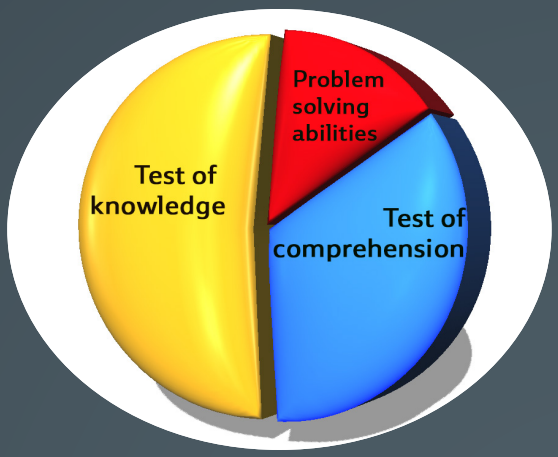
Watch Presentation

StudyBuddy

MCQs are a popular mode of testing in large classes. Currently, no simple tools are available at low cost for students to practice for those tests. The StudyBuddy app will be a help for students wanting to practice with questions designed by themselves, their classmates, or their teachers.



Level of learning tested by MCQs in Palmer's study according to a modified Bloom's Taxonomy: **MCQs can also be used to test depth levels of learning.**

By Isabelle Delmas

Multiple Choice Questions (MCQ) are a powerful examination tool: well written, they can test the different levels of learning defined by Bloom's Taxonomy (Govindasamy, 2001). Studies even show that carefully written MCQs can be better than short answer questions to test high level learning (Palmer and Devitt, 2007). In addition, MCQs are cheaper to evaluate and allows faster feedback. In that context, it is not surprising that large university classes use MCQs as their prefered method of testing. To be fully prepared for those tests, students need practice with MCQs.

A COMPUTER-BASED SOFTWARE THAT...

1 Optimizes Memory

- Focus on questions not yet mastered
- Tag challenging questions to review them rapidly before an exam

2 Is Flexible

- Create your own banks of questions
- Display images alongside questions
- Take randomizes test of chosen length

3 Is Free and Portable

- Available to all students at no cost
- Coded using Java and JavaFx to ensure portability to Linux, Mac, and Windows

Is Created within 13 Weeks Time

2 weeks
Design due by September 30

3 weeks
Testing and Revision due by December 21

Back end and prototyping due by October 31
4 weeks

GUI Beta version due by November 30
4 weeks

KPIs

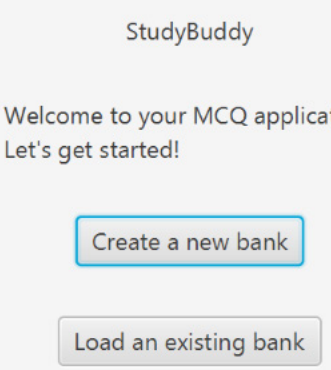
>> **85%** code covered by **JUnit**

>> **100% initial features** working

>> **90%** of reasonable **features asked by students** during interviews implemented

>> Significant **grade improvement** of users

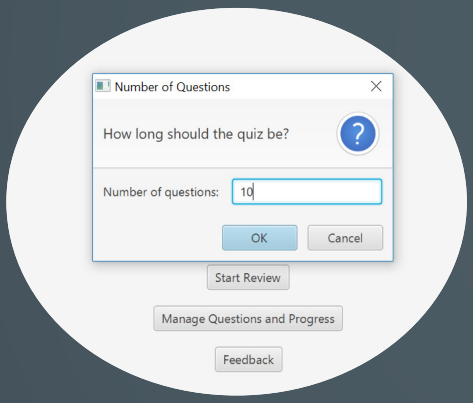
Download Beta Version

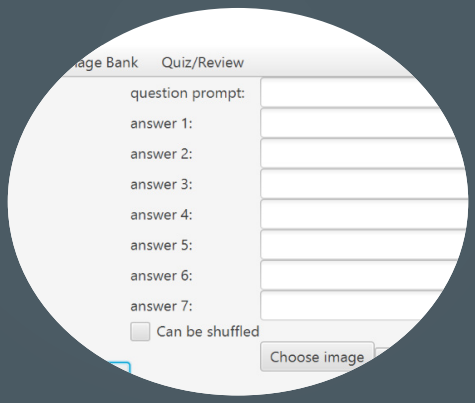


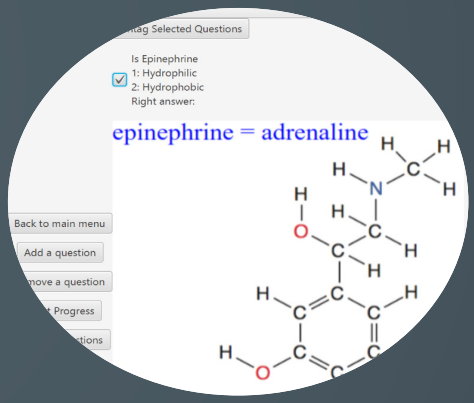
Also this application has a specific target audience, it will also be helpful for students that are not provided MCQs to study from; indeed, more than half the students that have to write their own MCQs for classes declare that this process helped them better understand the material (Fellenz. 2004).

Existing tools have a major design flow

Most of the existing tools have a major design flaw: *they are designed for teachers to test their students, not for students to review*. Thus, they are not designed to repeat questions, keep track of progress, or even give precise feedback for each questions. Other tools designed for student do not allow the display of an image, a necessity for biology classes, or are appropriate only for flash cards definitions and matching games (such as Quizlet).







This is only the beginning!

Coming soon...

Machine Learning

Using machine learning algorithms to decide which questions to prompt and improve keeping track of progress.

Cloud Storage

Storing questions, related images, and progress on an online cloud to keep track of a students progress no matter where they are.

Mobile App

Creating a mobile device application synchronized with the data on the cloud to allow practice from a phone or a tablet.

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References

- Fellez M. R. (2004). Using assessment to support higher level learning: the multiple choice item development assignment. Assessment & Evaluation in Higher Education, 29(6), 703-719. DOI:10.1080/0260293042000227245
- Govindasamy, T. (2002). Successful implementation of e-learning: Pedagogical considerations. Internet and Higher Education, 4, 287-299. DOI:10.1016/S1096-7516(01)00071-9
- Palmer, E. J., & Devitt, P. G. (2007). Assessment of higher order cognitive skills in undergraduate education: modified essay or multiple choice questions? Research paper. BMC Medical Education, 7(1). DOI:10.1186/1472-6920-7-49