

# Running Multiple Android Apps On A Browser

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**Abstract**-With the advent of technology, high-end media – High Definition photos, movies, games, etc. we constantly face a challenge of managing our memory. Most of the images and videos are stored in high quality by default which makes it more difficult to manage the memory space in our phones. The internal memory or storage space of our mobile phones isn't enough as apps and media's size is growing too. With this scenario, downloading new apps or storing new pictures or videos can be a difficult task. One possible solution to this could be deleting pictures, videos or uninstalling old applications in order to download and install new ones. which can be quite a task as the regular updates make app sizes even bigger and hence freeing up space to make some for a new application can be quite a task.

In order to tackle this memory problem, we came up with the idea of AppVision.

**Keywords**- Memory, storage, browser, Android.

## I. INTRODUCTION

AppVision aims at running multiple applications on cloud and rendering them on your Android device's browser. Most of the times users face memory shortage in their mobile devices and hence cannot install certain applications. it aims at tackling this issue by providing a functionality to help users run multiple applications on phone without having the need to actually install them on their devices. we are using mobile cloud computing to provide this functionality in order to provide on demand access, security, bandwidth, storage, etc.

## II. LITERATURE SURVEY

In order to get a basic idea about the technical details and implementation, we have referred 3 papers on mobile cloud computing, cloud security, data organization in cloud computing. Given below is our conclusion and our inferences from the papers referred.

### A. "Basics of Mobile Cloud Computing" by esat journals<sup>[1]</sup>

Inferences: We understood the challenges, scope, approaches and solutions in the area of Mobile Cloud Computing since the paper focuses on energy conservation in

mobile devices, migration issues, application development platforms and the various mobile cloud computing applications, we got an idea of the potential mobile device issues and the need to devise a solution for them. The paper presents the survey on mobile cloud computing applications, challenges, existing solutions and approaches to overcome the challenges and thereby improve the user experience.

### B. 10 steps to ensure Security in Cloud Computing by the Cloud Council Organization<sup>[2]</sup>

Inferences: While cloud is becoming latest trend nowadays, it is very important to consider security issues with respect to cloud computing and with respect to the application we're developing. From this paper, we learnt how to follow a systematic guide and incorporate a step by step approach towards successfully hosting a cloud without compromising on security at any level by various techniques like enforcing security policies, managing people, roles and identities and also security provisions for cloud applications.

### C. "A complete perspective on cloud and handling data" by John Hagel

Inferences: This paper provides an enterprise approach to cloud data management, benefits fundamental to future enterprise computing, immediate and pragmatic opportunities to improve efficiencies today while managing cost effectively and systematically and setting the stage for strategic change. It helped us develop a professional approach towards development of the system. This paper helps us understand that cloud computing can be used to address tactical problems with which IT continually deals, like resource availability and reliability, data centre costs, and operational process standardization which can be very useful when it comes to development of AppVision.

Ref no.	Parameters	
	Paper Referred	Summary
[1]	"Basics of Mobile Cloud Computing" by esat journals	Cloud Computing, it's basics and how shortcomings can be overcome by using mobile

		Cloud Computing.
[2]	10 steps to ensure Security in Cloud Computing by the Cloud Council Organization	Step by step guide to Cloud Security. Cloud Security at end user level. Laws and policies related to security.
[3]	“A complete perspective on cloud and handling data” by John Hagel	Using Cloud applications for an enterprise, it’s challenges and data organization in cloud.

Table I: Summary Of Papers Referred

**III. PROPOSED METHODOLOGY**

Taking into consideration, the basic operating functionality of mobile cloud computing, security issues, data organization and some key factors about cloud computing, we aim at implementing SaaS private cloud for our project that aims at running an Android simulator to provide software as a service to the end users by rendering android applications on demand. In order to use AppVision, the user must first be registered on the system. For that, the user needs to sign up using his email ID and password. Once the user has been successfully registered, he may log in to the system and use it. Whenever user logs into the system using his credentials, he can search for the desired app that he wishes to use. If the instance of the app is available on our cloud, user further gets an option to play it on AppVision or download it on his phone in case of which he is redirected to the Google Play Store to do so.

If user wishes to play or run the app on AppVision, our system first checks the type of user-normal or premium, renders the app on the user's phone browser for the user to use it as required according to the type of user that he/she is. In case an application that user wishes to use isn't available on our system, we also aim to provide the functionality for users to request that particular app to use it on our system. Since the app actually runs on an Android emulator on the AppVision's private cloud, you don't have to worry about data and privacy issues as several security steps are implemented, memory encryption of data, SSL encryption is performed, etc. After the user is done with using the applications that he wishes to, he/she may log out of the session. The activity of the user on the application will be saved so that it is available to the user the next time he logs into the system.

The flow of the project can be seen in Fig 1.

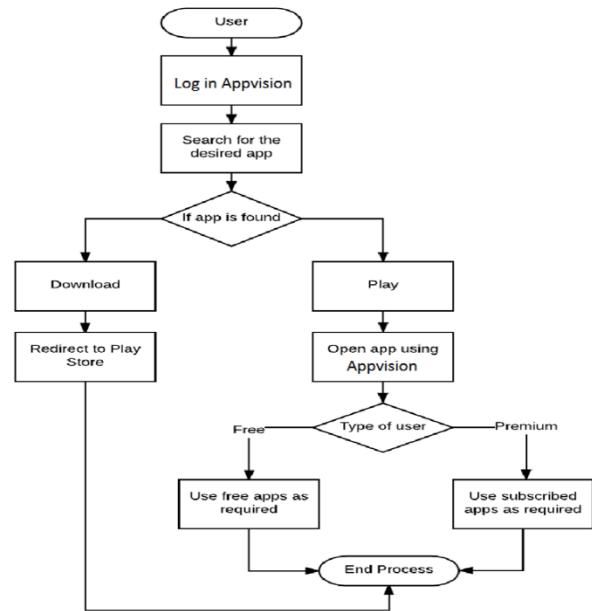


Fig. 1 Flow of the project

**IV. DESIGN**

**A. Data Flow Diagrams**

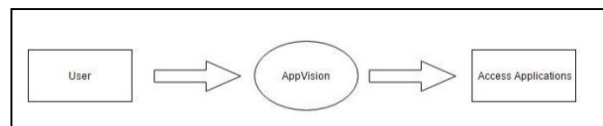


Fig.2 DFD Level 0

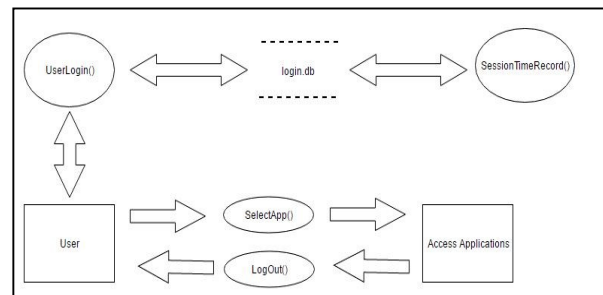


Fig.3 DFD Level 1

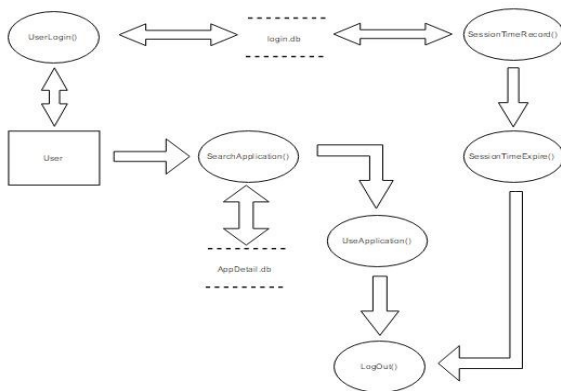


Fig.4 DFD Level 2

**B. Deployment Diagram**

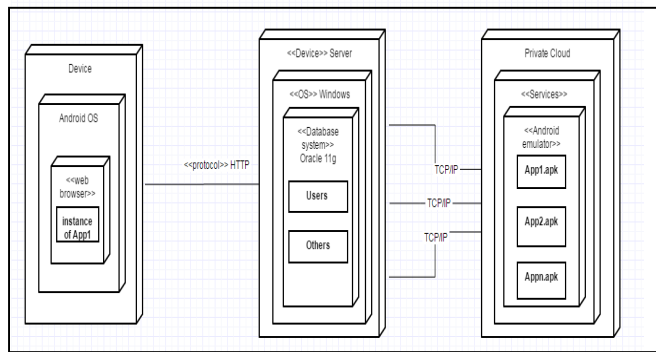


Fig.5 Deployment Diagram

**V. PROCESS MODEL USED – INCREMENTAL MODEL**

- o The project is divided into various builds, so Incremental Model is used.
- o A working version of the system will be produced during the first module and each subsequent release will add functions to the previous release.
- o Other reason for using Incremental Model is because it is more flexible, easier to test and debug and easier to manage risk because risky pieces are identified and handled during iteration.

**VI. SCOPE**

- A. Due to the usage of cloud is increasing day by day, the use of apps which are cloud based is also increasing. Hence, the proposed the system will be using cloud to not just try out but also use these apps regularly.
- B. End user can also try out apps for one time use which won't take up any space on the user's device.
- C. Keep your system healthy & strong by testing unknown software.

- D. AppVision in future can also be used on Windows, MAC and Linux.
- E. With the use of mobile cloud computing, we can use features like GeoLocation for improving user experience

**VII. CONCLUSION**

The data requirements are increasing from day to day. There are 2 billion internet users today generating around 100 petabytes of data every day. With so much data consumption, arises a need of managing and storing that data. We would like to achieve this by managing data storage on user's end by enabling the users to access their applications through a web browser interface. This will eliminate the need to uninstall and reinstall applications when memory is running low. This is highly useful for devices that do not have expandable storage functionality on their phones.

**REFERENCES**

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