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Search Box: File Sharing and File Access System

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Abstract—*There has been a significant increase mobile devices users over the past few years and internet connection is available almost in all regions. This increase in the number of devices such as Laptop, Mobiles, Tablets and some Desktop users too, our information and data is scattered to each of these and we normally keep our frequently used data in our Mobile devices and to access our data in other devices we have to connect through data cable or Bluetooth or local LANs. Due to increase in our usage devices our data is scattered and we can't accessed it uniformly. SearchBox - A connected system, is a system environment to provide the end users access to all the data scattered or stored in various devices used by the user. The end users can search for a query through devices from one devices to obtained information at one place. Search box can be used by any users who use multiples devices across different platforms and keep different data across different devices. Search box provides them a unified system through which users can access all its data through any device.*

1. BACKGROUND

This problem is tackled through Upload then download, Wi-Fi direct sharing, Bluetooth sharing, Cross Platform Sharing only allows sharing of specific either user chosen files. Many organizations and developers have tried to tackle these problem through Application accessing files in Desktop or Laptop devices through LAN shared folders, or sending files through one devices using Local Wireless LANs or Bluetooth but still one has to do it manually and we do not have accessed to all the files. As the number of devices is increasing so is the number of the mobile users more users data gets scattered and it becomes hectic for the user to have access of a particular file needed presently which is available to different device and till now the problem is tackled through LANs shared folders or through cloud storage such as in the case of AirDroid platform where user sends the data file through a web service of AirDroid where this data file is uploaded on cloud and then downloaded. Airstream by Nitya Labs allows sharing and viewing of files from PC and Cloud but the sharing is one sided as the user of mobile device can access PC and Cloud data but from Pc mobile device data is accessible another drawback to Airstream is user needs to be on same Wi-Fi network, if user is not on same Wi-Fi network, Airstream won't work. Shareit is a cross platform sharing application file but it doesn't allows the users to view or access files directly without downloading or receiving these files and the Shareit application works only on local Wi-Fi network.

2. INTRODUCTION

Over the past few years we have been using data cable and Bluetooth file sharing to share our content to and fro from other devices. As mobile devices memory is limited we cannot keep all our data at one place. We keep only the frequently used data in our devices. So, we share only those data but can only access to those when these devices are in one place. We can also upload our file to cloud storage and then download it to our devices but if the file size is large upload and download will consume time.

Our Proposed system is to unify all the devices so we can easily access all the files on a single device without using other devices. All the documents can be viewed, videos and audios available in other device can be easily streamed over Wi Fi Connection with local LANs at home and with Internet when these devices are on different network. SearchBox has an additional features that separate it from others competitorsand sharing of these data with permissions for added security.

3. IMPLEMENTATION

The SearchBox implementation has three major components: creation of JSON object of device's data, then attached it to device's IP address, and the view to access the data.

As the device's data is large in memory the data cannot be copied to other devices instead a JSON object is created of device's data location of files and folders this JSON object when regenerated into a tree structure mimics the actual location of devices file manager structure thus each file and folder now easily structured into accessing devices.

Now the device data is structured into accessing device in order to access data IP address of that device is required thus mimicking a FTP structure by attaching IP address to tree structure of device's data each folder and file becomes accessible.

The view-it's the last stage of implementation the explorer of SearchBox gives the view of data in other devices, thus mimicking that the data is in one place.

4. TOOLS, SERVICES AND METHODS

This section is to present a detailed description of the SearchBox app. It explains the hardware and software requirements for developing the application and its interface, tested features of the app, what the app will do, the constraints under which it must operate and how the app react to external stimuli.

4.1 Hardware Platform

This app has been developed using 4 GB of RAM, i5 2.20 GHz 500 GB Hard disk space but the Minimum requirement of such kind of application for a machine is: 1.6 GHz or faster processor

1 GB of RAM (1.5 GB if running on a virtual machine)

10 GB (NTFS) of available hard disk space 5400 RPM hard drive

DirectX 9-capable video card running at 1024 x 768 or higher display resolution

4.2 Software Platform

This app is developed in a platform of Microsoft windows 8 Operating System. Microsoft Windows is a series of graphical interface operating systems designed, developed, marketed, and sold by Microsoft onwards from November 20, 1985. The most recent versions of Windows are windows 8 and 8.1.The Other Supported Operating systems are:

Windows 7 SP1 (x86 and x64)

Windows 8 (x86 and x64)

Windows Server 2008 R2 (x64)

Windows Server 2012 (x64)

4.3 Development tools and Storage

Eclipse IDE, Eclipse ADT plugin and Google Android SDK have been used to develop this SearchBox app for designing and developing this app. Eclipse is an integrated development environment (IDE). It contains a base workspace and an extensible plug-in system for customizing the environment. Android Development Tools (ADT) is a plugin for the Eclipse IDE that is designed to provide an integrated environment in which to build Android applications. ADT extends the capabilities of Eclipse to let developers set up new Android projects, create an application UI, add packages based on the Android Framework API, debug their applications using the Android SDK tools, and export signed (or unsigned) .apk files in order to distribute their applications. It is a freeware available to download. It was the official IDE for Android but was replaced by Android Studio (based on IntelliJ IDEA Community Edition).The Google Android software development kit (SDK) includes a comprehensive set of development tools. These include a debugger, libraries, a handset emulator based on QEMU, documentation, sample code, and tutorials.

4.4 Functionalities (use case diagram)

The users of this app can sign up and login to have access to their devices data. Once logged in with a device they can register that device to bind it to their account. The users can view or stream their data stored in other devices registered by them.

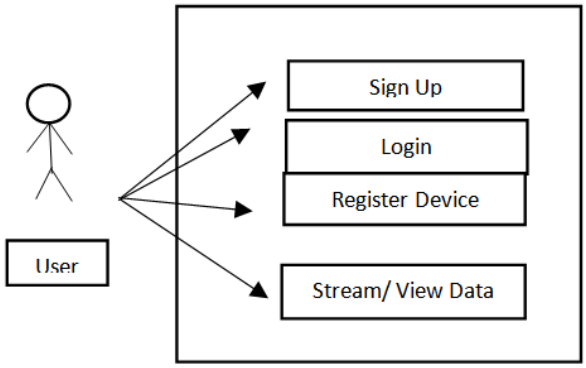


Fig. 1: Functionalities of user

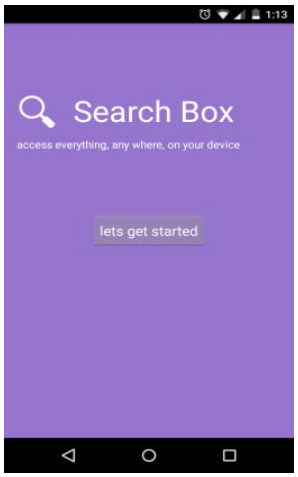
4.5 Emulation and tests

Android Emulation Software is used to provide a virtualized environment, this emulator help develop and test Android applications without using a physical device. This app is tested on Android 4.4 Kitkat Platform. The virtual device mimics actual physical device by which the behavior of app can be tested.

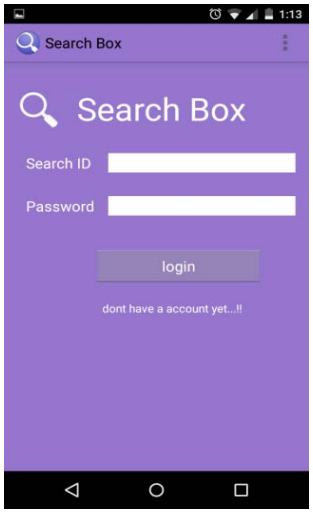
5. RESULT ANALYSIS

The user of SearchBox is now able to access files from their other devices on a single device. They can also share files to their friend having complete control over the nature of sharing, whether to let them download files or just stream and view.

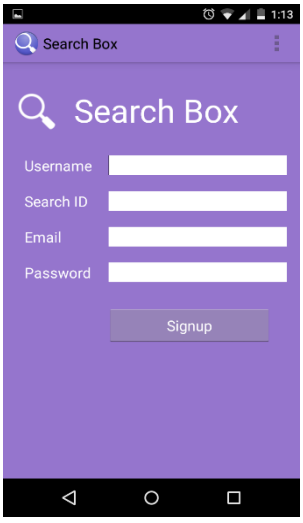
SearchBox Unique search ID is the thing that has made this possible. It is provided to user at the time of registration and he or she can login with it to any number of devices that they own.



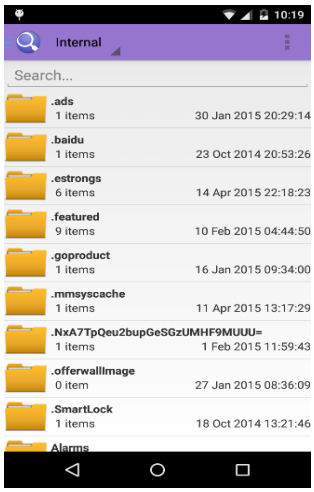
FIRST SCREEN



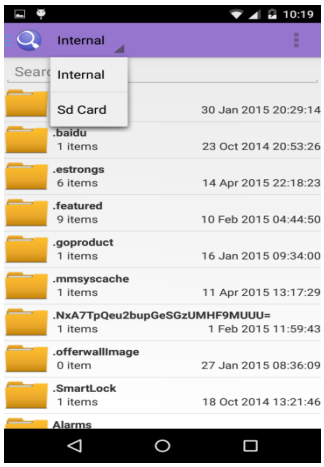
LOGIN MODULE



REGISTER MODULE

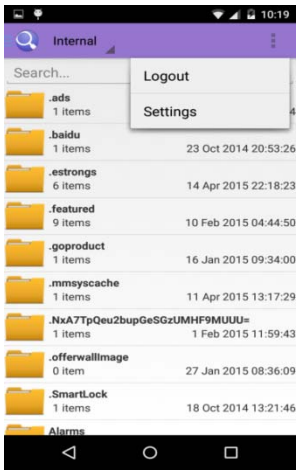


FILE EXPLORER

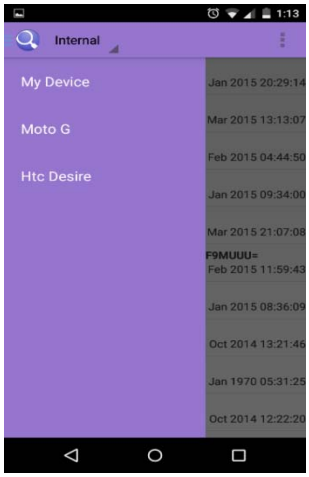


DIFFERENT ROOT NODE

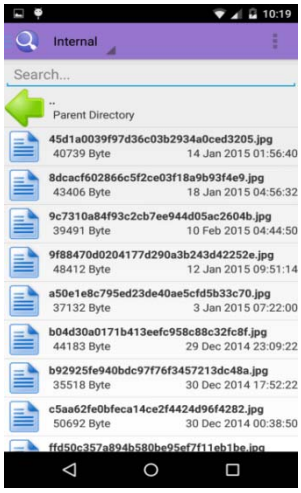
(INTERNAL MEMORY AND SD CARD)



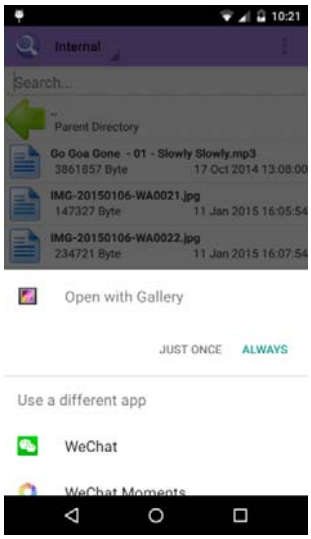
LOGOUT AND SETTING



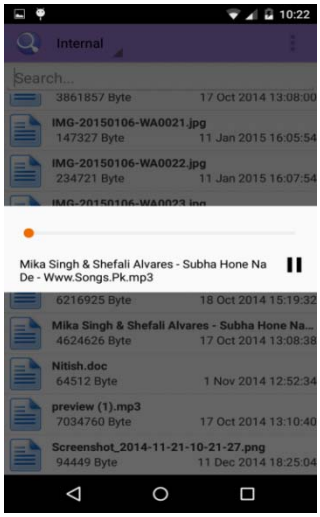
DEVICE LIST



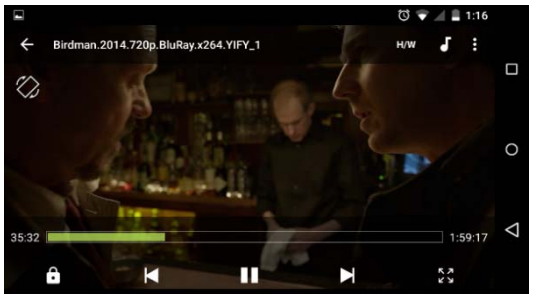
FILE BROWSING EXPERIENCE



SELECTING MUSIC



PLAYING MUSIC



VIDEO STREAMING

6. SECURITIES AND ISSUES

The securities issues related to this app our minimal as it only relates to the hacked accounts.

The general issues related to SearchBox app are dynamic IP addressing as mobile device moves from one location to another its IP address changes. The other issue is that when accessing that from other devices is that they need to powered on and connectto an internet connection to have access to their data and our app background services need to be running in the background in order to synchronize data.

7. CONCLUSIONS

We have described SearchBox- A connected system Android Version. This is very useful as and when one is required to view or stream data from one of his synced devices instantly without copying or sending it to that device. The SearchBox is able to do following functions when user has registered for the SearchBox id stated as under:

1. App is able to sync multiple devices under one unique SearchBox ids.

2. App is able to view data from both internal and external data of synced devices.
3. App can stream or view compatible data files such as audio or video or document files.
4. App has file browser where all the data of synced devices can be viewed.

8. FUTURE SCOPE

SearchBox – A connected system is available to and accessible to android platform. In the subsequent versions Available to all Major Operating Systems. The future of this project is endless. This basic system idea can be incorporated to a uniform system connected through all devices and such uniformity can be helpful to organizations working across different regions where different teams can work and access projects together. This can give rise to personal and shared data, the personal data attribute will not be seen by the users and only accessible to the registered users with authentication of users' unique ids along on user approved IP addresses and our system will be able to uniquely identify if the devices are connected through a new IP address and registration of that IP addresses only if users wants to access their personal data and on the other hand the users can give their data shared attributes which will be accessible to other users and giving rise to the social networking platform where everyone is connected across all devices across all platforms across all network.

9. ACKNOWLEDGEMENT

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REFERENCES

[1] Yi-Bing Lin & Imrich Chlamtac, "Wireless and Mobile Networks Architectures", John Wiley & Sons, 2001.

[2] Raj Pandya, "Mobile and Personal Communication systems and services", Prentice Hall of India, 2001.

[3] Mark Ciampa, "Guide to Designing and Implementing wireless LANs", Thomson learning, Vikas Publishing House, 2001.

[4] Ray Rischpater, "Wireless Web Development", Springer Publishing, 2000.

[5] Sandeep Singhal, "The Wireless Application Protocol", Pearson Education Asia, 2000.

[6] P.Stavronlakis, "Third Generation Mobile Telecommunication systems", Springer Publishers, 2001.

[7] Mischa Schwartz, "Mobile Wireless Communications", Cambridge University Press, UK, 2005

[8] "Mobile Communication Hand Books", 2nd Edition, IEEE Press.

[9] Theodore S Rappaport, "Wireless Communication Principles and Practice", 2nd Edition, Pearson Education, 2002.

[10] Lawrence Harte, "3G Wireless Demystified", McGraw Hill Publications, 2001.

[11] Kaveh Pahlavan and Prashant Krishnamurthy", Principles of Wireless Networks", PHI, 2001.

[12] Timothy Rooney, "Introduction to IP Address Management "

[13] Hello, Android: Introducing Google's Mobile Development Platform

[14] http://developer.android.com/guide/index.html

[15] http://android-er.blogspot.in/2014/02/android-sercerclient-example-server.html

[16] http://android-er.blogspot.in/2014/02/android-sercerclient-example-client.html

[17] http://www.w3schools.com/json/

[18] https://www.youtube.com/watch?v=hzrGAZnMOMQ&list=PLonJJ3BVjZW6hYgvtkaWvwAVvOFB7fkLa

[19] https://www.youtube.com/playlist?list=PLonJJ3BVjZW4lMlpHgL7UNQSGMERcDzHo

[20] https://www.youtube.com/watch?v=Oa1mlObffiA&list=PLonJJ3BVjZW5JdoFT0Rlt3ry5Mjp7s8cT

[21] https://www.youtube.com/playlist?list=PLonJJ3BVjZW6hmkEaYIvLLm5IEGM0kpwU

[22] http://computer.howstuffworks.com/internet/basics/streaming-video-and-audio.htm

[23] http://www.makeuseof.com/tag/find-ip-address-mobile-smartphone/