

Cloud Based Virtual Smartphone

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Abstract – Cloud based Virtual Smartphone is a cloud based android application that enables user to store their data at remote place using cloud services. User is able to access data and use application they want through single touch. We are offering smart android application which will controlled remotely and not having much issues about processing power, memory and battery life of physical smart-phone. This allows user to create virtual smart-phone images in the cloud. Although application can run and execute on cloud user feels like it is locally executing. This idea is to allow smart-phone users to easily tap into the power of cloud and free users from processing power, memory and battery life of physical smart-phone. BaaS is (Backend as a Service) a model for providing mobile app developers and web with a way to link their applications to back-end cloud storage and Application Program Interfaces exposed by back end applications and also gives features such as user management, push notifications, and integration with social networking service

1. INTRODUCTION

Smart phone is common trend nowadays. As time passes, customers of Smart phone and use of mobile-application is increases. With lots of usage there is also some problems like limited battery, less storage space, processing power. Drop box and Zumo drive likes, service provider provides the online storage service to the smart-phone users but there is no service that produces full computation resources to smart phone users. In this paper, we propose the Cloud Based Virtual Smart Phone; it allows users to run their mobile application remotely on virtual images created by users. It enhances the performance battery life and storage capacity. Running the mobile application on the cloud has many advantages such as boost computing resources, avoiding untrusted application from s from local accessing local data.

1.1 Project Idea

Idea behind this project is to solve problem of battery consumption and computational resources of smartphone. We are focusing on less consumption of battery power and Also requires less memory. We are going to develop android applications whose computations will be on cloud.

1.2 MOTIVATION OF THE PROJECT

As numbers of smartphone users are rapidly increasing, it is expected to perform PC like functionality. So it requires huge memory and also long lasting battery life. Hardware resources of this are limited so that's why application developers are forced to focus on the limitations. With respect to emerging technologies and changing era, a user of mobile technologies started facing performance issues while using applications that is high utilization of resources such as RAM, Processor and memory. To resolve these issues the project is proposed to separate out the processing mechanism of applications from native user devices.

2. LITERATURE SURVEY

Our work is related with cloud and services provided by cloud. Objective and focus of this project is on mobile applications by which user can easily get connected with their applications which is stored on cloud and also computation will be on cloud. We are focusing on less consumption of battery power and also require less memory. We are developing android applications which will be stored and execute on cloud. Previous work related to this application by R.A. Baratto, S. Potter, MobiDesk: that provides full featured PC desktop environment to mobile users which is mobile virtual desktop computing hosting infrastructure. Another one is S. Potter and J. Nieh, DeskPod: is extension of mobidesk focuses on the issues of reliability. Although these literatures related to our work in terms of allowing mobile users to remotely access virtual machine images, our objective of leveraging the performance of mobile applications is different from theirs since they focus on delivering PC applications to mobile users.

3. PROBLEM DEFINITION AND SCOPE

3.1 PROBLEM STATEMENT

Virtual Mobile is a hybrid system composed of mobile application and cloud based backend, With respect to time in or technological era, technologies and automations are increasing rapidly. However, automation of system's with large data causes a negative influence over the performance of system. Database and referenced APIs being a burden to

client machine and results in user frustrations while using the system, ultimately it grows negativity of user towards that particular system which may be mobile app or a web based software system.

To resolve this performance related issues and for reducing load from client machine the system should be proposed which will manage the execution in two stages rather than bombarding data and system both at client end. System should be developed in such a way where database and reference APIs processing will be handled at one end say back end server and at another end say client end the execution of functionalities should occur.

3.2 Goals and objectives

Being an IEEE based projects, the proposed project ideologically having following objectives.

1. Providing Back End as a Service to Mobile Apps
2. Virtualized control over app resources.
3. Manage back end including database at one place
4. Virtualization of resources
5. Manage app at single dashboard
6. Security, an encrypted response a cloud based service
7. Increase performance of mobile apps by extending back end on server/cloud.
8. Providing a collaborative back end framework to install and run app at server end.

3.3 Statement of scope

Cloud based virtual smartphone which facilitate users to use the apps which are stored and execute on the cloud by using his/her smartphone. The system is currently developed for smartphone users only.

4. System Architecture

The Figure- 1 denotes overview of system architecture which includes the block type structural diagram of integrating the various cloud services. It includes Backbone.JS & Node.JS as a framework, cloud(Backend as a service)BAAS as a Platform & MongoDB as a cross platform, virtual mobile framework as an application. SH-2 is used for security purpose.

The Figure-2 denotes the system architectural of cloud based virtual smartphone. This denotes the actual connection between the client end devices as well as virtual mobile server.

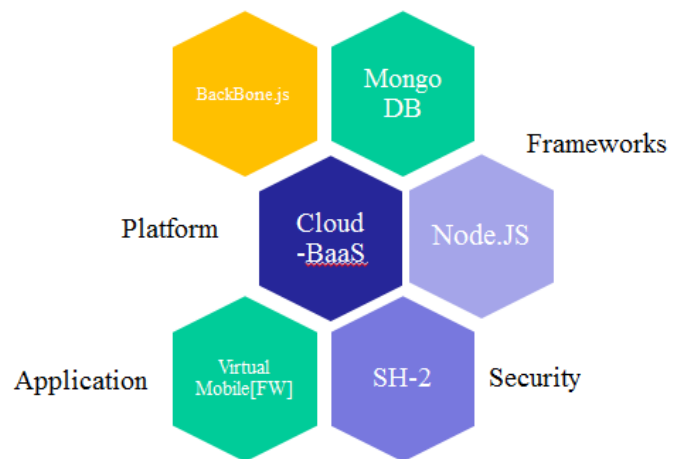


Fig -1: System Architecture Overview

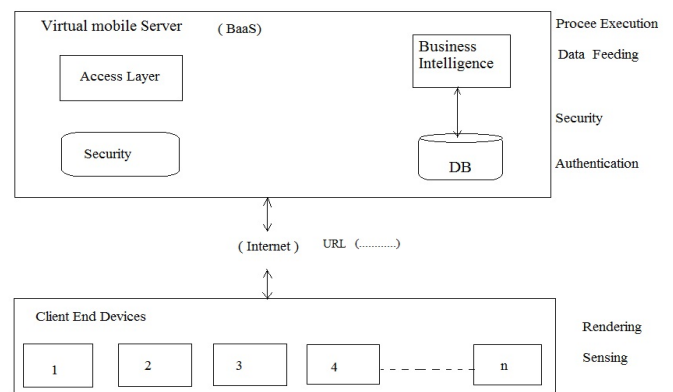


Fig -2: System Architecture

5. CONCLUSIONS

It allows user to create virtual smart phone application images in the cloud remotely run their apps on these images. Mobile applications installed in the cloud can access sensor readings on the physical smart phone. Boosts the performance of mobile applications by providing virtually unlimited computing resource, memory, without draining the device battery.

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