



ORIGINAL ARTICLE



ANDROID APPLICATIONS WITH ARTIFICIAL INTELLIGENCE IN MOBILE PHONES

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Abstract

“One great thing about Android is that, it deals with the maximum of the features which are based on artificial intelligence.” This paper first gives some background information about android applications to work with artificial intelligence and their usages in mobile phones. Then it also highlights the upcoming new applications, which can be possible in mobile phones based on Artificial intelligence with android operating system. Android and AI are two different technology friendly things, which can combine together in mobile phones to make its usage more intelligent. Different upcoming technologies which can be use frequently to raise the number of applications and services for mobile users. Among them few are: DAI2, Mental Typewriter, Alice, Siri, R.I.V.K.A and Watson. Such technologies are headed for mobile devices become more prevalent and capable of handling complex tasks more easily.”

Keywords: DAI2, Siri, Alice, Watson

INTRODUCTION

Today, in the world of technology, where daily updates are confusing the minds of end users, most frequently using operating system in today’s scenario is ANDROID, which is having its updates in daily routine in the market. It uses different methods and modes of technology and IT to launch its new applications for end users to make their usage easier. For which some of them are using Artificial Intelligence methods to make applications of Android more updated. Here I am going to discuss about various applications which can be form by using AI techniques.

LITERATURE SURVEY

1. Artificial Intelligence

“Our ultimate objective is to make programs that learn from their experience as effectively as humans do. We shall...say that a program has common sense if it automatically deduces for itself a sufficient wide class of immediate consequences of anything it is told and what it already knows.” - JOHN MCCARTHY

Presently, Artificial intelligence having its wide spread usage in robotic systems, where we can say Artificial intelligence is the recreation of human brain to explore more inventive abilities to make work easier to do. Basically the working of AI robots or AI computers is through sensors or human inputs. We, say that the real challenge for AI is to work in similar manner as natural intelligence work.

There is one such AI based robot already running is: KISMET (humanoid robot), where the main work is with neural networks in which the basic aim is to mimic the structure of human brain to create intelligent behaviour through the electronic signals. Also, it has wide spread usage in defence, gaming and finance.

As, in defence services some current uses of Artificial intelligence are in DART – a planning tool used in desert storm and desert shield, where the main goal is to improve reaction and decision making time to implement more effective actions in time.

2. A.L.I.C.E(Artificial Linguistic Internet Computer Entity): ALICE is one of the most frequently running AI programs, that behaves similar to human thinking because of which most of the people take it as a real person. It is a chatterbot – a program that engages in a conversation with human by applying some heuristical pattern which matches rules to the human inputs given in it, which in now based on java technology ,can create own virtual personalities easily. Can easily be used in mobile phone but having little bit static therefore cannot use so frequently.

3. Android

This is most widely used operating system by smartphones and tab computers. Android has a wide variety of developing. Also different versions are there for android based platform.

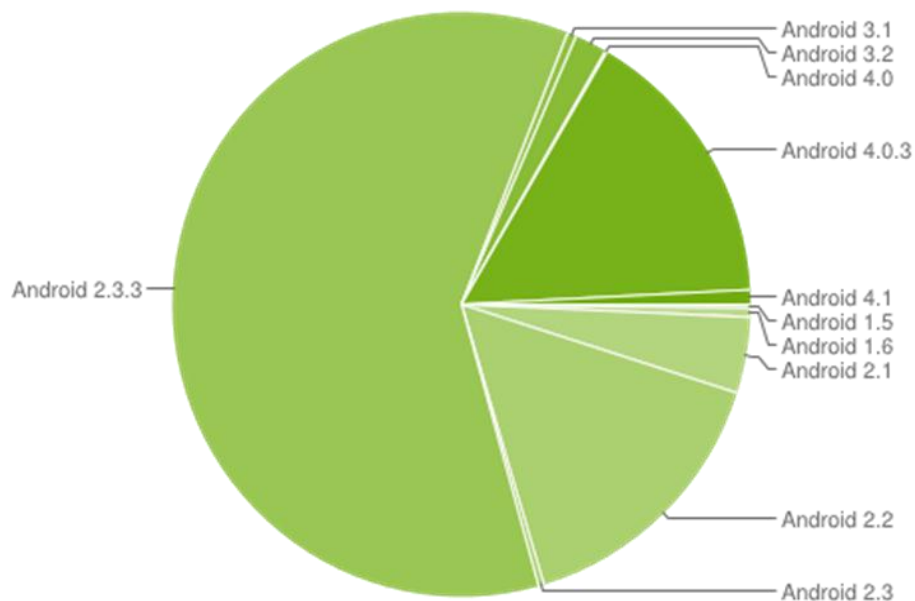


Fig.1: Market Share of android versions till August, 2012

Together with the popularity, a range of system platforms and application programming environments have been created for the phones. This includes Symbian, PalmOs, J2ME, Blackberry, Windows Mobile, iPhones, Android in the open handset alliance (OHA), which is running successfully on Motorola, HTC, Samsung, LG and many more.

Availability of Android

Android does not differentiate between the phone's core applications and third-party applications. They can all be built to have equal access to a phone's capabilities providing users with a broad spectrum of applications and services. With devices built on the Android Platform, users are able to fully tailor the phone to their interests. They can swap out the phone's home screen, the style of the dialer, or any of the applications. They can even install, track their phones to use their favourite photo viewing application to handle the viewing of all photos.

With Android, a developer can build an application that enables users to view the location of their friends and be alerted when they are in the vicinity giving them a chance to connect.

Market research of Android

Android, Inc., developing software for mobile phones was acquired by Google in July 2005. In November 2007, with establishment of the Open Handset Alliance (OHA), Google announced its entry into the mobile world, not as a handset manufacturer, but as an OSV (Operating system vendor) offering the android platform.

According to iSuppli (Vinitia, 2010) today, all major OS vendors are working to create an active ecosystem of application developers that can help build attractive applications for their OS platform.

RESULT & DISCUSSION

We are provided with lot many applications based on artificial intelligence on our androids. I gather and examine information regarding what all can be add to existing features to android apps. Few of them with their existing as well as add on features according to my research are mentioned below:

DAI2 – In DAI2 (Dynamic Artificial intelligence 2) technology, artificial intelligence plays a vital role, as in this we can get very entertaining answers to the most basic of questions. It is a funny chatbot or (chatter bot). It holds weird and wonderful conversations.

SIRI – Siri is the voice driver assistance that helps users with their daily tasks with natural language voice commands. But can you get the same kind of slavish devotion from an Android phone? Yes, the slavish devotion of same kind is proved from this classic executive secretary, called Siri. Also, we have new technology based on Siri only, is Jeannie.

SILVIA- Android features practical integration with your phone's operating System and key applications that is similar to other technologies such as Siri or Voice Actions. But unlike other voice technologies, SILVIA for Android features a learning context-sensitive conversation engine that runs directly (and privately) on your phone or tablet.

WATSON - A key to Watson's success is what IBM calls natural language processing – the ability to tease out the meaning of a sentence. Search apps today just recognize individual words and then they look for matches.

AIVC (Alice) – Alice is also one of the personal assistance like discussed above about Siri and Watson. The added feature by which we can differentiate it from all above is:

This technological application assists us with SMS, Email, Translation, Navigation, Alarm, Timer, App Launcher, Calculator, Facebook and Weather.

As per my search says, this particular application supports bug free texting, which is supportive to handle if any error or bug occurs, then it handle it simultaneously.

AI Webcam - Artificial Intelligence webcam surveillance is a powerful surveillance system. All you need is just a simple web camera, and it will do all the important things for you. This application can work as a hidden camera, which can be used for security purposes and can overwhelm human efforts. It has certain more reliable features, motion Detection, Hiding ability, Security, gives notification too.

All these above mentioned technologies are being used frequently by android mobiles and can make easy many tasks easy for the end users. As, they all have robotic AI in them.

All applications which are supportive by this these above technologies in Apps are as follows:

- Pattern recognition
- Optical character recognition
- Handwriting recognition
- Speech recognition
- Face recognition
- Artificial Creativity

As we have large market of applications for android worldwide, among which all have their equal importance and existence.

Applications reduce human efforts in their own way, as Siri reduces human efforts by providing it human speech recognition by having natural language interface in it.

Similarly, Watson does. If we compare both of them, then Siri somewhere lacking behind in providing exactly same speech sound given as input by the user. This thing is overcome by Watson software. Also DAI2 (Dynamic Artificial intelligence 2) is somehow comparative to Siri because it supports natural language to reply the users and can reply you/ user by weird replies. Hence, it is not much supportive and its glance.

AIVC (Alice) is complete AI based software as it works with human thinking level. This can think accordingly through its sensor similarly like human mind and also have great usage in robotic, where Artificial intelligence use is at higher level.

AI Webcam is used for security purpose and very high scale, to avoid human effort and help humans in tracing many weird things easily.

If we talk about hardware, Siri is supportive in iPhone 4S, Watson is supportive in High tech phones like blackberry, AIVC is used with android siri phones, A I webcams can easily be supportive to all android phones.

CONCLUSION

Android Phones can act like a personal assistance to most smart phone users. Apps plays a vital role as a tool box at home for all its users, which leads users towards the grand gate of the digital world. However, we can conclude that all apps are essential and almost thoroughly engaged in people's life. There can be much more research on how to handle upcoming need of the users worldwide, who all are engaging themselves with technology for accomplishing their day to day work.

All these upcoming technologies soon become more famous worldwide, if such discussed add on features are more supportive to all of them to make them techno friendly.

According to my research I can conclude that, DAI2 can add on features of having voice chat within chatterbot only, through which one can have replies in voice tone instead of in writing. Also, the back and forth chat system can be add on to it.

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