Center for Teaching and Learning
UNIVERSITY OF GEORGIA

Idea Appetizer – Generating Apps from Ideas

Rex VanHorn | PhD Candidate | Institute for Artificial Intelligence (Franklin)

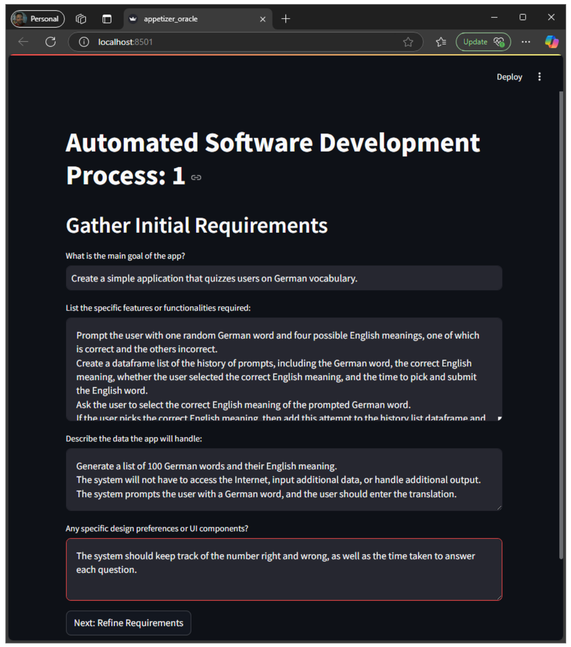
Iterative, Automated Software Development from Natural Language – No Coding Required

Gather Initial Requirements

The Idea Appetizer is designed for the end-user who wants to develop Streamlit (python-based) applications and has no software development experience. It uses AI to mimic application development and delivery.

The first step requires the user to describe their application idea.

In this example below, we want to create an application that quizzes a student of German on German vocabulary words. The application should randomly generate vocabulary words, count the number of correct and incorrect responses, etc.

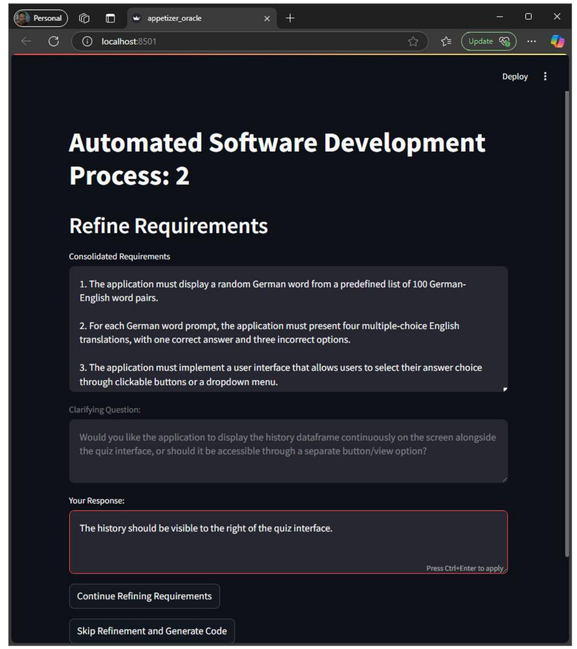


Requirements Generation

The second step is creating and iteratively refining the requirements.

The Appetizer is designed to evaluate the requirements from the following perspectives:
1) Expert in the application area,
2) Expert in software development, and
3) Expert in user experience.

By using the diverse perspectives of these different expert areas, the user requirements lead to better application operation, user experience and requirement fulfillment.

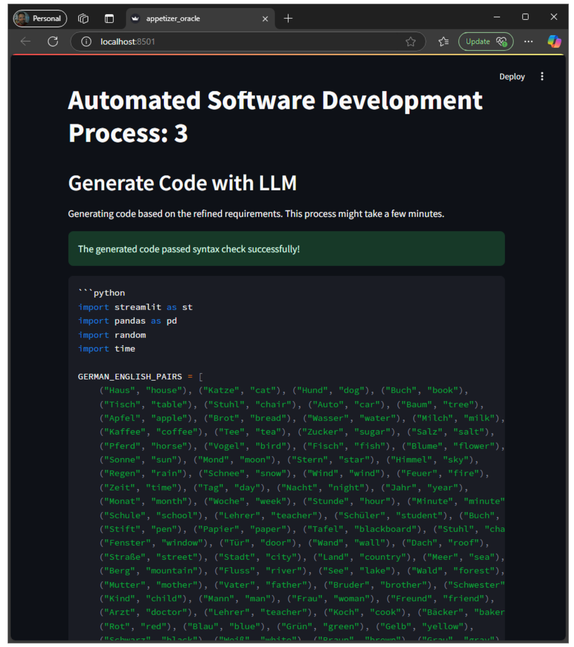


Requirements Refinement

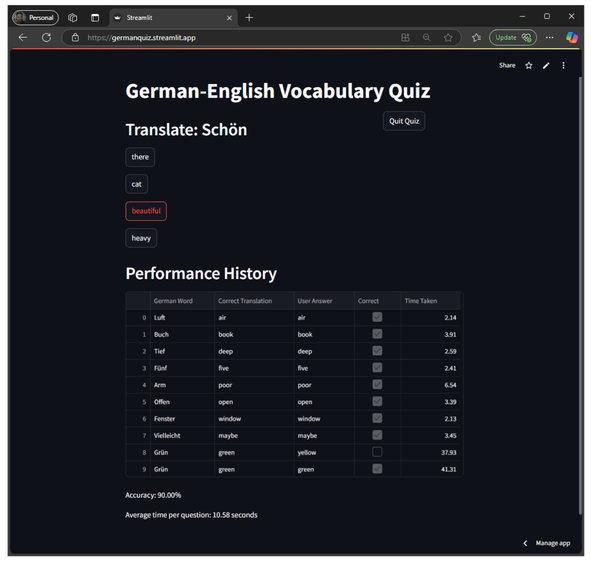
In the third and final step, the code is generated and checked for syntax errors. If errors are found, the requirements, code and errors are sent back to the Appetizer so that the code can be regenerated, programmed to specifically avoid the encountered errors. The process continues until the code syntax is fully verified and ready for execution.

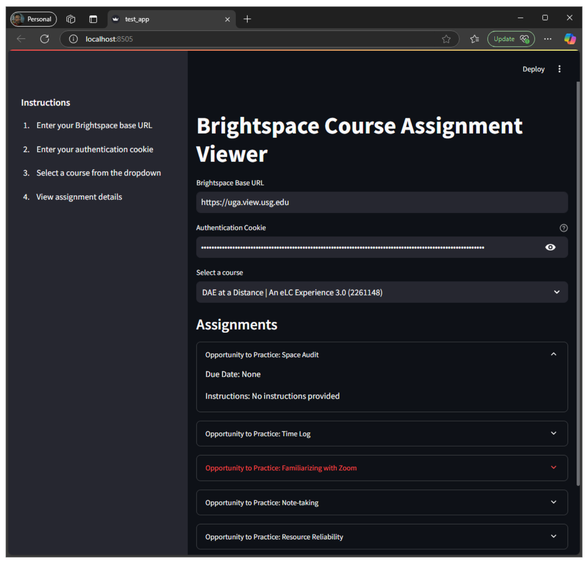
In the case displayed below, no syntax errors were encountered in the first attempted generation, so the code was directly presented to the user.

From idea → working app in minutes



Code is Deployed & Executed





Students can build apps without coding background. Instructors can rapidly prototype tools tailored to specific learning outcomes with no coding experience.