

Vorlage UML, Betriebssysteme und Rechnernetze

Clarissa Röhrdanz, Jannes Schareitz & Paul Kruse

26.05.2020

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1 1st Assignment

A creature from outer space has conquered a space ship and has reached the earth. As it has 100 years of live remaining its goal is to replicate itself. Analyzing the climate on earth it concludes that it has to increase earth's average surface temperature by 5 degree. Researching the data base of the space ship it finds that the Global Warming Potential of N_2O is highest and therefore discovers the easiest way to achieve its global warming goal to be the increase of dairy, beef, poultry and pork production on earth. This it supposes will lead to land degradation which is one of the main contributors for global warming.

2 2nd Assignment

2.1 Use case land degradation

Table 1: **Mains Success Scenario** for Land degradation

Degradade Land	
Main Success Scenario:	
	1. destroy forrest
	2. drain pleatlands
	3. create soil
	4. use soil as pasture
	5. use soil as croplands
	6. intesive use of soil
	7. ploughing up grasslands
	8. changing pasture to croplands
	9. Loss of soil organic carbon
Extensions	
	9.a. soil is lost:
	1. carbon oxide is released
	2. nitrous oxide is released
	3. methane is released

The above table shows the Main Success Scenario (MSS) for Land degradation. The figure 1 below shows the use case diagram created from this scenario. The creature from out framework raises demand for dairy, poultry and other animal based nutrients thus affecting the food industry. The demand is directly handed to the farmer who produces these goods. As he can not satisfy the rising demand with his current ressources a demand arises for more soil. Handed to the Drainer and the Forester these actors in turn take actions which lead to more soil. These actions are represented by use cases in the Land Degradation system. The farne too takes actions he uses its ressources, namely the soil, for two food generating activities: as pasture and as croplands. This use of soil leads to its loss which in tun leads to GHG releases.

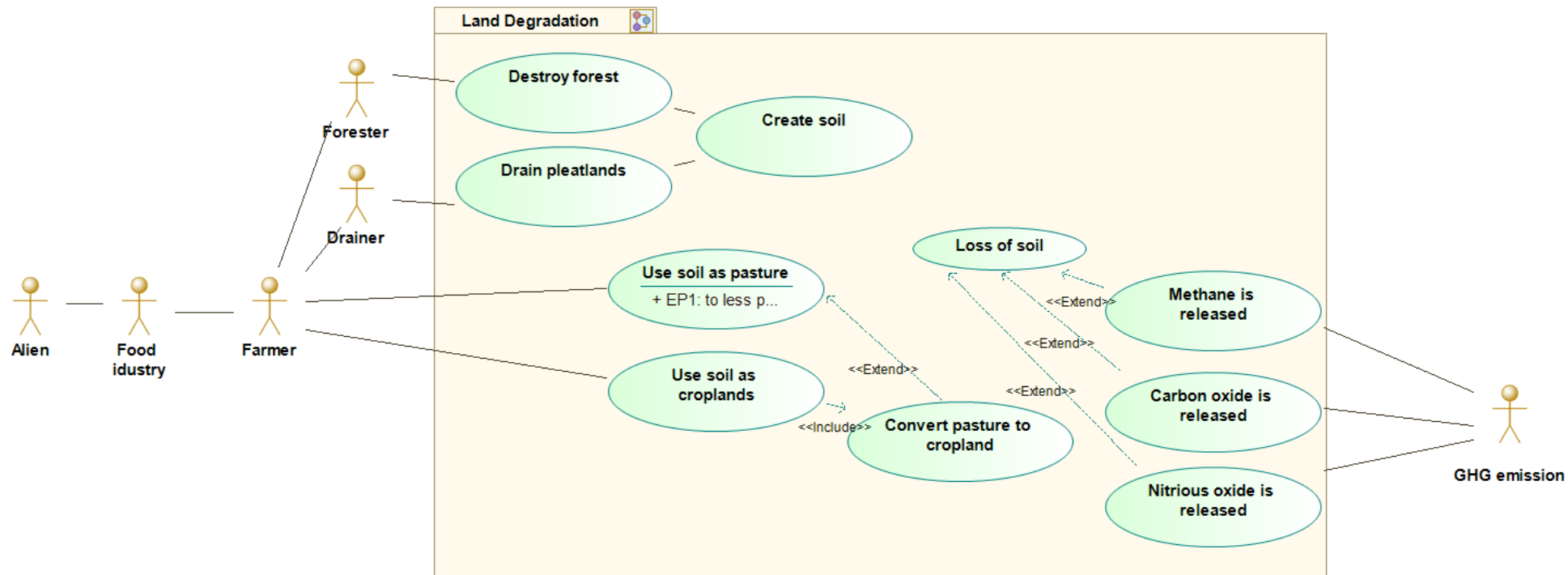


Figure 1: Role of land degradation in GHG emission

3 3rd Assignment

3.1 3A

3.2 3B

3.3 3T

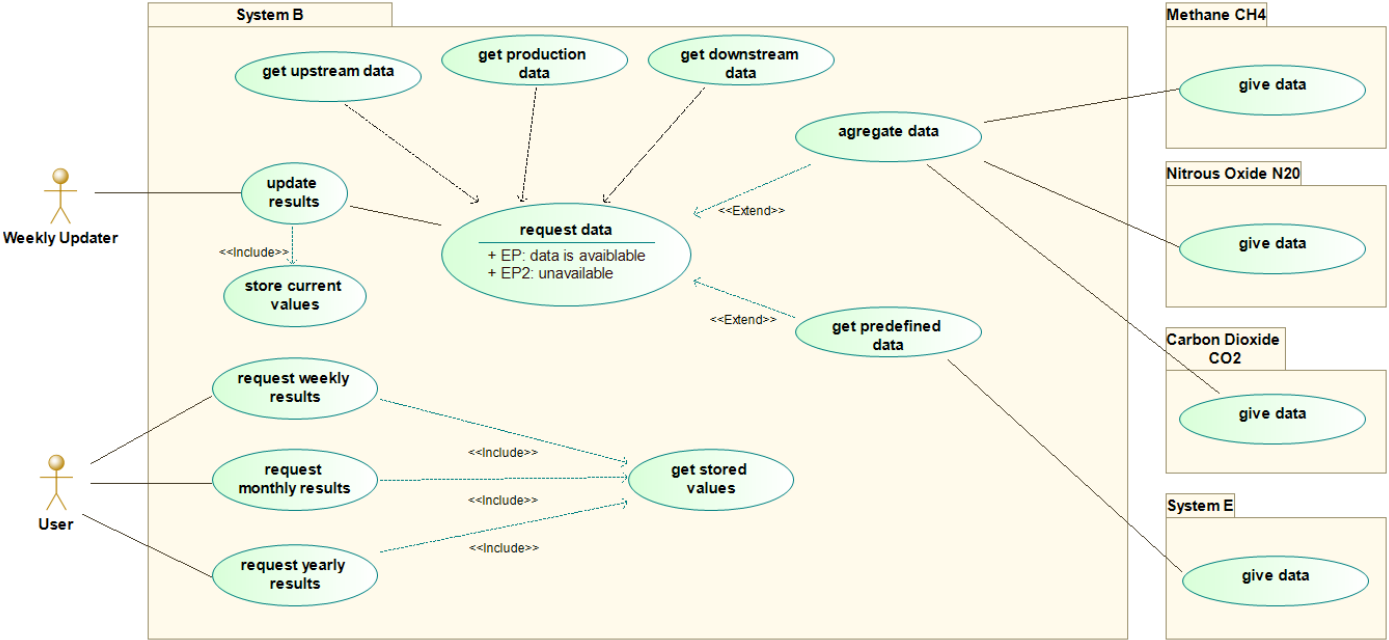


Figure 2: System B aggregating data

4 4th Assignment

4.1 4A

4.2 4B

There are two expansion regions in this activity diagram. The first was chosen as parallel because for every kind of green house gas the requests can be executed at the same time. These data is collected from different systems. In each such system there is data from different ressources. These are collected iteratively or each GHG production stream. Thus I chose the iterative type of expansion.

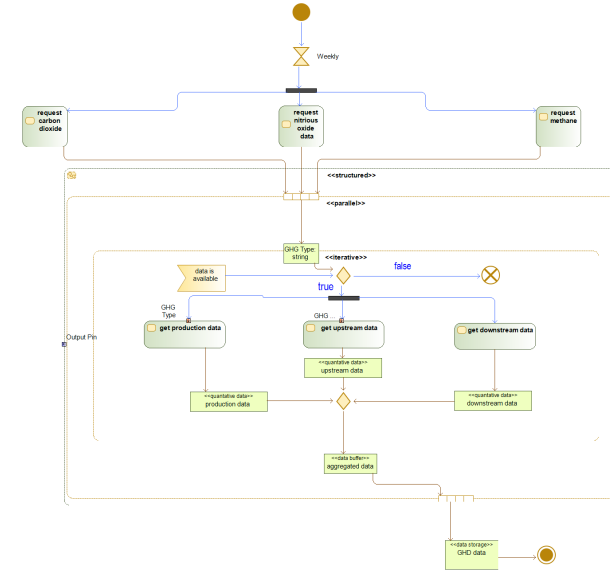


Figure x: Activity diagram for UC aggregate data (3B)

4.3 4T

5 Erklärung

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