Abstract. This paper presents the concept of JavaScript Application Framework (JSAF) which is a Platform Independent Model (PIM). This Paper aims at developing an application framework using web developing languages which supports the usage on all platforms making it easy for the developers to use the application framework to develop applications. JSAF is used for creating applications for Mobile Devices which supports a Browser which can render advanced web developing languages such as JavaScript, HTML5 and CSS3. The JSAF provides all the basic User-Interface (UI) widgets required for the Application Development to the Application developer. The JSAF Application is rendered on a Browser which will load JSAF framework prior to the Application. JavaScript Application Framework has the Multitasking feature and Cross Application Communication feature. JavaScript Application Framework is developed at Samsung India Software Operations and proprietary.

Keywords: Application Framework, Mobile Applications, JavaScript, HTML, CSS.

1 Introduction

Mobile application development is the process by which application software is developed for small low-power hand held devices such as personal digital assistants, enterprise digital assistants or mobile phones. These applications are either pre-installed on phones during manufacture, or downloaded by customers from various mobile software distribution platforms.

The life span of mobile application software in market is usually very short and it causes unstructured mobile application software.

A common architecture for mobile application software which is named as Application Framework is used to support agile software development. The Framework is defined following PIM (Platform Independent Model) in MDD (Model Driven Development) [1] to satisfy the need of supportability from one mobile application to various mobile platforms.

Mobile Applications are the most important part of the Smartphones. With the rise in the Mobile Application Market, there is a requirement to develop applications for each Mobile Platform such as iOS, Android, Blackberry OS, Symbian OS and Windows Phone. iOS applications are programmed in C, C++ and objective C has 16.7% market share. Android applications are programmed in Java has 25.5% market share.
Blackberry OS applications are programmed in Java has 14.8% market share. Windows Phone is programmed in C++ has 2.8% market share as per 3rd quarter 2010 Market Share [2].

Each Platform uses different programming languages for creating applications which needs a developer to learn the programming languages of the particular platform to create an application. There is a need for a Platform Independent application framework which can be used to develop an application with minimum required programming languages and works on all the Platforms.

The goal of JavaScript Application Framework platform is to allow developers to develop platform independent mobile applications with open web standards and leverage advantages of both conventional web applications and native applications. Cross Platform Applications can be developed using the JavaScript Application Framework for different Mobile Platforms available in the Market. The open web standards for web application development are HTML, CSS and JavaScript.

JavaScript is a light-weight scripting language with object-oriented capabilities. It has some dynamic features such as objects modification in runtime through properties added dynamically. JavaScript is a prototype-based, object-oriented scripting language that is dynamic and has first-class functions [3].

HTML, which stands for Hypertext Markup Language is the predominant markup language for web. A markup language is a set of markup tags, and HTML uses markup tags to describe web pages.[4]

Cascading Style Sheets (CSS) is a style sheet language used to describe the presentation semantics (the look and formatting) of a document written in a markup language. It’s most common application is to style web pages written in HTML and XHTML [5] Transformations for code generation.

In chapter 2, describes the Layered View based on JavaScript Application Framework (JSAF). In chapter 3, explains Software Architecture Design of JSAF. Chapter 4 describes the widgets supported in JSAF. Chapter 5 describes the 3 different features of JSAF framework. Chapter 6 discusses about the Results. Chapter 7 gives conclusion based on Results.

2 Layered View

![Layered View of Architecture](image)