

Mobile Empowerment: The design and implementation of a 'Cinema-in-a-backpack'

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This paper discusses the design and development of the Cinema-in-a-backpack equipment for a project called MOSAIC 2B (funded by the European Union and Department of Science and Technology). The overall aim of the MOSAIC 2B project is to investigate alternative distribution channels and business opportunities for multi-media content to rural communities. In MOSAIC 2B micro-entrepreneurs are equipped with the Cinema-in-a-backpack. The Cinema-in-a-backpack includes a MOSAIC Player Platform (MPP) that implements the mobile functionality to support the MOSAIC 2B business case.

The MOSAIC 2B business case specifies the use of the Cinema-in-a-backpack equipment to enable entrepreneurs to host multi-media screening events in their local, rural communities. To obtain the multi-media content, a mobile application developed for MOSAIC 2B that runs on the MPP allows entrepreneurs to order multi-media content and pay for it using MOSAIC Bucks (mB), the currency of the MOSAIC 2B project. After ordering the content, the MOSAIC 2B system processes the order and sends the media to a collection depot via the MOSAIC 2B DTN network. The entrepreneur can then download the content to his MPP as soon as the content arrived at his assigned local depot. In addition, the application supports the entrepreneur to plan an event that includes the screening of the downloaded multi-media content. The Cinema-in-a-backpack includes a projector and speakers as well as a battery pack big enough to support the event without electricity. On the MPP the entrepreneur can also enter information that supports basic bookkeeping functionality to assist him with event planning. Furthermore, as part of MOSAIC 2B, entrepreneurs are requested to supply event data and can view consolidated data collected in the project on the MPP in a visual analytics component. This visual analytics component displays consolidated project data supplied by other entrepreneurs as well as statistics such as a popularity index of specific movies to help the entrepreneurs in their event planning.

In this paper we report on the methodology followed for the development of the Cinema-in-a-backpack, as well as the functional design of the MPP. We also report on the test results of the testing adopted for the MPP. Because culturally diverse entrepreneurs will use the equipment, we included usability testing in the test plan that used eye-tracking equipment. The test results include recommendations for further development of the Cinema-in-a-backpack.

This paper contributes to our knowledge of the functional design of mobile applications for multi-media that are used in rural communities in South Africa. The results could be used to support decision makers in South Africa with regard to mobile development for culturally diverse user groups.