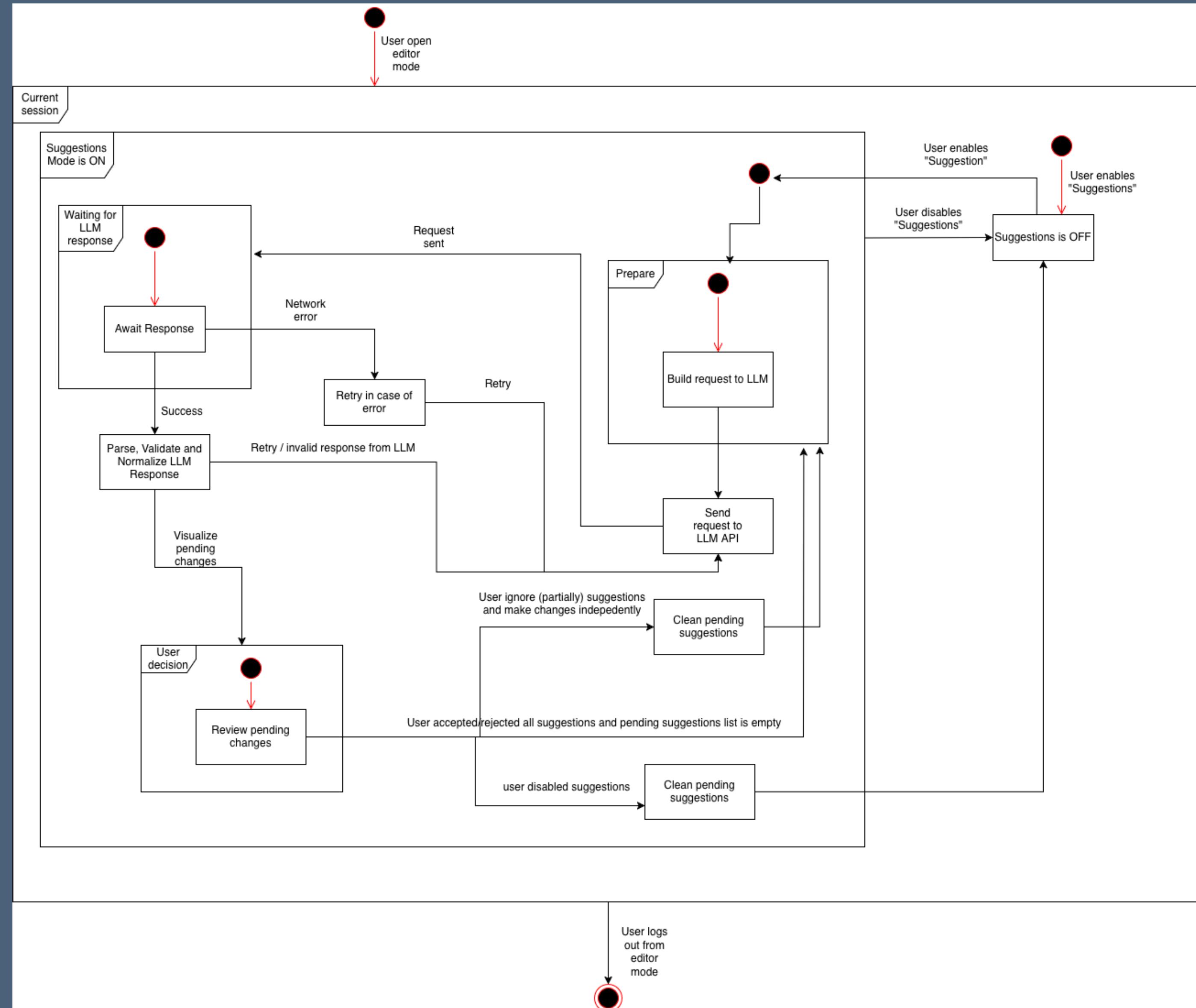
Here is PlantUML code

Also you have a history of recent changes performed by user bellow:

Here is recent changes history in JSON format



Detailed prompt used in the system.



The state diagram shows the entire cycle of the suggestion mode in the editor.

Future work

- Assess the quality of the suggestions provided.
- Improve the quality of the suggestions provided.
- Reduce variability in the suggestions provided.
- Improve the user experience when working with the suggestion system.
- Reduce the delay when waiting for a response from the LLM.

Thank you for your attention