

POTENTIAL INTEGRATION OF MACHINE LEARNING VIA PCCA:

1.

The most obvious, and perhaps most useful integration of machine learning as I can see it would be regarding the privacy preserving machine learning and analytics mentioned in 2.2.1- PCS - 1. Federated learning and federated analytics section of the provided document.

By integrating a machine learning model which collects and analyses users' data in a private and ethical way, we would be able to generate data about which topics/areas covered in our quiz are perhaps too easy, or too hard, on both an overall and per-user basis.

Further, through the data modelling done by the machine learning systems, we could potentially identify and reinforce avenues for performance growth by users in areas which they had previously struggled with.

2.

The second option is similar to the first, but on top of integrating a similar data collection/analysis as above, there would also be the need to both develop a clustering algorithm (or other method of categorizing users as groups via machine learning), as well as further development of the application to allow for the social features discussed.

Seeing as how the prototype design has a log-in system, we could integrate a social aspect in which users are dynamically grouped by machine learning systems based on their perceived strengths and weaknesses. This would provide a good learning environment for people, with peers roughly on par with their understanding and skills.

This sort of peer network would be difficult to grow organically, but by clustering users based on their performance data, then grouping them into essentially study groups, we could have a machine learning system which dynamically creates comfortable learning and discussion environments for users of all skill/knowledge ranges.