Description of the task

You have to construct a language for the **modelling of processes to issue visas** according to the American regulation that we have called IWML. The language will include elements showing the variety of offices, concepts from the domain of immigration, agents involved in the process and generic elements of workflow languages. For that purpose, you will receive a set of resources taken from: (*i*) the Object Management Group (OMG)[1]; (*ii*) the ATL zoo (`http://web.emn.fr/x-info/atlanmod/`); (*iii*) Ecore files available on the OMG repository with standard meta-models, such as BMM, BPMN, CMMN, DMN, SBVR and SPEM; (*iv*) Open resources taken from the U.S. Open Data Portal (`https://www.data.gov/`); and (*v*) US e-Government domain ontologies (`http://www.oegov.us/`).

The language must include agents, such as the different government agencies involved in the process of issuing a visa, specific kind of task for configuring immigration-related processes, and the artefacts needed by these. For example, when a user starts with the application process, an application form has to be completed and a date for an interview with the US Department of Home Security (DHS) selected. Once the interview with the user is performed, the US Department of State (DOS) receives a notification to validate the data provided. After completing the application, the medical service must receive a notification to perform a medical examination of the user. If the medical examination and the interview with the DHS are passed and validated by the DOS, the visa is issued. Depending on the characteristics of the applicant various types of visa can be issued.

As the objective of IWML is to describe immigration workflows, the language should contain generic primitives for their definition, like gateways, events or tasks. These may need to be refined to include domain-specific concepts, as you consider necessary.

You will receive the 4.5.2 (Mars.2) version of the Eclipse IDE[2] with the Eclipse Modelling Tools package that has been installed in a virtual machine running Windows 7. In addition, we have installed **Extremo**, a tool for modelling and meta-modelling assistance. **Extremo** gathers heterogeneous information sources and represents them uniformly in a common repository. This enables their uniform querying and constraint evaluation. In addition, **Extremo** has functionalities to incorporate the query results into the meta-model being built.

In addition, you can use the web navigator Microsoft Edge to look for information and get familiar with the concepts of the domain. You can find all the information about the domain at the webpage of the US Department of State (`https://travel.state.gov/content/travel/en/us-visas.html`).

Task to perform

Build a meta-model describing the domain using the Ecore Model Editor. The meta-model is expected to be as complete as possible regarding the types of agents, tasks, artefacts, events and control primitives to describe immigration processes.

Submit your solution sending an email to **Angel.MoraS@uam.es** with the file in ".ecore" format.

Answer the questions you will find in the General Questionnaire and the Specific Questionnaire and give both questionnaires to the research staff.

[1] The OMG is the standarization body behind many modelling standards such as UML, SysML, MOF or BPMN.
[2] `http://www.eclipse.org/downloads/packages/release/Mars/2`