**Group 6 transcript summary**

**Context view**

Relevant entities (21m2):

* Create a map
* Traffic timing scheme
* Program
* Appearnance
* Traffic simulation (10m4)
  + Queuing theory (12m18)
  + Additional functionality through existing software packages (10m25). Lets call it mathematical functionality (12m11)

Environment:

* Part of some civil engineering course (12m52)
  + Counter argument: its not created for the civil engineer student (13m11)
    - Counter: Yes it is. It says it is a particularly challenging subject for the student (13m30)

Stakeholder: student (14m46)

* Tool should be easy to use and support multiple alternative approaches (53m51)
* Creates a visual map of an area (15m25)
* Edit a map (15m25)
* Simulate (16m9)
  + Counter argument: the user does not simulate, the software is simulating (16m11)
  + Right (16m15)
* In the context of creating a map there are activities like:
* create a road (17m39)
* ~~create a car (17m45).~~ Specify the number of cars (19m59)
  + Counter argument: Students are only busy with roads and traffic lights, and not cars as entities
    - Counter argument: you need a model of how cars will flow evenly through the intersections, so you still need an entity that will flow through the simulation to show that you've actually done something (18m7)
      * Counter argument: the specification doesn't state whether the system will do this for you or the uyser does this.
        + Counter argument: I think it does, for instance you may choose to depict individual cars or to use a more abstract representation. The easiest way would be to just create a car. **You want to use to be able to specify something like "I want 50 cars on two roads"**
* Create or set light timing (19m16)

**Functional view**

Create map:

1. Create ~~visual map~~ road pattern (24m28)

* Counter argument: the first action should be to choose a pattern (24m36)
  + Counter argument: I'm not sure if they mean that. I don't know what you mean by pattern in this case. I thought just pick roads, varying sizes, and like, broads of roads (25m7)
    - Counter argument: You would have them provide a different type of road, so perhaps it should be called a pattern preference (25m38)
      * Counter-argument: it is still not clear to me, what kind of pattern?
        + Counter argument: **A road pattern** (25m48) Yes, maybe its a one sided road for example (25m50) That makes sense (26m2) Ok so then we agree on that one (26m8)

1. Create road (24m28)
2. Specify ~~a few numbers~~ (24m28) road characteristics (27m50)
3. Set up light timing (24m28). This gives you two options: Sequence and timing schemes (30m23). We assume correct timing constraints are all handled here (31m45)

Visualization (24m36

* Simulate traffic flow (39m11)
* Display in some sort of UI (40m05) GUI (40m7).
* Once it displays there are play, pause and stop options (40m7)
* Lets say media player functionality (40m31)
  + Counter-argument: Why do you need a media player, there is one on every computer already (41m24)
    - Counter argument: I just mean a player with pause play and stop integrated into the GUI (41m53)
* With export option (40m31)
* Visualize all the cars (42m55)
  + Counter argument: Why? (44m2)
    - I have no idea. What would be the higher abstraction? (44m8) I don't know (44m13)
* Update colors on light (43m31)
* Option: specify traffic density in two options: busy road or seldomly used road (45m27)
  + Counter argument: Any variation in between, so we have to give more options. (46m4) Use an integer (46m37)
* Options: number of cars, density of cars, and average speed (47m03)
  + Counter argument: Density is the same as number of cars (48m23). Conclusion**: Options are number of cars and average speed.**
* Refinement: What if we use number of cars per intersection. (48m44)
  + Counter argument: that's too detailed (49m03)
* Another option: type of cars, you could have trucks as well (49m22). Using some percentage (49m52)
* Another option: select size and weight of car (51m12)
  + Counter argument: this shouldnt be something the students have to care about (52m29). **Conclusion: Just specify vehicle: big truck, small truck, small car, etc.**
* User can specify a simulation default option for car types as well (55m14)
* Option to go back to map specification and change it (56m55)

After creating the map there is a step where the system analyzes the map for errors (56m45). A validator (59m31) The validator should be external (1h1m50)

* Counter argument: **Validator functionality is internal, but it uses external libraries** (1h2m42) the information would be gathered externally (1h2m55)
  + Counter-argument: the validator is outside the UCI, it's external here (1h3m19)
    - Counter argument: No no, it's internal. Vaidator would be internal as part of the simulation (1h3m23)

There also should be a car database (1h0m55)

Physics laws could also be external (1h1m46)

Traffic laws (1h1m48