GRACeFUL DSL+CFP work sprint at Chalmers

Dates: **2016-12-15/16**

Admin contact: Lotta Kegel

Venue

EDIT-8103, CSE department, Campus Johanneberg, Chalmers U. of Tech.

Street address: Rännvägen 6B, 412 58 Göteborg, Sweden

Hotel recommendations: Panorama, Onyxen

Goals

- Prio 1: Prepare D4.2 (due 2017-01-31): "DSL for description of concept maps, with formal semantics (m24)"
- Prio 2: Prepare D4.3 (due 2017-07-30): "Translation of concept map descriptions to system dynamics models for the CFP layer (m30)"
- Prio 2: Improve collaboration between the DSL and CFP work packages
- Prio 3: Initial work for D4.4 (due 2018-01-31): "Testing and verification framework for RATs with applications to the CRUD case study (m36)"

Agenda

List of topics

- Introduce the state of the DSL
    - Introduce the `GenericLibrary`
    - The connection between `GraphDSL` and `GenericLibrary`
    - The connection between `HaskelZinc` and `GenericLibrary`
- Semantics
    - Translating concepts from `GenericLibrary` to `MiniZinc` (inspired by `CLOCWISe`)
    - Semantics of Causal Loop Diagrams
    - Using "Qualitative Probabilistic Networks"
    - Using "Difference equations"
- Specification and testing
    - Make sure important properties are checked using property based tests
    - Document results (in preparation of deliverable D4.2 + future research papers)
    - Property based testing of semantic preservation between software layers

Schedule

- 2016-12-15:
    - 09.00: Welcome by Patrik (including "fika")
        * The current state of the DSL (introduction of 'Generic Library').
        * presentation by Oskar + Maximilian
    - 12.00: lunch
    - 13.15: Translating concepts from `GenericLibrary` to `MiniZinc`.
    - 15.00: fika
    - 15.30: Semantics of CLDs.
        * presentation by Sólrún
    - 17.00: end of day one
    - 19.00: workshop dinner at Restaurant Kraków
- 2016-12-16
    - 09.00: Specification and testing
        * presentation by Björn: QuickCheck + property based testing of the DSL.
        * parallell sessions: semantics, synergies, output parsing, units, qualitative modelling
    - 12.20: lunch
    - 13.30: session 5
        * All: reporting from the parallel sessions 11-12
    - 15.00: fika
    - 15.30: session 6
        * Patrik: property based testing tutorial, reporting
    - 17.00: end of the work sprint

Participants:

- UPC: Tom Creemers (arrival: Wed, departure: Fri afternoon)
- Mines-Nantes: Nicolas Beldiceanu (arrival Wed, leave Sat)
- Mines-Nantes: Ekaterina Arafailova (arrival Wed, leave Sat afternoon)
- KULeuven: Klara Marntirosian (arrival Wed, leave Sat afternoon)
- Chalmers: Sólrún Einarsdóttir
- Chalmers: Patrik Jansson (except for Th. 12-15)
- Chalmers: Oskar Abrahamsson
- Chalmers: Maximilian Algehed
- Chalmers: Björn Norgren
- Chalmers: Alex Gerdes (except for Th. 10-12)