

## A Case Study on Theme-Based Approach in Health Technology Engineering Education: Customer Oriented Software Applications

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**Abstract :** Metropolia University of Applied Sciences (MUAS) Information and Communication Technology (ICT) Degree Programme provides full-time Bachelor-level undergraduate studies. ICT Degree Programme has seven different major options; this paper focuses on Health Technology. In Health Technology, a significant curriculum change in 2014 enabled transition from fragmented curriculum including dozens of courses to a new integrated curriculum built around three 30 ECTS themes. This paper focuses especially on the second theme called Customer Oriented Software Applications. From students' point of view, the goal of this theme is to get familiar with existing health related ICT solutions and systems, understand business around health technology, recognize social and healthcare operating principles and services, and identify customers and users and their special needs and perspectives. This also acts as a background for health related web application development. Built web application is tested, developed and evaluated with real users utilizing versatile user centred development methods. This paper presents experiences obtained from the first implementation of Customer Oriented Software Applications theme. Student feedback was gathered with two questionnaires, one in the middle of the theme and other at the end of the theme. Questionnaires had qualitative and quantitative parts. Similar questionnaire was implemented in the first theme; this paper evaluates how the theme-based integrated curriculum has progressed in Health Technology major by comparing results between theme 1 and 2. In general, students were satisfied for the implementation, timing and synchronization of the courses, and the amount of work. However there is still room for development. Student feedback and teachers' observations have been and will be used to develop the content and operating principles of the themes and whole curriculum.

**Keywords :** engineering education, integrated curriculum, learning and teaching methods, learning experience

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