The Development of an iPad Version of "Math-Speed"

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Abstract: In recent years, Gamification is very important word in educational field. Gamification provide the joy and motivation. Gamification is suitable to education. Therefore, many materials and systems developed base on Gamification. Thus "Math-Speed" is developed. It is card game as mathematical material base on Gamification. It is a lot of good effect on students. However, "Math-Speed" has some problem. For example, can't check wrong calculation when playying "Math-Speed". These problem will solved by computer. This paper aims to develop an iPad version of "Math-Speed".

Background

In recent years, Gamification is becoming a buzzword and it is beginning to be utilized in the world of education. In general, Gamification is defined as the "idea, design and mechanics of games that are used for services and social activities of non-gaming" (Inoue 2012). Gamification has some elements. These are "Sanguinely", "Productivity of bliss", "Sociality" and "Narrativity" (Nikkei, 2011). For example, in the "Medal System," the user can get a medal when the user achieves   certain tasks and certain results. In the "Ranking System," users can compare their results with others. In the "Results Graph System," users can confirm their own activity-records. In addition, Inoue(2012) has a "mechanism of determining the (reward) elements of the boundary line and extrinsic-motivation, such as driving the intrinsic-motivation" of these features.

As an example utilizing Gamification in education, Shinkenzemi has offered home learning services such as "Pocket Challenge" (Omori 2012). In addition Kishimoto(2013) designed a university class based on Gamification. The practice of   gamification has some effects that "can help student concentrate more on learning" (Omori 2012).   In Japan, many students think learning mathematics is difficult, but when they use gamification, they "psychological hurdle" is lowered and they can learn difficult mathematical concepts (Omori 2012).

In addition, Murakawa (2012a) develop the "Math-Speed" is that combine number cards, to make a number using arithmetic oprerations for "mathematics" in elementary school. "Math-speed" was accepted favorably to children because Ninety-six percent of the children, who used "Math-Speed," respond on a questionnaire that they enjoyed gamification (Murakawa 2012a). In addition, students understood the concept of prime-numbers through division (Murakawa 2012b).

However, "Math-Speed" has some problem. First, student can't check wrong calcularion. They proceed the game without remediation the mistake. Second, theacher can't check the process of calculation. Last, students cannot notice when students cannot make a STOCK number because there are many combinarions of number.

These problem will solved by computer. It is not wrong calculation, can store a lot of logging and can test the combination of myriad.

This paper aims to develop the an iPad vertion of "Math-Speed"

Development

Designed application have some characteristic to solve problem of "Math-speed card game".

1.Can check wrong calculation

2.Player can notice when player can't make an answer.

3.Can memorize the a lot of logs.

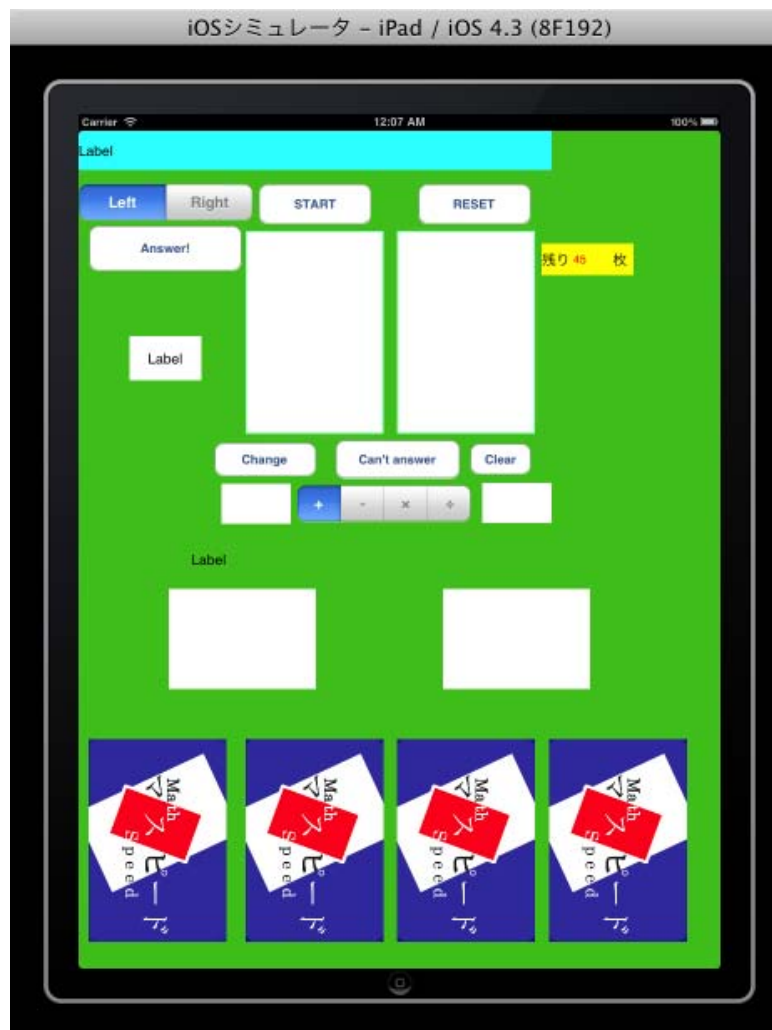This development use the "Xcode". It is popular development-environment of developing iOS application.

Figure. Image of development

Reference

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