

# Knowledge Graph Engineering National University of Mongolia Projects 2024

Knowdive Research Group

March 4, 2024

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## iTelos Active Roles

The efficiency of an iTelos project is based on the **effort** and the **cooperation** among the different actors who play on it.

The roles covered by those actors are four:

- **Project Manager (PM)**: in charge of coordinating the whole projects, as well as the cooperation among the other roles.
- **Domain Expert (DE)**: most of the time represented by the final user, she is the expert regarding the domain of interest (context in which the final K will be exploited).
- **Knowledge Engineer (KE)**: responsible for the management of knowledge resources (KG's knowledge layer building).
- **Data Scientist (DS)**: responsible for the management of data resources (KG's data layer building).

## iTelos Active Roles

- PM, DE, DS and KE form a iTelos project's *Team*.
- DS and KE are the most important roles along the process, and due to that, **they must be covered by, at least, two different people**.
- This means that the Team have to be composed by at least two actors, that in the worst case will cover all the four roles.

## iTelos Project Planning

Role	Task	Purpose Definition		Information Gathering		Language Definition		Knowledge Definition		Data Definition		Publication and Presentation	
		Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13		
Project Manager	Coordination												
	Project report (general management)												
	Open project phase - set up												
	Project publication phase												
	Project presentation												
Domain Expert	Purpose Definition phase												
	Information Gathering (IG) phase												
	Project report (IG)												
	KG final evaluation												
	Project report (final)												
	Project Demo												
Knowledge Engineer	Knowledge metadata definition												
	Purpose Definition phase												
	Information Gathering phase												
	Project report (IG)												
	Language Definition (LD) phase												
	Project report (LD)												
	Knowledge Definition (KD) phase												
	Project report (KD)												
	Data Definition (DD) phase												
Data Scientist	Project report (DD)												
	Data metadata definition												
	Purpose Definition phase												
	Information Gathering (IG) phase												
	Project report (IG)												
	Language Definition (LD) phase												
	Project report (LD)												
	Knowledge Definition (KD) phase												
	Project report (KD)												
	Data Definition (DD) phase												
	Project report (DD)												

## iTelos Project set-up

- Each iTelos project needs a specific **repository**, where the resources (Language, Knowledge, Data and Metadata) are maintained during the process execution.
  - such a repository can be cloned by a [github template repository](#).
- **Documentation** is a crucial part during the execution of the iTelos process.
- A **project report** has to be completed at the end of the process execution.
  - At the end of each phase, a [report template document](#) has to be filled, by reporting the execution of the current phase activities.
- At the end of the project, a **set of slides summarizing the work done** needs to be produced and stored in the repository together with the project report, into the dedicated "Documentation" directory.

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## 1 - Geo data

- **Purpose:** Create an Entity Base containing high quality, interoperable and reusable data about different contexts, and domain of interests, for the Mongolian country and culture.
- **Objective:** Collect data about geographical entities (mountains, rivers, lakes, . . . ) around UB city, or relevant to your interests. Create the Language, Knowledge and KGs resources for those entities, with the objective of facilitating the reuse of those information.

**Data sources:** OSM and HOT.

**Reference Knowledge:** [https://wiki.openstreetmap.org/wiki/Map\\_features](https://wiki.openstreetmap.org/wiki/Map_features)



## 2 - Transportation Facilities data

- **Purpose:** Create an Entity Base containing high quality, interoperable and reusable data about different contexts, and domain of interests, for the Mongolian country and culture.
- **Objective:** Collect data about geographical entities for transportation (railways stations, bus stations, stops, ...) around UB city, or relevant to your interests. Create the Language, Knowledge and KGs resources for those entities, with the objective of facilitating the reuse of those information.

**Data sources:** OSM and HOT.

**Reference Knowledge:** [https://wiki.openstreetmap.org/wiki/Map\\_features](https://wiki.openstreetmap.org/wiki/Map_features)

### 3 - Education Facilities data

- **Purpose:** Create an Entity Base containing high quality, interoperable and reusable data about different contexts, and domain of interests, for the Mongolian country and culture.
- **Objective:** Collect data about geographical entities for education (universities, schools, libraries, ...) around UB city, or relevant to your interests. Create the Language, Knowledge and KGs resources for those entities, with the objective of facilitating the reuse of those information.

**Data sources:** OSM and HOT.

**Reference Knowledge:** [https://wiki.openstreetmap.org/wiki/Map\\_features](https://wiki.openstreetmap.org/wiki/Map_features)

## 4 - Health Facilities data

- **Purpose:** Create an Entity Base containing high quality, interoperable and reusable data about different contexts, and domain of interests, for the Mongolian country and culture.
- **Objective:** Collect data about geographical entities for healthcare (Hospital, pharmacies, . . . ) around UB city, or relevant to your interests. Create the Language, Knowledge and KGs resources for those entities, with the objective of facilitating the reuse of those information.

**Data sources:** OSM and HOT.

**Reference Knowledge:** [https://wiki.openstreetmap.org/wiki/Map\\_features](https://wiki.openstreetmap.org/wiki/Map_features)

## 5 - Train network data

- **Purpose:** Create an Entity Base containing high quality, interoperable and reusable data about different contexts, and domain of interests, for the Mongolian country and culture.
- **Objective:** Collect data about transportation entities regarding the train network system in Mongolia (cross country, between different cities). The train network connections link different geographical entities that can be reused from other projects (see above). Create the Language, Knowledge and KGs resources for those entities, with the objective of facilitating the reuse of those information.

**Data sources:** OSM and HOT.

**Reference Knowledge:** [https://wiki.openstreetmap.org/wiki/Map\\_features](https://wiki.openstreetmap.org/wiki/Map_features)

## 6 - Bus network data

- **Purpose:** Create an Entity Base containing high quality, interoperable and reusable data about different contexts, and domain of interests, for the Mongolian country and culture.
- **Objective:** Collect data about transportation entities regarding the bus network system in UB city, and intercity. The bus network connections link different geographical entities that can be reused from other projects (see above). Create the Language, Knowledge and KGs resources for those entities, with the objective of facilitating the reuse of those information.

**Data sources:** OSM and HOT.

**Reference Knowledge:** [https://wiki.openstreetmap.org/wiki/Map\\_features](https://wiki.openstreetmap.org/wiki/Map_features)

## 7 - Streets network data

- **Purpose:** Create an Entity Base containing high quality, interoperable and reusable data about different contexts, and domain of interests, for the Mongolian country and culture.
- **Objective:** Collect data about streets (connecting the most important facilities for the city or for your interests) in UB city (integration of non mapped streets on OSM). The street network connections link different geographical entities that can be reused from other projects (see above). Create the Language, Knowledge and KGs resources for those entities, with the objective of facilitating the reuse of those information.

**Data sources:** OSM and HOT.

**Reference Knowledge:** [https://wiki.openstreetmap.org/wiki/Map\\_features](https://wiki.openstreetmap.org/wiki/Map_features)