

LINKSFOUNDATION.COM

Applied Data Science Project

L5 - Data Science project pillars

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**Politecnico
di Torino**



e l i a s
European Laboratory for Learning and Intelligent Systems

Pillars

Design

Manage

Develop

Communicate



Design

Pillar 1

A project design starts with the definition of the **objective**, **outcome** and **output**

An **output** is a software program, or a training material, or a workshop or a stroller

An **outcome** is the difference that the output makes if compared with the existing situation, for instance the software program helps the team to work faster, the stroller to keep a baby calm and relaxed

An **objective** is the the description of a goal, for instance lowering poverty or increasing societal inclusion





Design

Pillar 1

The design involves the identification of personas

A persona is a fictional character utilized to represent a user type that will use the product or the solution being generated

A fictional character has both **needs** and **frustrations** and requires **tools** to address a situation



Design

Pillar 1

The image shows a design template for three personas, arranged horizontally. Each persona is represented by a circular icon and a list of five horizontal bars representing text.

- Persona One:** The icon is a man in a suit and tie, set against an orange background. Below the icon are five horizontal bars of varying lengths.
- Persona Two:** The icon is a woman with her hair in a bun, wearing an orange top, set against a teal background. Below the icon are five horizontal bars of varying lengths.
- Persona Three:** The icon is a man with short dark hair, wearing a red shirt, set against an orange background. Below the icon are five horizontal bars of varying lengths.

Needs of the fictional characters are translated into requirements of the product or solution

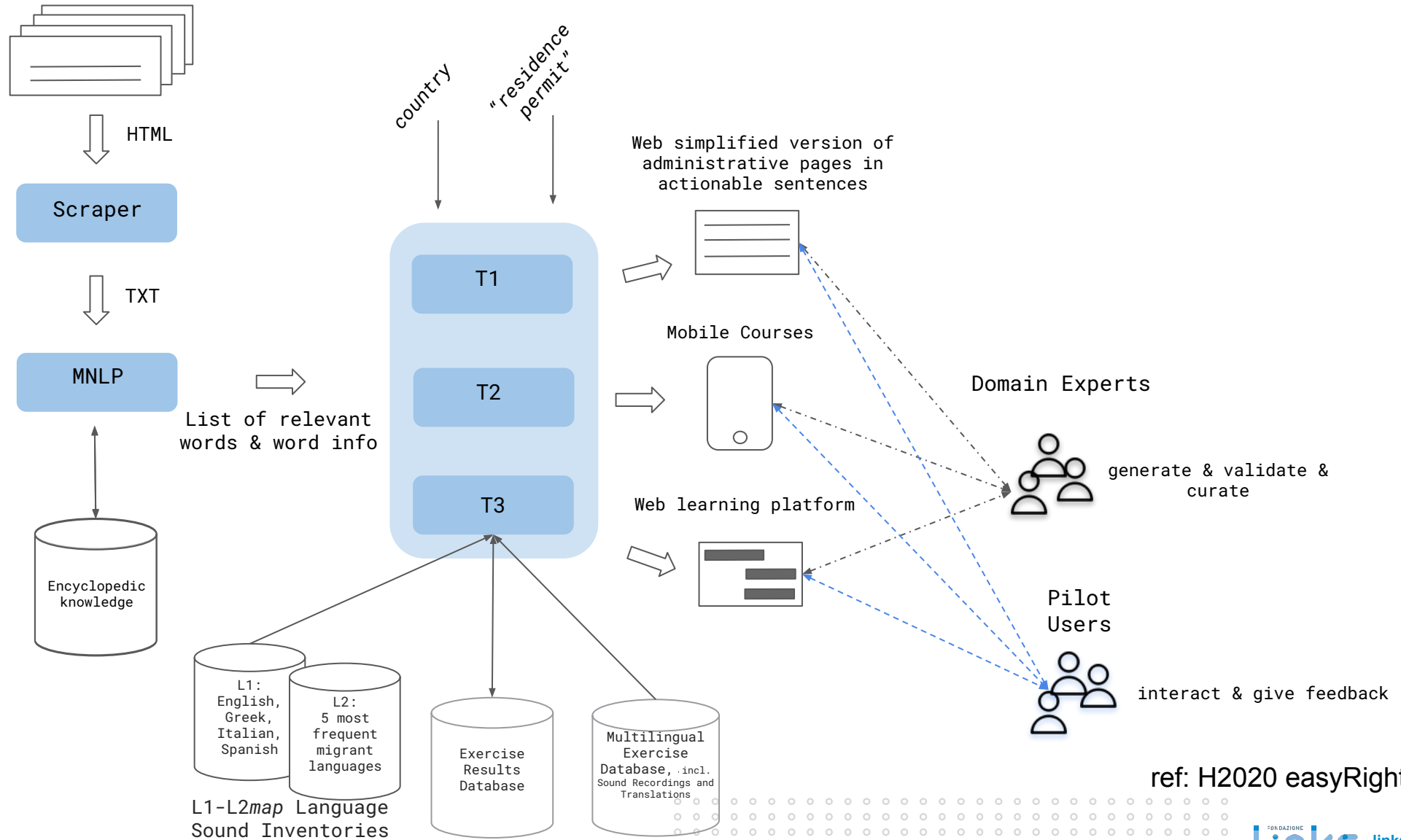
No.	Requirement	Notes	Category
1	Students should be able to use a live chatbox functionality to connect with available tutors.	N/A	Technical
2	Complete a roll-out of the portal to 30 after-school clubs in the state.	N/A	Business
3	The portal should include a section for explainer videos across four core educational subjects.	N/A	Technical

Example of a table that lists the requirements



Design

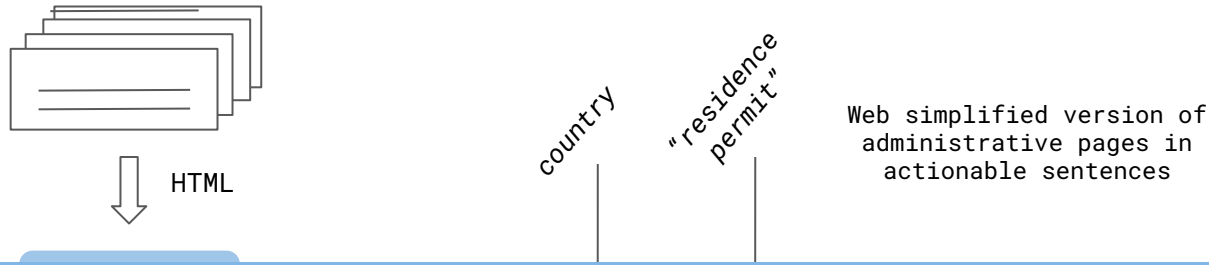
Pillar 1



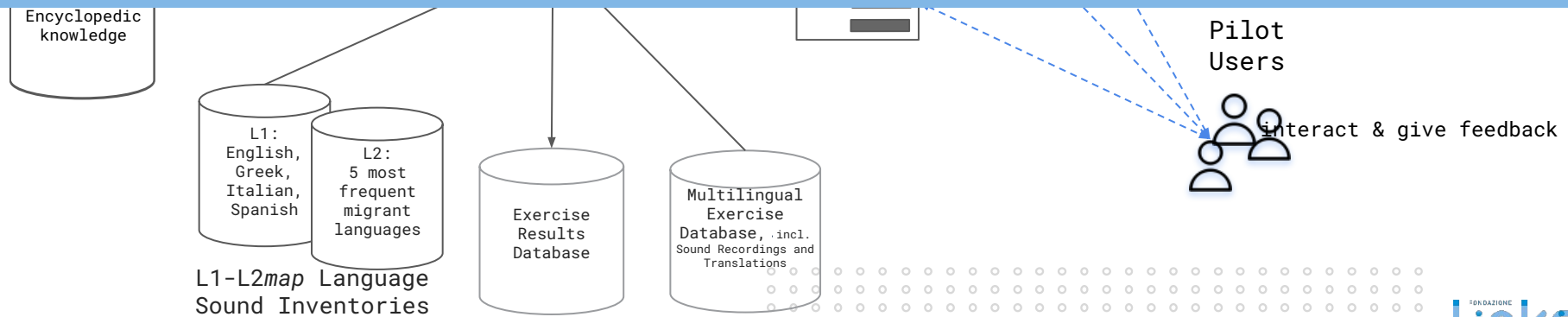
ref: H2020 easyRights project

Design

Pillar 1

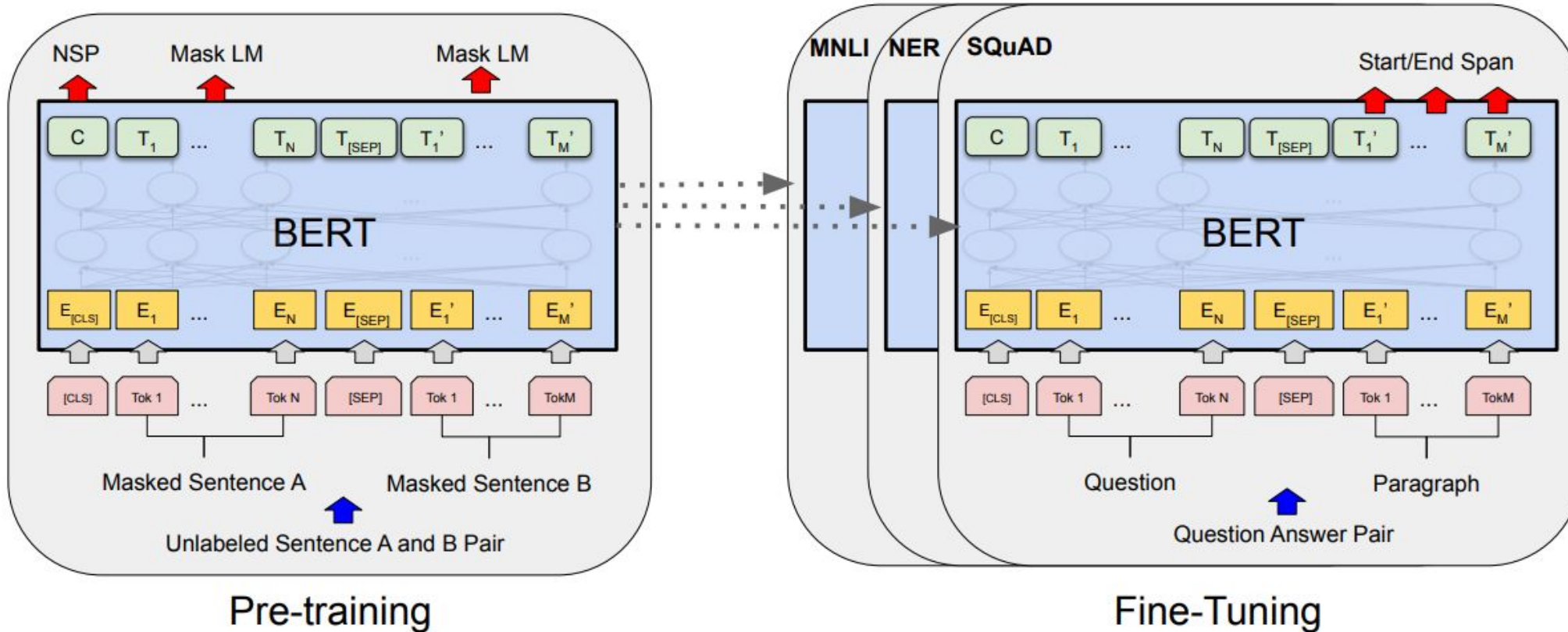


functional diagram (whole project)



Design

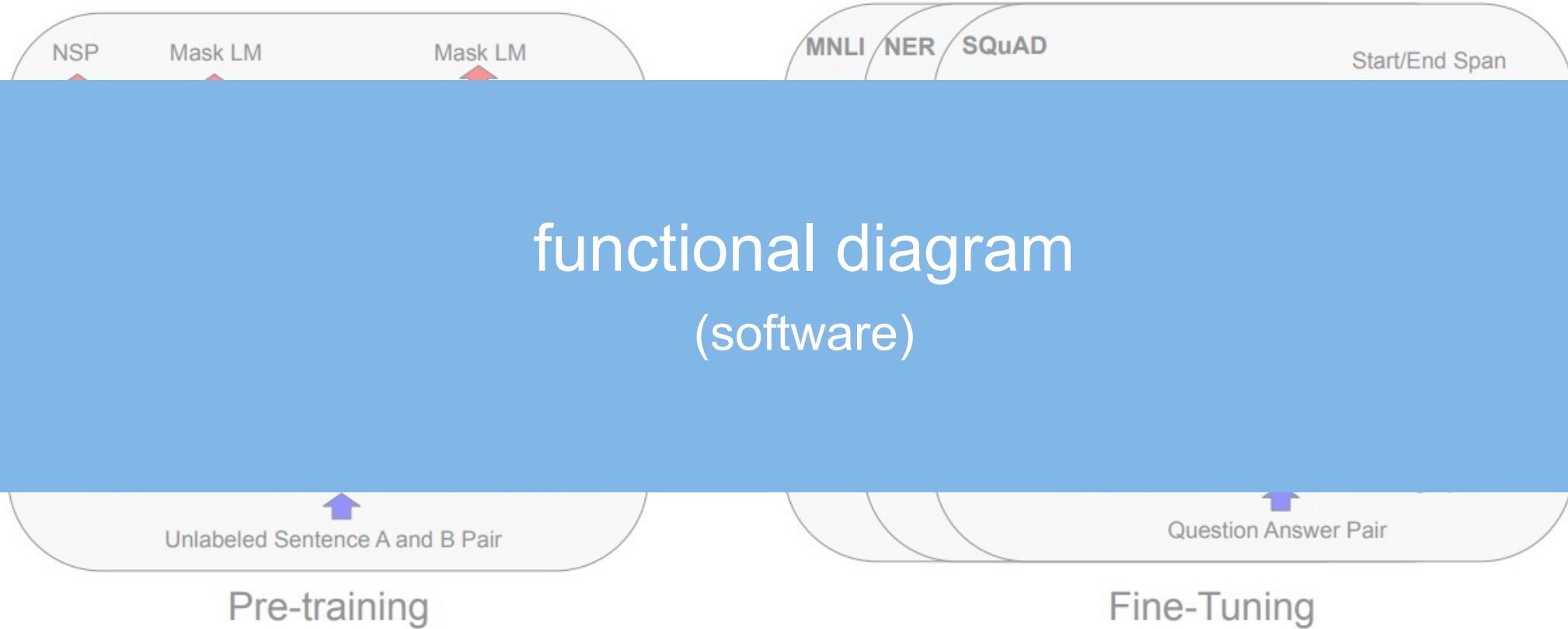
Pillar 1



ref: BERT

Design

Pillar 1



Group activities in work packages

A **work package** is a building block of the work breakdown structure that allows the project management to define the steps necessary for completion of the work.

A work package can be thought of as a sub-project, which, when combined with other work package units, form the completed project.

Breaking down the work into work packages allows multiple teams to work simultaneously or sequentially on different components of the project

re. <https://ec.europa.eu/chafea/health/beneficiaries-corner/documents/factsheet-03.pdf>





Manage

Pillar 2

Work package is defined by a description, tasks, and outputs

Description

Each work package aims to achieve one or more of the project objectives. The description of the work package should start with the statement of the project objective

The work package objectives define the methods, actions, and evaluation of the work package outputs and deliverables





Manage

Pillar 2

Work package is defined by a description, tasks, and outputs

Task

It is the description of an activity where to list methods to reach the objective





Manage

Pillar 2

Work package is defined by a description, tasks, and outputs

Output

It can be either a software, or a visual or a document





Manage

Pillar 2

Work packages, tasks, outputs have meaningful names to let the reader understand what is the work about





Develop

Pillar 3

Shared workspace for coding

Use a meaningful name for the workspace and start filling a README with the main objectives of the project





Develop

Pillar 3

Structure the **development in modules** porting the names of the utilized diagram

Each module has

- an owner of the development
- needs (defined) inputs
- generate (expected) outputs



Define a **testing environment** and make it reproducible multiple times

- define once the dataset with a portion of data to be utilized for training and one portion for development and another for testing
- define the metrics, for instance accuracy or F-measure
- utilize/develop a framework for scoring. Recall: keep it fixed throughout the execution of the project unless you want to repeat all experiments all times you do a change





Communicate

Pillar 4

Strategizing the communication is usually the output of a task(s)/work package

Define your stakeholders

Tailor the communication according to your stakeholders

Keep it alive throughout the entire project (from the beginning till the end)





Communicate

Pillar 4

Visuals work best for managers/clients/customers

Spreadsheets work for managers/project team

Narratives of a technical document work for project team and additional developers



Communicate

Pillar 4

A project has a mission (1 sentence)



Accelerate the world's transition to sustainable energy



Thank you for your attention.

Questions?



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