

In our university, a large number of first year students, including science, engineering and business students, are required to take courses on calculus. Nevertheless, because of the various background of students and the “3+3+4” curriculum reform, it was found that students might not be able to catch up with the courses. While online notes, exercises and quizzes may not be attractive to students, we would like to develop an electronic RPG (role-playing game) so that students can enjoy learning mathematics in a more interesting and interactive way.

In this project, our team designed an online game called “The Myth of Calculus” (refer to <http://www.math.cuhk.edu.hk/~klchan/www/index.html>) by using the software RPG Maker MV. Students or even the public can assess the game if they have a mobile device or PC that can connect to the internet. In the game, the CUHK campus was set as the scene, which represents the game world, where two year-one students, as the main characters, can navigate and find battles. To win the battles to upgrade, players have to answer different pre-calculus and calculus questions correctly. While playing this game, students can study and consolidate their knowledge in various pre-calculus and calculus topics.

The original targeted users are students of MATH1520 University Mathematics for Applications (around 150 students per academic year), but because of the content similarity, the game can also be used by students of MATH1010 University Mathematics (around 400 students per academic year), and MATH1510 Calculus for Engineers (around 600 students per academic year).

We are glad that our game also aroused attention among students on social media, like Facebook, YouTube, etc. Most of the users showed great interest of the game and gave many encouraging comments. They found it is enjoyable to play a game set in CUHK campus, and therefore the mathematical concepts would come more naturally. Moreover, they had a sense of belonging as a CUHK student by playing this game.



Screenshot of the game "The Myth of Calculus"