



# An introduction to generative AI assisted digital educational framework

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Digileac

TurkuEval.AI

Prof. Dr. Jussi Jauhiainen / [jusaja@utu.fi](mailto:jusaja@utu.fi)  
Agustín Garagorry Guerra / [abgagu@utu.fi](mailto:abgagu@utu.fi)

# Research starts with innovative solution oriented frameworks

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At the University of Turku, we are actively engaged in the development of an integrated platform that harnesses the latest generative AI technologies.

Our goal is to enhance the efficiency of education by addressing its key challenges and objectives. Our research is divided into two strands, each targeting a pivotal set of challenges that enhance educational outcomes.

Our innovative tools are designed to overcome the constraints of time and the myriad of challenges that the educational environment has encountered in recent years. It is crucial to develop digital solutions that complement conventional teaching methods, enabling the educational system to respond more effectively to a diverse array of situations.

## Solutions:

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### Digileac

We developed a dynamic content adaptation model, **personalizing learning and practice materials for students and pupils based on their skills**. Our approach is informed by educational standards [Bloom & SOLO taxonomy, etc.] inspired by Flow theory, ensuring a balanced and engaging learning experience for each pupil.

### TurkuEval.AI

We're designing an AI evaluation tool that aligns with institutional criteria and lesson content, enabling performance evaluation and **personalized feedback** for students and pupils, reducing the time teachers spend on evaluating and grading.

about

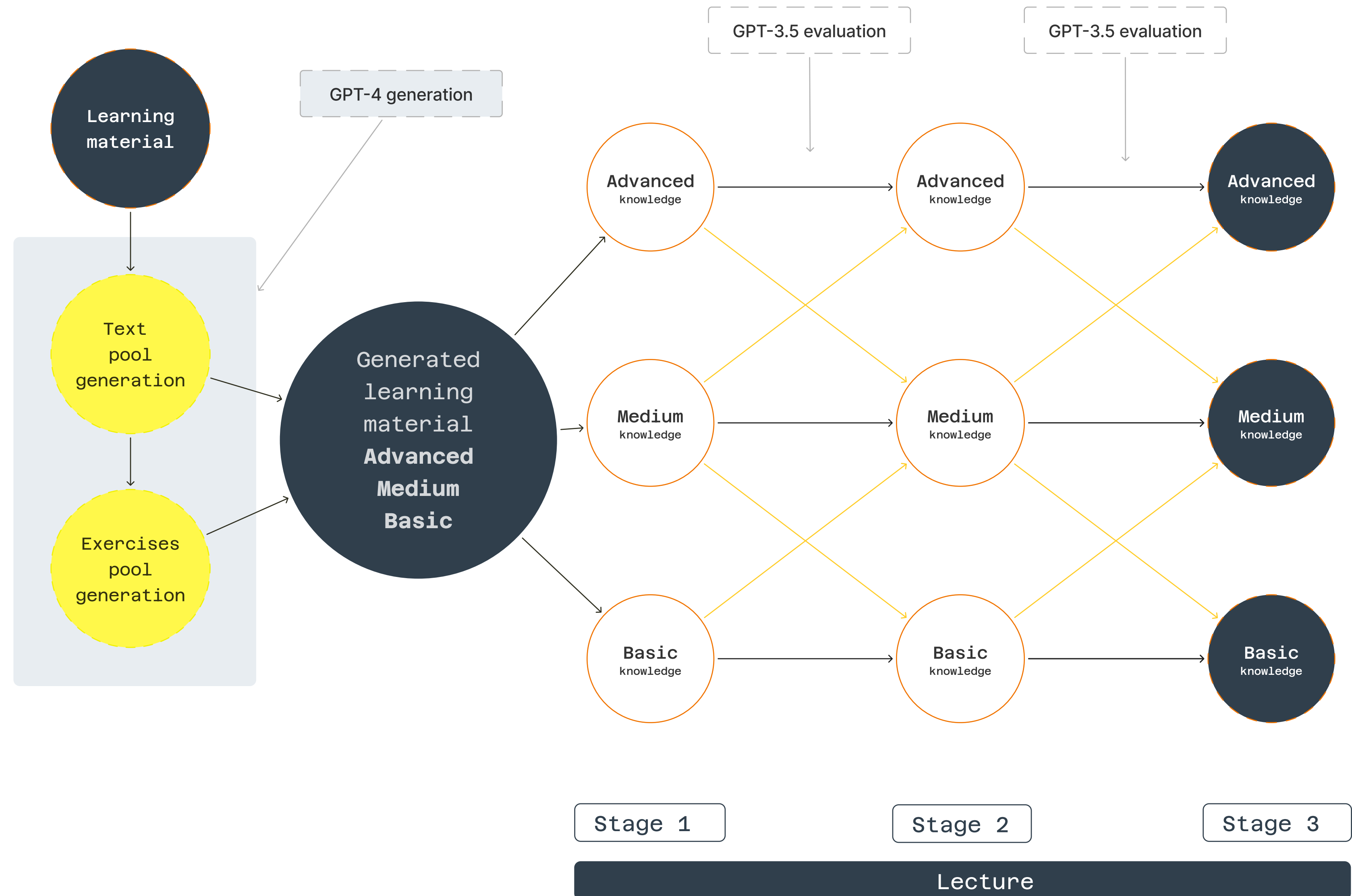
# Digileac

Digital learning environment for all context

Platform: **Alfa**  
 State: **Tested** in schools  
 Publication: 21 September 2023  
[doi.org/10.3390/su151814025](https://doi.org/10.3390/su151814025)

Digileac is a platform designed to leverage generative AI for the dynamic and verified adaptation of educational content, tailored to individual student skills. It fosters deep learning by applying Bloom and SOLO taxonomy principles, providing each student with a version of motivating learning material that ensures enhanced engagement by balancing their skills and challenges.

Multiple institutions are interested in longitudinal testing in schools in Finland and elsewhere.



about

# TurkuEval.AI

Turku Evaluation AI

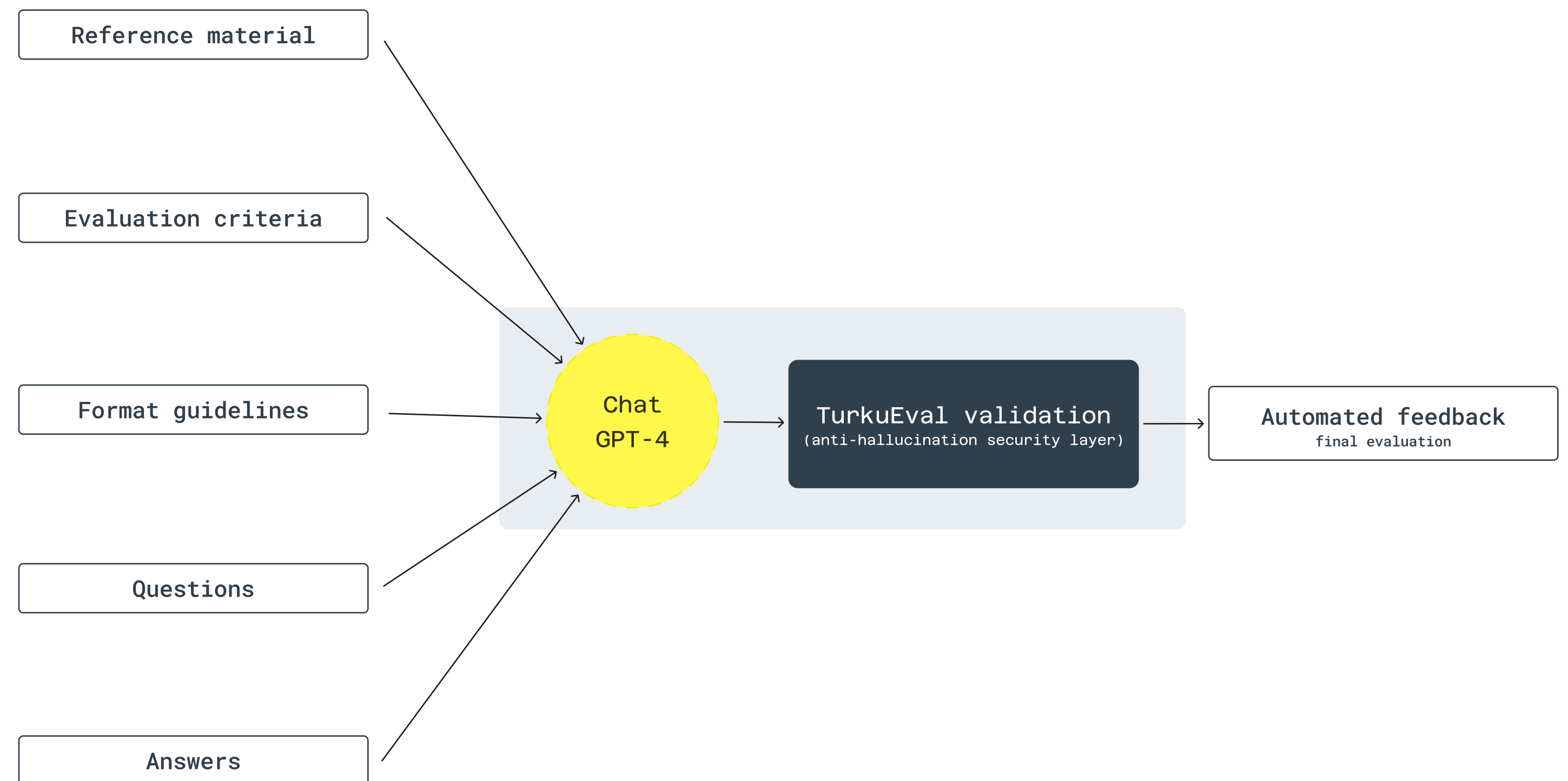
Platform: **Alfa**  
State: manually **Tested**  
confirmed and validated to test in multiple universities in at least three countries.

Publication: in process

TurkuEval.AI is a generative AI tool to evaluate student and pupil performance and providing them with personalized feedback following the educational guideline criteria.

It provides a trusted hallucination secured and fact based automated evaluation feedback.

It also provides a test environment to reflect a deep understanding of the current and future users, teachers and pupils as the main focus for the solution designed.



TurkuEval.AI simplified diagram

about

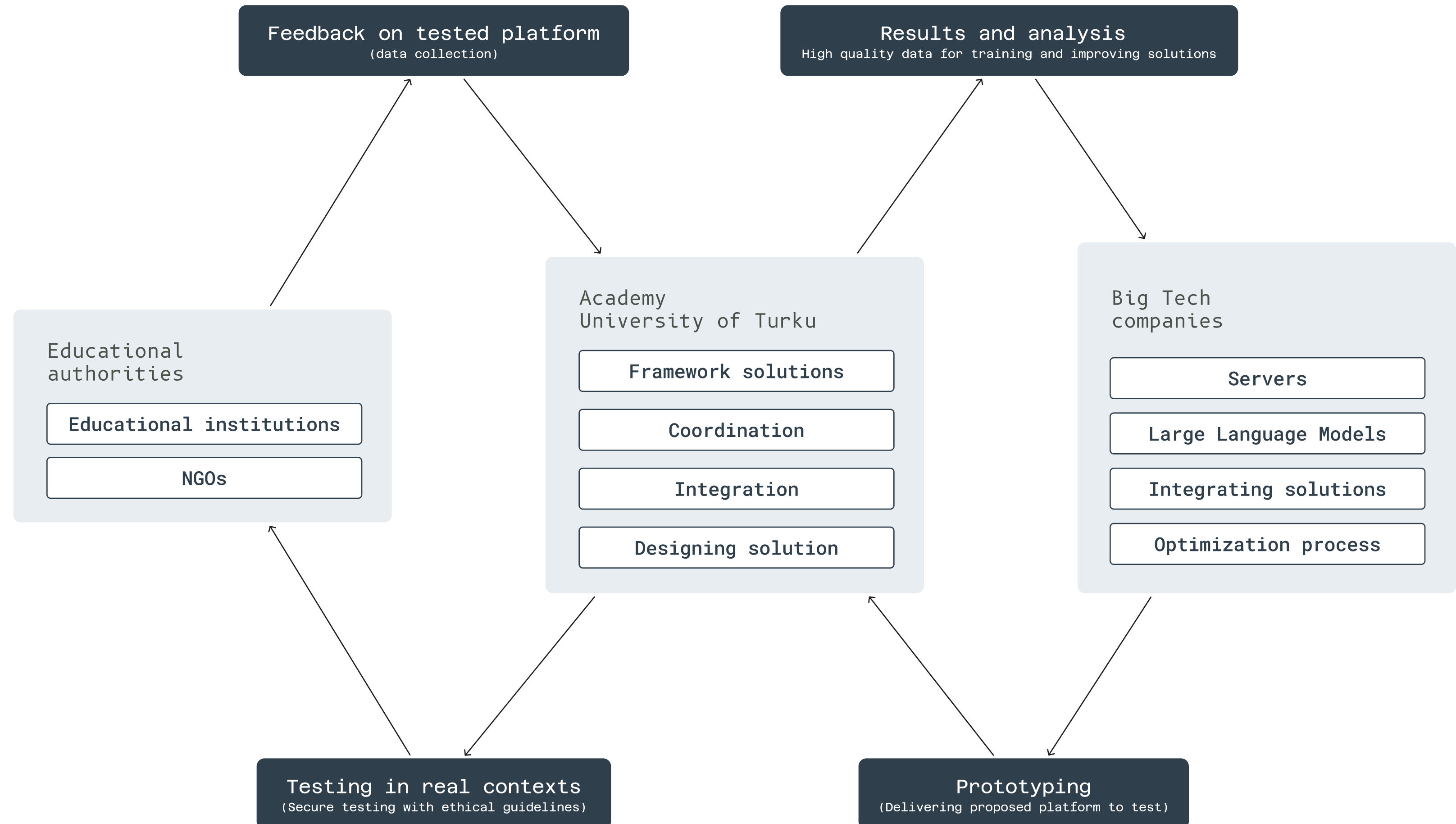
# Stakeholders

Digileac / Turkueval.ai

As the designers of the framework and platform architecture, we have gathered a broad network of companies, institutions, and actors essential for a scalable platform in real context and to develop it with key partners.

From data management—ensuring security above all—to developing AI models that can be utilized in the solution design, we have also engaged with stakeholders to develop a unified platform that integrates multiple generative AI tools into a scalable and cost efficient platform.

As an academic stakeholder, the University of Turku has not only designed the model but also coordinates a trusted environment in which big tech companies can test in real contexts. This grants educational authorities, such as educational institutions and NGOs, a trusted intermediary to analyze and secure the data integrity of the process.





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