

## Key Facts and Research gap

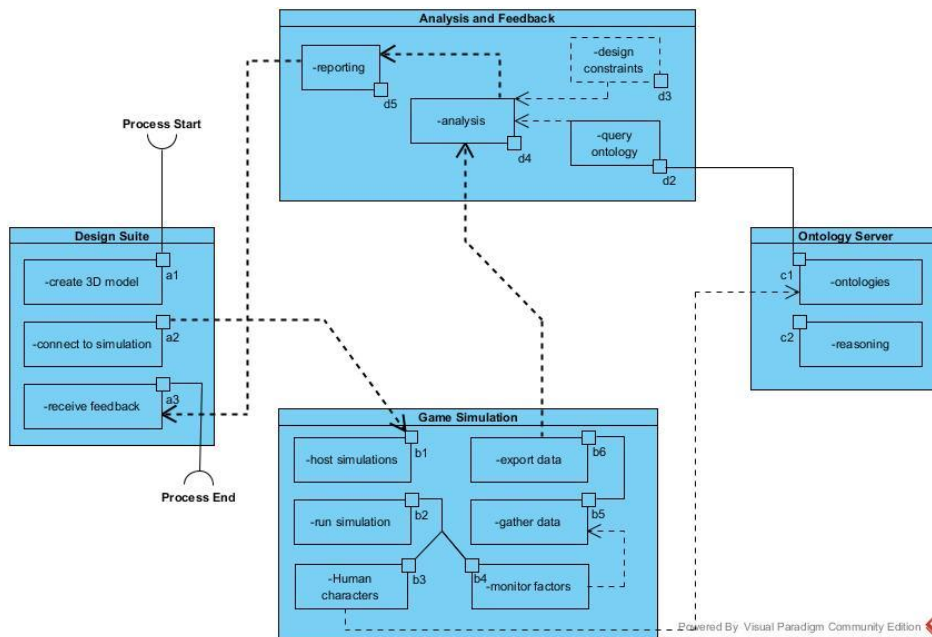
- Building simulations can be time consuming and conclusions are often made on observations (Tang and Ren 2012)
- Human behaviour in fire emergency is hard to predict (Schatz et al. 2014)
- Integration with the BIM concept does not provide relevant or automatic feedback to the BIM design stage

## Research Aim

- Develop a system which captures data about fire simulation
- Use the data for ontology reasoning and design analysis
- Provide automatic relevant feedback information to aid the decision making process in design stages

## Overarching Research Questions

- 1) In what way can an ontology-based fire evacuation simulation provide meaningful feedback to the design process stage?
- 2) What are the factors which influence the feedback results and how can they be captured by the proposed system?
- 3) How are the monitored factors considered and in what way can they provide relevant information to designers?



## Research Approach (Methodology)

- Using the developed virtual game environment to run and monitor simulations
- Certain factors/events are monitored during scenario simulation which is to be used for analysis
- A methodology is being developed for using the gathered data in order to provide relevant feedback about fire human behaviour simulations into design stage
- System testing based on a simulation scenario in a design context for validation

## Research outputs

- Automatic feedback to design stage for decision making
- Help designers quantify and measure factors which are out of their area of expertise

Human behavior knowledge processing based on large scale computer games simulation for holistic design

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