AUGMENTED FRAMEWORK FOR GENERATING DOMAIN-SPECIFIC MOBILE APPLICATIONS

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ABSTRACT

In this research, we developed a new approach called Augmented Framework to mean the integration of existing frameworks with domain-specific knowledge. The resulting framework provides a productive development environment suitable for app-developers to generate customized mobile-applications in the domain chosen by the framework developer. This process requires the application developer to provide specifications about the domain for customizing the generated mobile-applications. With this approach, the entire process of developing a mobile-application becomes simplified since it will only need minimum design and development effort.

The approach for developing an Augmented Framework consists of three stages. The first stage consists of the development of a variety of user-interfaces related to the chosen domain. In the second stage, the approach illustrates a mechanism for dynamically integrating the customized components into the framework. The third stage involves the development of the logic to display the appropriate user-interfaces based on the customized components. The three-stage approach results in generating an Augmented Framework.

There are three distinct benefits for using the Augmented Frameworks: a) a significant reduction in application development time, b) an overall decrease in the cost of creating the application and c) an ability to customize features of the mobile app. Furthermore, Augmented Frameworks developed by this approach will follow generally

accepted standards and common-sense options for their intended domains application. The framework-developer may impose some restrictions in the way applications are generated. Therefore, the application-developer will be asked to follow prescribed design specifications associated with the framework. In return, it will result in a fast and precise application development process.

The effectiveness of the proposed approach is illustrated with a case study, which details the steps involved in the creation of an Augmented Framework. The chosen domain for this case-study is resource allocation for reservation systems.