MOBILE APPLICATION PROTOTYPE FOR ON-SITE INFORMATION MANAGEMENT IN CONSTRUCTION INDUSTRY

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This dissertation is dedicated to my family, for their full support over the years it has taken to finish this important chapter of my life. This is also dedicated to my wife, Samaneh, who has been a wonderful counselor and given me moral support whenever I needed it. You are the most precious things I have in this world. I love you all.
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ABSTRACT

The construction industry is information intensive. Although the amount of information has increased over the past years, the number of advanced information technology applications used to collect, access, and use this information has not grown accordingly. For instance, current commercial information technology applications are very specific and lack simplicity and functionality. This study developed a mobile application that can be used to improve information management during construction projects. To achieve this aim, the information required to properly design the mobile application was collected by distributing an online questionnaire among construction professionals. Then 10 critical on-site information artifacts, considered important from the perspective of consultants and contractors, were selected for prototype development. A server-based application was developed based on enterprise content management concepts. The mobile application was tested in a laboratory by construction management students at Universiti Teknologi Malaysia (UTM). The test results demonstrate that the application is well designed and user friendly.
ABSTRAK

Industri pembinaan merupakan industri yang mengandungi jumlah maklumat yang intensif. Walaupun jumlah maklumat telah meningkat selama beberapa tahun kebelakangan ini, penerapan teknologi maklumat canggih untuk mengumpul, mengakses dan memanfaatkan maklumat belum berkembang dengan pesat. Sebagai contoh, aplikasi komersil teknologi maklumat terkini adalah sangat khusus, merumitkan dan tidak mengandungi fungsi yang banyak. Penyelidikan ini bertujuan untuk mengembangkan aplikasi mudah alih yang boleh digunakan untuk meningkatkan keberkesanan pengurusan maklumat dalam projek pembinaan. Untuk mencapai tujuan ini, maklumat yang diperlukan untuk aplikasi mudah alih dikumpulkan dengan menyebarkan soalan di laman web kepada kalangan profesional industri pembinaan. Seterusnya, 10 jenis maklumat yang dianggap penting dari perspektif perunding dan kontraktor telah dipilih untuk membangunkan prototaip mudah alih tersebut. Sebuah aplikasi berasaskan pengkalan data komputer dibangunkan berdasarkan konsep pengurusan maklumat. Aplikasi mudah alih ini telah diuji di makmal oleh mahasiswa pengurusan pembinaan di Universiti Teknologi Malaysia (UTM). Keputusan ujian menunjukkan bahawa aplikasi tersebut telah direkabentuk dengan baik dan ia adalah mudah untuk digunakan.