Bibliography Summary

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January 2022

Summary

In the research paper Evaluation of mobile app paradigms [Hv12], the authors main purpose is to help the audiences understand the four main mobile application paradigms which is mobile native applications, mobile widgets, mobile web applications, and HTML5 mobile applications. "A mobile native application or native app is an application specifically developed to execute on a specific device platform" [Hv12]. Mobile widget is a quicker way to access new, podcast, or weather content. Mobile web application is used to deliver information and services. The World Wide Web Consortium (W3C) has defined HTML5 as a set of capabilities that can do all of the jobs that existing technologies can handle in mobile Web apps. The authors evaluation: for developer, the easiest application to develop is widget; for user, the easiest application to use is native apps; for the service provider, HTML5 have the advantage of distribution. In conclusion, the authors believe that "HTML5 mobile apps keep their first places in the race of mobile paradigms" [Hv12]. The authors also predict that mobile web app will soon become history and replaced by HTML5 mobile app.

The paper "Software engineering issues for mobile application development" [Was10] presents an overview of key software engineering research challenges relating to the development of mobile app development. The authors pointed out some additional requirement that mobile applications need such as potentially interact with other apps, sensing handling, native and hybrid, security, complexity of testing, and power consumption. The paper suggests the best practice for mobile application is agile approach. The authors think that there are a lot of space for researching in mobile development area namely user-experience , non-functional requirements, as well as process, tool, and architecture. "While the large number of mobile applications makes it appear that software development processes for them are well understood, there remain a large number of complex issues where further work is needed."[Was10], the author concluded.

In the paper "What can Android mobile app developers do about the energy consumption of machine learning?", the author introduce some API and library that used to implement machine learning algorithm with mobile app. One example of the framework that can use machine learning algorithm with mobile

app is Neural Networks API. Apple has released CoreML (Inc. 2017) for iOS [MHH19]. The author also introduce apps that employ machine learning like Google Play Crawler and App Brain. One of the main concern of using such an enormous amount of data is the energy that would cost for the mobile device. The author concluded that Naïve Bayes and J48 are the best algorithm implementations tested to use for applications trying to reduce energy use [MHH19]. If we're focus more on accuracy, the author suggested MLP had the highest average accuracy overall, with an average classification accuracy of over 95% and an average kappa of over 0.92. [MHH19]. The researcher concluded that different learning algorithm do different thing, it is up to developers choose how to use it.

In the article "The mobile apps industry: A case study", the author discussed about the evolution, the basic, the impact of the mobile app industry. The different between Android app and iPhone app [REK13]. They also discussed the market place of big tech like Facebook, Amazon, Niche and the consumer reference. Revenue that these app generated. Network provider play an important role in order for these big tech to be successful. The author also brought up security and privacy, the primary user concerned. They also did some research about trends and predict the future. Based on the research, mobile app consumption has beaten web application consumption by 8%.

Many smartphone apps collect potentially sensitive personal data and send it to cloud servers. However, most mobile users have a poor understanding of why their data is being collected. We present MobiPurpose, a novel technique that can take a network request made by an Android app and then classify the data collection purposes, as one step towards making it possible to explain to non-experts the data disclosure contexts. Our purpose inference works by leveraging two observations: 1) developer naming conventions (e.g., URL paths) of ten offer hints as to data collection purposes, and 2) external knowledge, such as app metadata and information about the domain name, are meaningful cues that can be used to infer the behavior of different traffic requests. MobiPurpose parses each traffic request body into key-value pairs, and infers the data type and data collection purpose of each key-value pair using a combination of supervised learning and text pattern bootstrapping. We evaluated MobiPurpose's effectiveness using a dataset cross-labeled by ten human experts. Our results show that MobiPurpose can predict the data collection purpose with an average precision of 84% (among 19 unique categories).[Jin+18]

—It is a new world that we are living in: The "App Generation" has come. The term "app" is a shortening of the term "mobile application." It refers to software applications designed to run on smartphones, tablet computers and other mobile devices. Most mobile apps are free, yet the increasing growth of apps has yielded a number of different revenue models to reap huge profits, such as the instant messaging app WhatsApp Messenger and the gaming app Puzzle & Dragons. Studies of these app business models (ABMs) have not been extensive in the literature. Abundant research has examined apps as a promotional

tool in mobile advertising or mobile marketing, but not as a business model to generate revenue. The app business is an evolving market and research on ABMs is essential to reveal the contemporary situation and critical success factors in implementing and monetizing an ABM. This study aims to investigate whether there exist different ABMs and what factors app users consider important when they use and pay for an app. In-depth interviews and focus groups with apps users and app enterprises were carried out. We found app users have different attitudes about and evaluations of various types of apps. Users look more for utilitarian benefits such as aesthetic appeal and perceived ease of use in apps such as maps, news and fitness; while they focus more on hedonic benefits such as personal emotional attachment and achievement component in gaming and social media apps. The findings of this study will provide insight to practitioners in developing features and benefits to meet app users' increasing expectations and requirements. [Tan16]

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