

Blog post ULSTER – March 2024

Requirements Gathering in the LUCIA Project

What is requirements gathering & why is it important?

Requirements gathering, also known as elicitation in software development projects, is a critical activity used to establish what the product being developed must do, whether it is physical equipment, software, or other items. It involves gaining a rigorous understanding of the needs and wants of the various stakeholders involved with the product.

The requirements elicitation process is strongly related to the context in which it is carried out as well as the products being developed and the stakeholders involved. This blog post will provide an overview of the specific characteristics of the requirements gathering process for the LUCIA project. LUCIA is a consortium of 20 partners from academia, research and technology, industry organisations, healthcare providers and NGOs. The project is developing a wide range of solutions to enhance understanding of lung cancer and improve screening.

How was it accomplished in LUCIA?

From a project management point of view, requirements gathering must be performed before the project even begins, to establish the main goals and activities of the project, who will conduct the outlined activities and the timeline of the project. This stage was performed when writing the project proposal for the Horizon Europe competition.

Among the work packages (WP) agreed upon, WP1 (running in the first 12 months of the project) was dedicated to further refining the requirements and establishing the key performance indicators (KPIs) for the software (mobile Health app, health data platform and virtual research environment) and healthcare (medical devices and cellular pathways) applications being developed within the LUCIA project.

The techniques used for requirements gathering were:

- **User personas:** A technique employed in Design Thinking and Co-creation, widely used to present user needs to interested stakeholders (i.e. for LUCIA the software and medical device developers). Personas answer the question, “Who are we designing for?” and they help to align strategy and goals to specific user groups. The key stakeholders involved in the LUCIA project were identified and asked to complete templates as themselves for role-based user personas (that depict users' information according to roles).
- **Use cases:** Use cases are often used as a method of discovering and representing functional and system requirements. Generally, use cases define the interactions and tasks necessary for carrying out specific objectives. The use cases developed in the LUCIA requirements gathering stage answer the questions: “Who will use the product? (and who it is not appropriate for)”, “What it will be used for?” and “How will it be

used". Use cases for the medical devices, health data platform, virtual research environment and mHealth apps have been established using questionnaires completed by the LUCIA project stakeholders.

- Engage workshops: An 'engagement' has essentially evolved out of the concept of a Town Meeting, when an entire community was invited by government officials to gather in a public place to formulate suggestions or provide feedback on policy actions. In its modern version, first the electronic Town Meeting (eTM) and now the 'engagement', information on the discussion topics are provided thanks to electronic means and stakeholders can participate in debates and express themselves individually on those issues. The method combines the live aspect of small-scale discussion with information and communication technologies: on one hand it allows rapid transmission of work-group results to a plenary assembly; while on the other it permits surveys of individual participants' opinions through a polling system.

The findings from the questionnaires completed by stakeholders to establish the use cases formed the basis of the narrative for the engage workshops. Subsequently, the outcomes of these engage workshops were instrumental in establishing the functional requirements and KPIs for the products envisioned in the LUCIA project. The requirements specification outlining the main user requirements and corresponding KPIs for all products developed in the LUCIA project underwent thorough review and feedback from all project partners.

Building on from these agreed first set of requirements, the partners responsible for developing the software and healthcare products will continue to iteratively refine the use cases and user requirements within their dedicated work packages. This iterative process will pave the way for detailed design and development activities aimed at achieving the project's overarching objectives.



The LUCIA project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement no. 101096473. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the Health and Digital Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.