**INTRODUCTION**

In computer science, an Interactive Development Environment (IDE) refers to an application or a tool which helps the user to create, design, develop and build applications. The objective of this project is to build an IDE for developing Android applications on the same Android platform which are widely used on Smartphone and Tablet PCs. Most IDEs which exist today e.g. Eclipse, VirtualBasic, Netbeans are built for running on PC's and most applications for Android are developed on PC's with the help of developer tools which then have to be moved and remotely installed on the phone. With this IDE, Android applications can be developed, modified and installed on the same device on which it is intended to run.

This IDE in itself would be an application for Android device which would encapsulate app-building tools like resource-generation, java compiler, app-packager and jar-signer used for developing all Android applications. These tools which have been intended to work on x86 architectures will call for porting the code to work on the Smartphone’s ARM architecture. The Graphical User Interface (GUI) and the various wizards for the creation and maintenance of the project have been designed to provide the user with a simple and intuitive interface abstracting the complex implementation details of the application, thus making the application easy to use.

The user interface is the soul of any IDE which provide abstracts various features for easy application development. Since this IDE is intended for usage on Smartphone, features such as App-creation wizard, Java code-editor, UI creation and editing wizards have been provided to the user. These UI components are equipped with dynamic code generation and DOM modifications techniques to easily building the user interface for the intended application. To further help the user a preview of the application UI developed by the user is available before the application is built.

The user can create multiple activities, create more than one xml layout files as well as include external third party libraries for addition to class path during compilation to leverage existing implementations and portability thereby making it flexible to be used for developing complex applications. The tools and complexity involved in the lifecycle of creating the application is abstracted to the user and the problems encountered during the steps such as errors during compilation or packaging problems, if any, are reported to the user and the details of such errors and the output details are logged in output files stored in memory card thereby assisting in error handling and basic debugging.

Our decision to create such an application is motivated by the fact such development environments have always existed on PCs with high memory and processing power and not commonly exist and operate in a lightweight mode on a device as small as a Smartphone, which is the objective of the project.