

Chapter 44

A Gamification Mechanism for Advertising in Mobile Cloud

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ABSTRACT

In this chapter, we introduce a gamification mechanism for advertising in mobile cloud. Gamification for advertising uses game thinking and mechanism in non-game contexts to engage users in developing and deliver advertising content suitable for mobile devices. To support this gamification advertising mechanism, we develop a cloud based service platform for media integration and distribution, supporting flexible interactions and collaboration among media content providers, advertisers, and developers. Contribution of this chapter is it introduces game theory and mechanism design into gamification for advertising which is demonstrated as feasible and just in time. And the gamification for advertising is the first in the literature ever discussed as we know in the context of mechanism design. A layering solution with introduction of an advertising layer for developing gamified applications for mobile devices is also the first ever in the literature as we know.

1. INTRODUCTION

Today intelligent mobile phones can be seen every-where, overtaking PC in terms of users. Mobile applications have become a new focus of attention for advertising. However, the mobile ecosystem has encountered difficulties more than what has been there for PCs. That is, applications are free to use desirably in the spirit of Internet. Leaders, e.g. Apple, in some of the mobile ecosystems offer application stores where applications can be downloaded with compensation. Figure shows that more than 50 billion applications have been downloaded from Apple's App Store up to May 2013 (Lowensohn, 2013) compared with 25 billion downloads in 2012 (Miller & Monaghan, 2012) and 15 billion downloads in 2011 (Pope & Muller, 2011). But a major number of mobile applications are still offered free. This

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is because often only top one or two applications in their application category can succeed. Another way to compensate for the application cost is to offer it for free but get return from advertisement. This strategy seems very promising as market leaders including Apple and Google are actively leading mobile operating system development (e.g. iOS and Android) with advertising supporting infrastructures built-in. The problem of this strategy is that the screen size of mobile phones is so small, any display of advertising messages would be rather annoying, instead of encouraging to reach and affect potential advertising targeted buyers.

In this chapter, we propose a gamification mechanism for supporting advertising in mobile devices. Gamification for advertising uses game thinking and mechanism in non-game contexts to engage users in developing advertising content and delivering it into mobile devices. To support this gamification advertising mechanism, we develop a cloud based service platform for media integration and distribution, supporting flexible interactions and collaboration among media content providers, advertisers, and developers. Media content providers supply the advertising resources to the cloud. Advertisers provide requirements to customize the media contents for advertising. Developers will offer systems and tools to assemble advertising resources and integrate them with game content.

Contribution of this chapter is it introduces game theory and mechanism design into gamification for advertising which is demonstrated as feasible and just in time. And the gamification for advertising is the first in the literature ever discussed as we know in the context of mechanism design. A layering solution with introduction of an advertising layer for developing gamified applications for mobile devices is also the first ever in the literature as we know.

Organization of this chapter is as follows. Section 2 presents the motivation of this chapter and the problems faced in current mobile advertising. In Section 3, mobile gamification strategies are discussed. Section 4 presents gamification development with a POI advertising method introduced. In Section 5, a city touring game is introduced to illustrate gamification advertising. In Section 6, implementation of the gamified application for city touring is presented to demonstrate the feasibility of mobile gamification for advertising. In Section 7, we discuss about digital advertising identity integration for gamification. In Section 8, related work is reviewed and compared. Evaluation of this gamification mechanism is discussed in Section 9 to highlight the research significance, and Section 10 concludes this chapter.

2. MOTIVATION

2.1 Mobile Advertising

Mobile media compete with traditional media like press, broadcast, television with time and functional displacement. Time displacement refers to that mobile media will compete with traditional media in terms of audiences' time (Qi, 2011). Commonly speaking, in terms of time displacement, mobile media is negative correlated with transitional media, i.e. the more mobile media consumption will lead to the less traditional media consumption. Functional displacement often means to satisfy different requirements with non-reciprocal functions which have the complementary relations (Qi, 2011). Comparing with other traditional media, mobile media have incomparable unique advantages. It can integrate image, audio, and movie. Mobile media's mobility, availability and interactivity makes it a promising candidate for carrying advertising messages.

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