INCREASING THE QUALITY OF STUDENT OUTCOMES BY USING E-LEARNING SYSTEM IN COMPUTER PROGRAMMING COURCES

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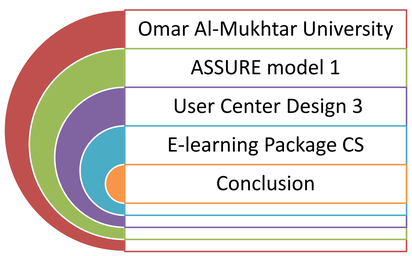
Aim

Teaching computing courses is a major challenge for the majority of lecturers in Libyan higher learning institutions. These courses contain numerous abstract concepts that cannot be easily explained using traditional educational methods. This paper describes the rationale, design, development and implementation stages of an e-learning package (including multimedia resources such as simulations, animations, and videos) using the ASSURE model. This training package can be used by students before they attend practical computer lab sessions, preparing them by developing technical skills and applying concepts and theories presented in lecture through supplementary study and exercises.



INTRODUCTION

In the early 1990s, Omar Al-Mukhtar University established its Department of Computer Learning to provide BSc degrees in Software Engineering and Computer Science.

- The course material has traditionally been delivered through lectures (also known as school-based learning, or SBL)
- and subsequently reinforced in lab sessions (laboratory-based learning, or LBL).

ASSURE model

THE ASSURE MODEL INSTRUCTIONAL PLAN

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Heinich et al. (1999) proposed the use of the ASSURE model for planning and delivering teaching sessions that integrate technology and media and for providing an authentic assessment of student learning . "The ASSURE model allows for the possibility of incorporating out-of-class resources and technology into the course materials. This model will be especially helpful for instructors designing online courses."

The goal of the model

•This process or template for planning can help students make better usage of technology, in order to facilitate the learning process and the completion of further progress to achieve their goals.

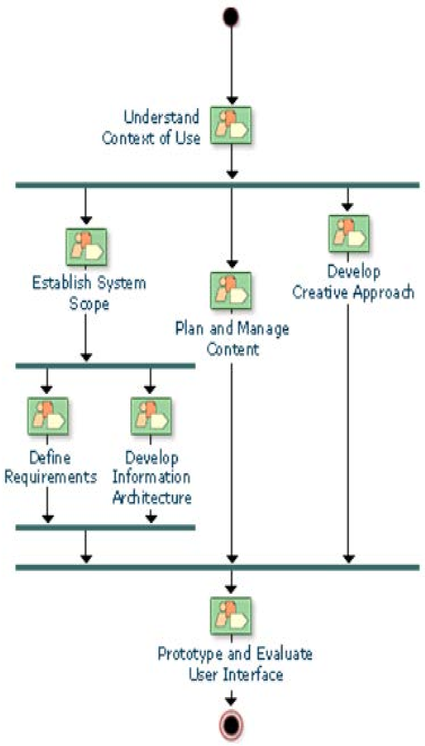
Example for use Aurasma Application:

User-Centered Design (UCD)

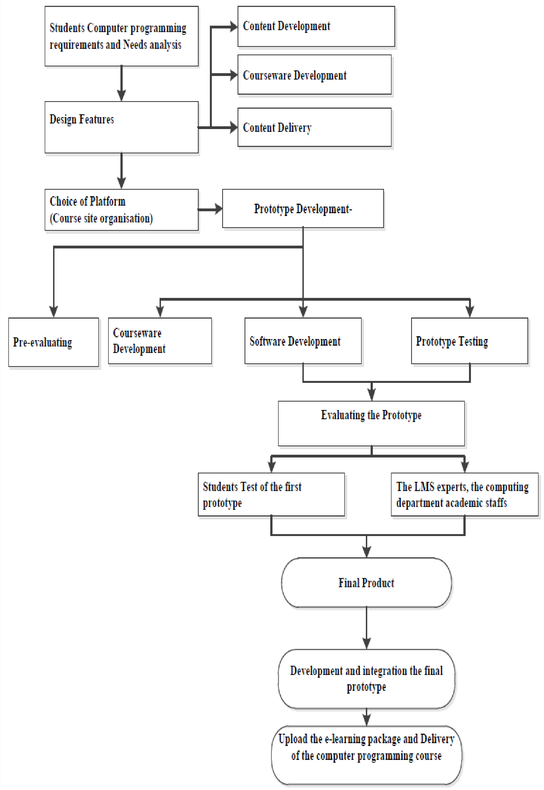
User analysis

It is key to understand the following about the users:
Mental specifications (e.g. willingness to learn, mental and developmental stages of language, reading level, learning strategies, language, culture, attention, orientation).
Physical specifications (e.g. health and age).
Emotional specifications.

Design. This is the stage for preparing a prototype, to describe how the e-learning package will work and look. It will contain a description of use and a designed model to best suit the goals of the users.
Prototype. This stage concerns the development and completion of an e-learning application that can be piloted.
Evaluation. The application must be reviewed by the designer and by other experts in the field of design for web-based learning and e-Learning.



E-learning Package For Computer Programming Course



Conclusion

This study has shown that the use of computer animations can assist students to better understand complex and difficult concepts in various computer courses. The LBL course training will allow the incorporation of sound, moving pictures, and animation into lessons, which extends instructors' capabilities to deliver materials that increase learners' interaction with the subject matter.

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