A Survey of Apps for E-Learning 2014

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Abstract - As of year 2014, the total number of Apps available in leading Apps Stores include Google Play, Apple App Store, Window Phone Store, Amazon App Store, and Blackberry were over 3 million apps. From the survey shown in Techcrunch.com, in the year 2014, the time spent on Apps is 86% of the total time spent on mobile devices. The survey further shown that the largest percentage of time spent on mobile devices was 32% on games, followed by 17% on FaceBook, on other social messaging, on utilities, and so on. The statistics from Techcrunch however did not mention about the usage of App for eLearning, but since eLearning has been more and more popular, so apps regarding to eLearning would be increasingly used in the future. This paper therefore discusses about apps for education and apps for eLearning which consist of Ten App Trends for Education and Others in 2014, Kids Developing Apps, Apps for Education Developed by Teachers, Apps Developed by Students, App on a Tattoo on the User’s Arm, Education Apps from Apple Apps Stores, and Education Apps from Google Play. This paper summarized that in addition to activating Apps on mobile devices, it was possible to App icon on tattoo on the user’s arm and activate it there. Thus, all parties should search Google to find up-to-date information to study and use for the benefits of themselves, their organizations, their countries, and the world.

Keywords - Development Apps, Apps in Mobile Devises, Education Apps, Apps for E-Learning

I. INTRODUCTION

As of July 2014, the number of Apps in leading Apps Stores are:
- 1,300,000 in Google Play
- 1,200,000 in Apple App Store
- 300,000 in Window Phone Store
- 200,000 in Amazon App store
- 130,000 in BlackBerry World or over 3 million Apps [1].

As of July 2014, the usages of Apps are increasing in the year 2014 [2]. As of March 2014, on the average, the users are spending 2 hours and 42 minutes per day on mobile devices and 2 hours and 19 minutes of the 2 hours and 42 minutes are used on Apps. In percentage, in the year 2014, the time spent on Apps is 86% of the total time spent on mobile devices. However, the largest percentage of time spent on mobile devices is 32% on games. The other usages are 17% on FaceBook, 9.5% on other social messaging, 8% on utilities, 7% on Apple Safari, 5% on Google Browser, 4% on productivity, 4% on YouTube, 4% on entertainment, 3% on news, and the rest on others.

The statistics from Techcrunch did not mention uses of App for eLearning but since eLearning are getting more and more popular, Apps must have been and will continue to be used for eLearning. The first author has written many articles about App [3-13].
This paper discusses Ten App Trends for Education and Others in 2014, Kids Developing Apps, Apps for Education Developed by Teachers, Apps Developed by Students, App on a Tattoo on the User’s Arm, Education Apps from Apple Apps Stores, and Education Apps from Google Play.

II. TEN APP TRENDS FOR EDUCATION AND OTHERS IN 2014

The guardian presented ten app trends for the year 2014 [14].

- The first trend is that an app crash is coming. The average revenue for an app for the developer is about 8,000 US$ but a lot of apps are hobbyist projects and do not earn any money and so there would be a crash.
- The second trend is that iOS and Android are still front-of-mind for developers.
- The third trend is that privacy is a priority for Apps.
- The fourth trend is that there will be more apps to play games free of charge.
- The fifth trend is that there will be rapid growth of messaging apps.
- The sixth trend is that in addition to apps for smartphones and tablets, there will be more and more apps for wearable, in-car, and Internet of Things (IoT).
- The seventh trend is that there will be more and more apps for education. As examples, low-cost Android devices are popular in India and iPad in California. In addition, parents are also buying computers for their children to use at home. So, developers will produce more apps for education. An interesting question is how educational administrators, educational institutions, and individual teachers would decide what apps to use and how to integrate them into existing curriculum. In addition to commercial developers, children all over the world are learning how to write apps. In the year 2013, there were many news stories of 13 year-old writing apps.
- The eighth trend is that there are a lot of apps are created specifically for an office. Each of those apps is used only by a small group of people in the office it was developed for.
- The ninth trend is that there are outdated regulations against sharing apps and those regulations will be modified to suit the apps age.
- The tenth trend is that there will be apps to help the users thinks more carefully before using the apps. An example is when a mother rushes to take picture of her kids on the stage to share the photo on the web but the kid needs a hug much more than to have the photo on the web.

III. KIDS DEVELOPING APPS

In addition to commercial apps developers, kids are learning to develop apps. An example is published in the Guardians [15] and Spotlight.macfound.org [16] that a 12 year old boy named “Thomas Suarez” from Los Angeles was honored for his app-creating company named "CarrotCorp" which sells four mobile apps he created. When he was 9 years old, he downloaded an iOS simulation toolkit to learn app-developing skills. Of the four apps he developed, 2 are free and the other two 99 cents each.

Fig 1. Thomas Suarez
A 12-year-old App Developer from Los Angeles

The second example is the case of two brothers from Chennai, India, at the age of 11 and 13 [17]. They established a company named "GoDimensions" and produced apps such as "Catch me Cop", "Prayer Planet" and "Color Planet".
Their apps can be used on both iOS and Android platforms. The number of downloads of their apps is more than 20,000 from over 42 countries. When the two kids started enjoying mobile games, their father encouraged them to create their own games. So, they created their first app for playing game with the knowledge of programming they learned earlier.

The third example is “iRead Monthly” application which was created by a 10-year-old named “Daniel Chao”. He also won “Best App Created by a Fifth Grader”. This app helps the readers to keep track on how much time they spend reading.

IV. APPS FOR EDUCATION DEVELOPED BY TEACHERS

If kids can create apps, teachers should be able to create apps also.

The first example is "Corey Walker" who is a speech teacher in Albuquerque, N.M, USA, during the day and an app developer at night [18]. US kids have problems pronouncing "Rs" and "Ss". So, one of his apps shows kids where their tongue should be positioned to say the sound. Walker’s apps can be found by searching "pocket slp". The price is about 5 US$ per app.

The second example is from Spotlight.macfound.org [19]. "Frederick Feraco", a teacher at Columbia Secondary School in New York City, USA, has developed 12 apps, eight of which are specific to the Regents exams, covering topics ranging from biology to U.S. history. His apps can be found through iTunes.

V. APPS DEVELOPED BY STUDENTS

From “GettingSmart.com”, it presented the article named “Top 25 Smartphone Apps Developed by Students”. The examples of the apps will be presented in this section.

The first example is “Pulse News Reader” which was designed by two Stanford graduate students. The application gathers all the news from blogs, websites, and social media to be seen in one clear interface.
The second example is “Power Planner” which was created by a student from University of Arizona named “Andrew Bares”. The application aims to let students keep track on their assignments, schedules, and even calculate their GPAs. This app won a prize in “Big App on Campus” contest which was sponsored by Microsoft.

The third example is “Rover” which was developed by two students from Harvard University. This app allows students from Harvard University and University of Cambridge to update news, deals, and events from both universities. The app won the contest named “Big Mobile on Campus Challenge 2009”.

The fourth example is “SeizeTheDay” which was developed by “Ben Gilbert”, a senior student in Computer Science and Engineering at Ohio State University. It helps the users to check their to-do lists easier than before.

The fifth example is “CrimePush” which was developed by a student from University of New Hampshire School of Law in Concord. The app allows the user to shake their phones for emergency and alerts for the emergency contact if the user is not checked in on the specific time.
The sixth example is “iHomework” which was developed by Virginia Tech Student named “Paul Pilone”. This app helps the students to keep tracks on their assignments and projects.

The seventh example is “Winter Survival Kit” which was developed by two Computer Engineering students at North Dakota State University. This app is a life-saving app which helps drivers who stuck in the wintry conditions to notify their family and emergency personnel as well as providing important safety information.

Instead of activating an app from your mobile phone, it is possible now to activate it from your arm. From Topmobiltrends.com [21], a user can get his arm tattooed with the app icon.

From “Telegraph.co.uk”, it provides the example of App on a tattoo that Nokia has created. The tattoo on a user’s arm will vibrate when the phone is ringing or the battery is running out. To dismiss, the user has to scratch their arm. It has different communicating sequences for different operations, including messages, emails, or warnings.

There are so many Education apps from the various Apps Store. From “Edudemic.com” [22], it provides over 100 education apps for iOS platform. Samples of the top ten education apps will be presented here.
The first example is “Nearpod”. This application allows teachers or instructors to send the content of subjects to student’s devices in interactive formats, including videos, slide shows, quizzes, and websites. Also, the students are allowed to submit their homework via the application to teacher’s device.

![Fig 12. User Interface for Nearpod App](image)

The second example is “Mathcubes: Addition and Subtraction”. This application motivates children to enjoy learning mathematics in a fascinating way. You will be able to see the improvement in an amount of time they make efforts in the application.

![Fig 13. User Interface for Mathcubes: Addition and Subtraction App](image)

The third example is “ExitTicket Student Response System”. This application allows the teachers to response each student about their progress. Also, it allows teachers to differentiate instruction for each student to work on for their improvements.

![Fig 14. User Interface for ExitTicket Student Response System App](image)

The fourth example is “Vocabla: Learn English Vocabulary”. This application provides games and flashcards for the children to practice their English vocabularies.

![Fig 15. User Interface for Vocabla App](image)

The fifth example is “Evernote”. This application supports education which allows the students to take notes, save ideas, as well as creating to-do lists in order to improve the productivity.

![Fig 16. User Interface for Evernote App](image)
The sixth example is “Photozeen: improve your photo skills!”. This is an educational application for photographers to learn tactics to take better photos. Also, it offers tips and feedback for the users. The users are able to connect with people that have same interests.

![Fig 17. User Interface for Photozeen](image1)

The seventh example is “Explain Everything”. This application works like a whiteboard where the users are able to explore their ideas, taking notes, and record data. All the information can be played back at a later time.

![Fig 18. User Interface for Explain Everything App](image2)

The eighth example is “Coursmos”. This is a micro-learning platform application. It is suitable for people who don’t have any motivation to study online. This application will provide a short course. For example, a micro-courses of up to 9 lessons each 3 minutes long.

![Fig 19. User Interface for Coursmos App](image3)

The ninth example is “Book Creator”. This application allows the user to create their own e-textbooks. There are many features to add-ons, such as, photos, videos, and audios. The finished textbooks can be exported to iBooks or Dropbox for later use.

![Fig 20. User Interface for Book Creator App](image4)

The tenth example is “Brainly.com - Homework Help”. This application is a social networking application for group study. It provides tools that could help with school subjects.
VIII. EDUCATION APPS FROM GOOGLE PLAY

From “Edudemic.com” [23], there are many applications provided for the Android users to download for different usage. There are both paid and free applications provided. In this section, the examples of Education apps will be given.

The first example is “Courses123-Language Learning”. This app helps to user to study foreign languages including: French, German, Spanish, Italian, and English. It could help you to learn the words and pronunciation. It provides, videos, flashcards, dialogues, and quizzes for the users to practice languages.

The second example is “Math Duel: 2 Player Math Game”. This app is a fun educational game which allows two players to compete each other in Math.

The third example is “Zeus vs. Monsters - Math Game”. This app is also an educational game where the users need to answer Math question each time they would like to fight for each level. This app encourages children to practice their arithmetic problems.

The fourth example is “GS Kids! Preschool Games”. This app is suitable for kids to develop their various skills, including spatial reasoning, visual perception, recognition, and creativity. The games will include different topics that study in kindergarten, such as alphabets, numbers, shapes, and colors.
The fifth example is “Math vs. Undead: Math Workout”. This app is a combination between zombies game and educational game for the children to enjoy practicing their Math skills.

![Fig 25. User Interface for GS Kids! Preschool Games App](image1)

The sixth example is “Math Claw Machine: Sweet Games”. This app is a combination between candy claw game and math game to attract people to do math workout in the beautiful scenes.

![Fig 26. User Interface for Math vs. Undead](image2)

The seventh example is “Screentime Ninja”. This app is suitable for kids who are addicted to games. Their parents can set up the time for their children to stop playing games. As the time reaches, this app will block all the current game and math problems will pop-up. Children have to finish all the problems from this app to unblock the device and continue the current game.

![Fig 27. User Interface for Math Claw Machine](image3)

The eighth example is “Additio App - Gradebook for Teachers”. This app is developed for teachers to manage their classes. Also, this app helps teachers managing students’ grades on tablet which is easy for the teachers to access to each student’s progress.

![Fig 28. User Interface for Screentime Ninja](image4)

![Fig 29. User Interface for Additio App](image5)
IX. CONCLUDING REMARKS

As of the year 2014, there are over three million Apps. Kids and teachers are developing Apps. In addition to activating Apps on mobile devices, it is now possible to App icon on tattoo on the user’s arm and activate it there. So, all parties concerned should search Google to find up-to-date information to study and use for the benefits of themselves, their organizations, their countries, and the world.

REFERENCES

(Arranged in the order of citation in the same fashion as the case of Footnotes.)


