Performance prediction

<https://kabroo.visualstudio.com/DTML.org/_workitems/edit/1130>

Status: Draft / Approved / In production

Introduction

*The idea is to describe here the current status and why it should change. What’s the motivation for the change? What problem are you trying to solve? The objective of this section is to convince other team members / committee / organization that this change is something that helps the mission / vision.*

Short description

*Limit yourself to a couple of paragraphs and the objective should be to expose a very high-level vision of the project and how it’s going to solve the problem stated in the previous section.*

Predict word retention for each individual student considering factors such as age, past performance, individual student history, etc. Create a word retention marker for each word indicating the probability they will remember the word after x number of words. Propose repeating incorrect words to make sure that words are learned, and retention of the word is increased

Alternatives considered

*Briefly mention which other options there are to solve the problem and why your proposal is the best among them.*

Detailed description

*Write a detailed description of your project. Include enough detail so that any volunteer can help implement your design. If you have diagrams, this is the section they should go in.*

Backend

Transformation of the data from the features that are defined. Looking at features such as: number of attempts, the time taken to complete the challenge, the difficulty level of the problem, types of words presented to the student as specified by the teacher, and an individual score of each word on a case by case basis. In addition to the exploratory analysis of the given data, we also want to be evaluating a player’s performance and assigning them a “rank” based on the variety of factors we deem as good indicators of performance. Finally, we want to introduce an aspect that helps students commit old words to long term memory.

Security impact

We will be looking at past performance per student to determine whether the student is receiving outside help for the current word. In order to do this, we will need to determine an acceptable threshold where cheating can be a possibility. In addition to cheating, we should ensure that the proper sentiment of each word and sentence is used so that students feel comfortable with the platform.

Deployment plan

As for the deployment, we plan on using the teacher dashboard to display the relevant information while keeping some of the analysis purely as a tool to aid in the prediction. In terms of adding space to the database, the addition of either feature columns to their current dataset or migrate our own data into their current database. There will be no need for new software or experimental changes

Cost estimate

*Does your project need something in the platform to be developed? Volunteers? Money? Even if you wrote a One-Pager, it is expected that this section has more details, so it is still necessary to include that here.*

The only point of cost could be the addition of data to the database.