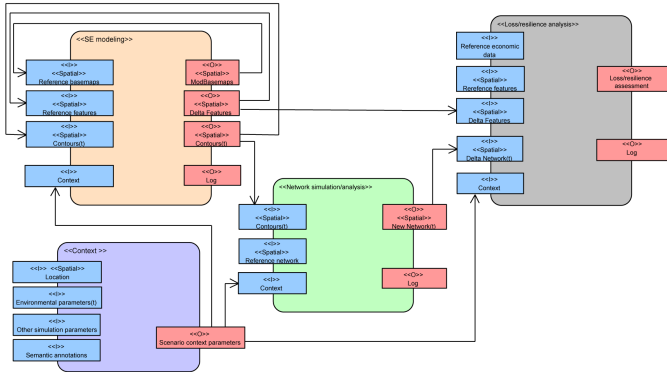


Επίπεδο Level	Εργασία ΔΠΜΣ "Γεωπληροφορική"
Θεματική περιοχή Topic	Διαλειτουργικότητα χωρικών δεδομένων και εφαρμογών
Επιβλέπων μέλος ΔΕΠ Supervisor	Β.Βεσκούκης
Συνεργάτης Advisor	Α.Βιτωράτος, υ.δ.
Τίτλος Thesis title	Αρχιτεκτονική εφαρμογών και μοντελοποίηση χωρικών δεδομένων διαχείρισης φυσικών καταστροφών και αλυσιδωτών φαινομένων Application architecture and spatial data modeling for natural disaster management and cascading effects
Περίληψη Abstract	 <p>The increasing frequency and severity of natural disasters calls for advanced applications to support decisions in planning, emergency response and recovery. Geo-spatial data that need to be analyzed in this process, comes from heterogeneous sources in a variety of formats and is processed using methods from different disciplines. Usually, researchers involved in risk analysis use data and methodologies to produce results within the scope and terminology of their own discipline. In order to represent cascading effects related to multi-hazard risks, we need to take into account the multiple dependencies among systems, structures, networks and activities. To facilitate this, we need a common application-agnostic information system infrastructure that integrates all kinds of relevant data and computational services, in a way that makes them available to any discipline in a context of shared scenarios. The output of any computational or data analysis activity in a certain discipline, must be accessible by researchers in any other discipline, to further analyze the effects of risks from other viewpoints, create models for cascading effects, and improve preparedness and loss assessment to support informed decisions by policy makers.</p> <p>The objective of this thesis is to study specific aspects of data and service interoperability in selected cases to support the coordination of inter-disciplinary work in loss assessment and planning of emergency response. The deliverable will be an information system architecture, specification and partial implementation to support representation and inter-disciplinary collaboration in cascading effects scenarios for selected hazards and networks.</p>
Προαπαιτούμενες γνώσεις Prerequisites	Προγραμματισμός σε python, προγραμματισμός QGIS με python, μια χωρική βάση δεδομένων, HTML, php, openlayers ή συναφείς τεχνολογίες.
Σχόλια / αναφορές Comments / references	Επαρκής γνώση και εμπειρία άλλων γλωσσών προγραμματισμού μπορεί να διευκολύνει τη συμπλήρωση προαπαιτήσεων πχ python.
Ομαδική εργασία Team work	-