

Monetization model for gaming industry

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Abstract. The gaming industry is only approaching the stage of formalizing the monetization rules and methods. In business, there are already dozens of monetization ways, each of which has a different effect on both the companies' profits and the loyalty of its customers. Efficient layout of various monetization methods, based on the product provided within the gaming digital platform, can dramatically affect the financial characteristics of the enterprise. This article discusses the use of enterprise architecture modelling patterns to generate value propositions to customers of companies implementing game projects.

Keywords: monetization, strategy, game, digital platform

1 Introduction

With the advent of digital technologies, the entertainment industry has advanced to a completely different level. Currently, some USA age groups spend, on average, about an hour a day on computer games, and the time spent on games in younger age groups often exceeds the time spent on sports, reading and social interactions [1]. Unfortunately, the IT entertainment industry, the way we see it today, exists for around 20 years, and lack of experience explains the reason for the recent fall among large companies. Moreover, the companies' losses are measured in billions of dollars: the cost of Electronic Arts fell by 3 billion [2], Bethesda earned 80% less from Fallout 76 than from the previous game of the series, Hello Games was forced to give a full refund for No Man's Sky on most distribution platforms. Today the increase in profit in the gaming industry is possible through the effective implementation of numerous monetization methods, the use of most of which is most justified if the company has a gaming digital platform.

The main reason companies are unable to reach the desired sales level lies not in the mistakes during the development state but rather in the wrong monetization strategy choice. As in any business, in the gaming industry, there is a conflict between

consumers' desires for more satisfaction for a lesser cost versus companies' desire to earn more money. Any deviation from the golden mean of this standoff is a loss for the developing company, therefore finding this middle ground is one of the main tasks in this industry.

You can distinguish up to 60 ways of monetization [13], but for their effective use, they can be combined into approximately 8 main categories, depending on their characteristics. The first is Buy2Play or classic purchase. Purchase of a game copy in the form of a physical or virtual copy. The oldest and most reliable way. A game sold once can be sold again if you create a DLC – DownLoadable Content. It may be a continuation of the game, or its independent part, not mandatory for purchase. Historically, next comes subscription access. Recently this model, with rare exceptions, is almost never used in the gaming industry.

The beginning of social interaction in Massively Multiplayer Online Games is often the appearance: items, effects, animations and other virtual objects that do not affect the gameplay. They are generally called Cosmetics. Based on the human desire for self-expression, beauty and self-determination, they occupy very high positions in terms of profitability. Along with self-expression, there are tournaments as a competitive part of the game: in some cases, they can bring profit to companies that run them but are often used more for non-material improvement of the company's position and products.

Expendables which simplify some boring or hard game tasks for the player are called Timesavers. But, if the developer forces players to buy them, closing the possibility of passing by rightful means or giving the strong advantage of using out-of-game currency, then we talk about the so-called Pay2Win mechanics presented in Donation Items, which fundamentally affect the game balance.

The obvious way of getting profit from the audience is advertising (Ads). In most games, one way or another, you can add pop-up banners, videos, etc. That, in a certain category of games, does not cause too much negative reaction from the players, especially when it is combined with the mechanics of timesavers.

The digital platform allows you to effectively convey to the user both ads and recommendation about provided games releases, DLC, subscriptions, in-game items and timesavers. And the acquisition process becomes simple and convenient.

At the same time, digital platform allows you to get additional benefits. The loyalty of players increases due to competitive opportunities and gamification in the form of achievements.

The gaming platform is also capable of creating additional value for game publishers who are interested in distributing their product.

2 Related works

Monetization requires an understanding of the value proposed to customer. The use of motivation metamodels, which within the framework of the ArchiMate language often include value, has been reviewed in several works, for example [3], [4]. The order of developing meta-models as such is illustrated in [5].

The possibility of modelling contracts within an enterprise architecture based on an ontological approach [6] due to the need of taking into account the concepts of service and contract within a gaming digital platform also makes considerable interest.

Digital services management is reviewed in [7], considering the digital nature of the gaming platform services.

A lot of effort was made by Ross Scott in his work *Game as a Service is a fraud*. [14] It is mostly a law-based case which reveals the absurd situation around big companies' products that are given but not supported or made in the way that harass their reputation in dangerous way.

Studies on the digital platforms' monetization are currently quite extensive, but they almost do not consider the specifics of the gaming industry and are limited to general monetization models [8]. Monetization of the gaming industry rarely acts as an object of scientific research, however, it is indirectly presented in individual works [9], [10], [11], etc.

3 Modelling the gaming platform for subsequent monetization

Gaming platform include many digital and IT services, application components, data objects, etc. The scale requires an integrated approach that allows you to integrate the gaming platform and the enterprise within a single configuration of value creation.

Figure 1 shows the gaming platform metamodel, with the subject area specific constraints. The enterprise architecture metamodel is based on the ArchiMate architecture modelling language.

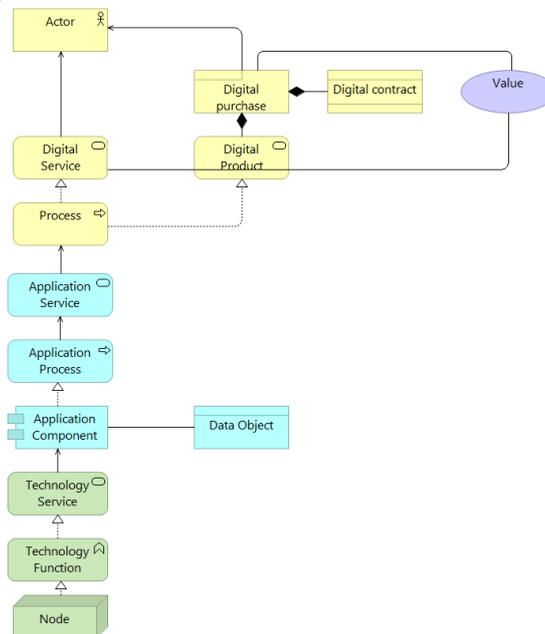


Fig. 1. Formed gaming platform metamodel

After that, based on the gaming platform metamodel, it is possible to generate numerous modelling patterns. In this case, the digital services and digital products modelling patterns are of the greatest interest, since they form the value both for players and developers.

Figure 2 shows the possible patterns of digital purchases and digital services models, made in accordance with ArchiMate notation.

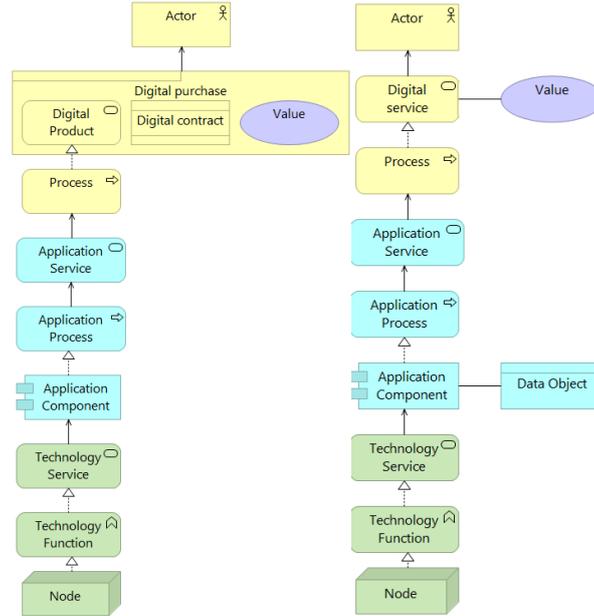


Fig. 2. Gaming platform digital products and digital services modelling patterns in ArchiMate notation

The use of patterns allows you to visualize current and targeted digital services and products states, as well as increase their transparency and degree of controllability.

4 Metamodel and modelling patterns application

Let us look at the use of modelling patterns and gaming platform metamodel on a real-life example of a company whose game platform is used by about 500 thousand players and more than 100 developer-partners. The game platform has been designed and operating for over a year.

Players of the gaming platform can make plenty of digital purchases, including the purchase of the games themselves, DLCs, timesavers, donation items, participation in tournaments, subscriptions, cosmetics and numerous in-game purchases. A set of digital purchases varies from game to game. Players also receive the possibility of online payment, support, the interaction environment in the form of numerous forums or groups, the possibility of a cooperative game, numerous achievements developed

for each game, access to a catalogue of free and paid games, and much more in the format of a free digital service.

Developing companies get access to digital sales management services, brand management within the gaming platform, advertising management service, analytical reports, etc. Some services are provided on a paid basis, for someone it is charged by a fixed fee, and for others – by a percentage of sales.

Digital services and digital purchases are implemented by the corresponding main and auxiliary processes. The gaming platform itself as a system consists of many components and IT services that use various data objects. The game platform is deployed on the nodes and is implemented by basic technological services.

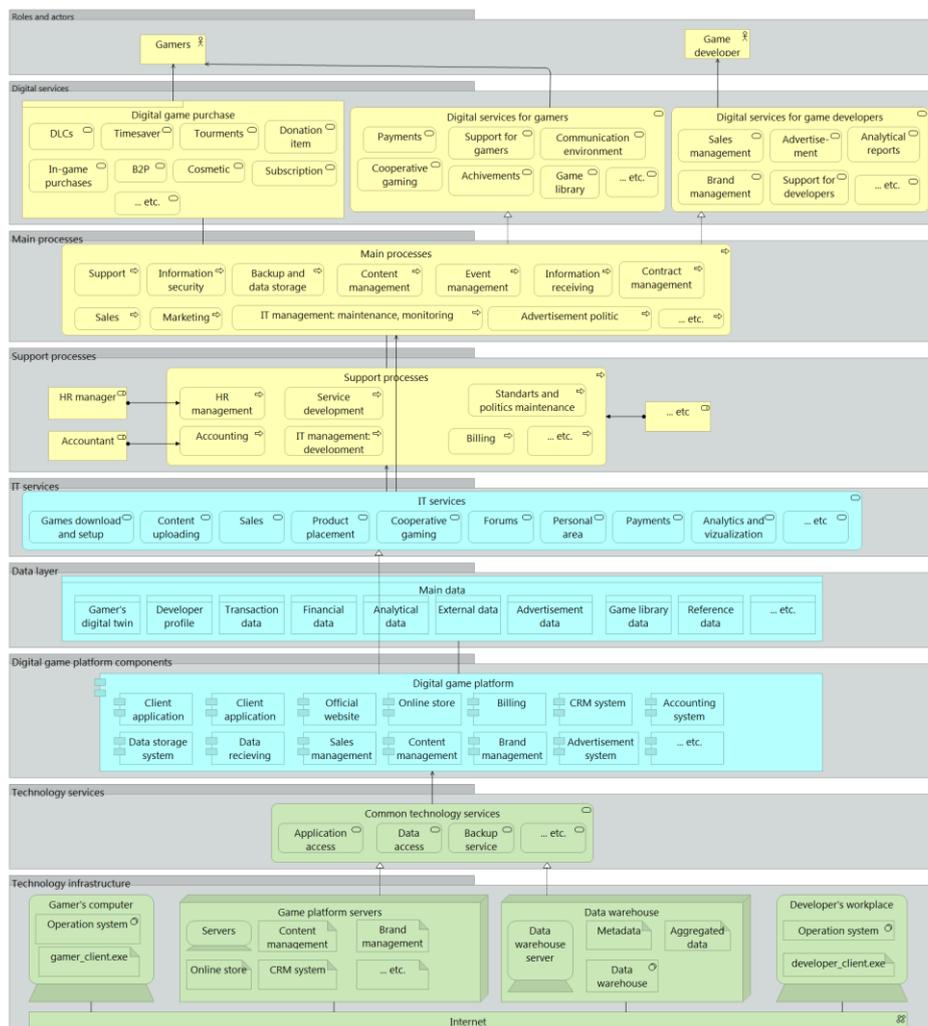


Fig. 3. Gaming company architecture layered model.

In accordance with the hierarchy of value provided to the client and on the meta-model basis, a digital products portfolio forming model was also created. Understanding the value hierarchy for the consumer allows you to identify areas in which specific methods of content monetization are applied and where they are prohibited. Such hierarchical representation is necessary to obtain the maximum benefit for the developer's company, preventing current and future losses from using the wrong strategy both on the company's monetary and its non-monetary sides, be it the number of fans, market reputation, audience approval, etc. The following figure shows a simplified model for building a portfolio of digital products in accordance with the hierarchy of value. The additional explanation requires the use of junction elements. A direct connection of several elements to one and vice versa means OR, a connection Junction (and) means the simultaneous presence of both conditions; Junction (or) means XOR or "exclusive or", as they say in programming, which means separation into different subcategories of a whole without intersecting them.

This model shows principles of game-designing according to [12], as well as the connection between the product, the value both from platform and distribution methods, and the type of monetization companies can use out of it. Moving from the basics of fun towards the business product we bypass all the variants presented in game developing for the moment and take the most efficient and effective in all possible aspects way which represents created game. Moving the other way, we can look at how game is created during developing process and which value it withstands from it.

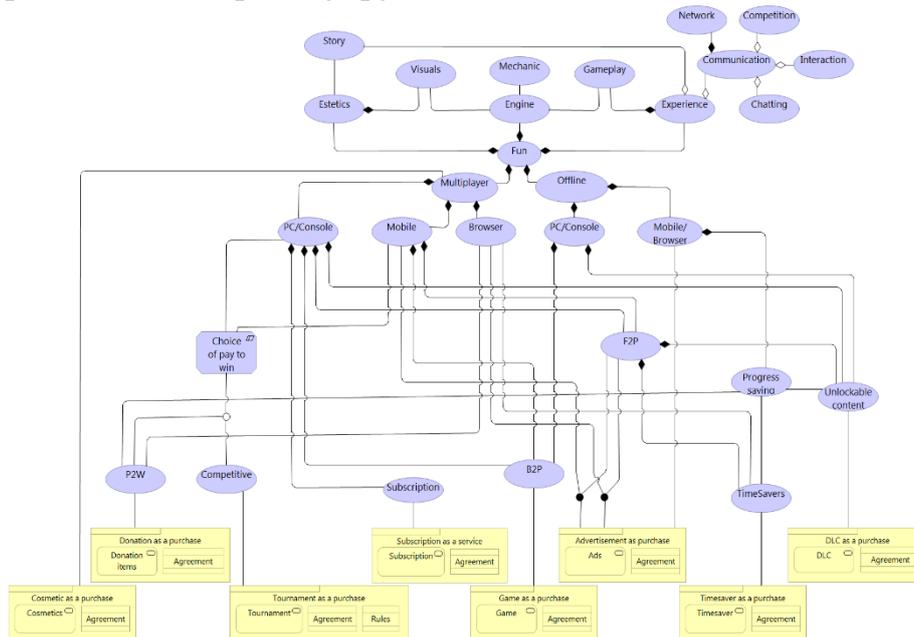


Fig. 4. Model of digital product portfolio formation

Next, on the basis of the modelling pattern, we will form a game digital product model. The game is delivered to the buyer-player in a set with a license agreement. The main value of the game for the consumer is quite simple – entertainment. The sales process, the most significant process involved in this case, is implemented by the IT service of payments accepting and sales receiving and the corresponding application processes. Within this digital purchase, billing system, online store and sales management system, which are implemented by corresponding digital services, have the greatest value. Figure 4 shows the implementation of the game digital product model.

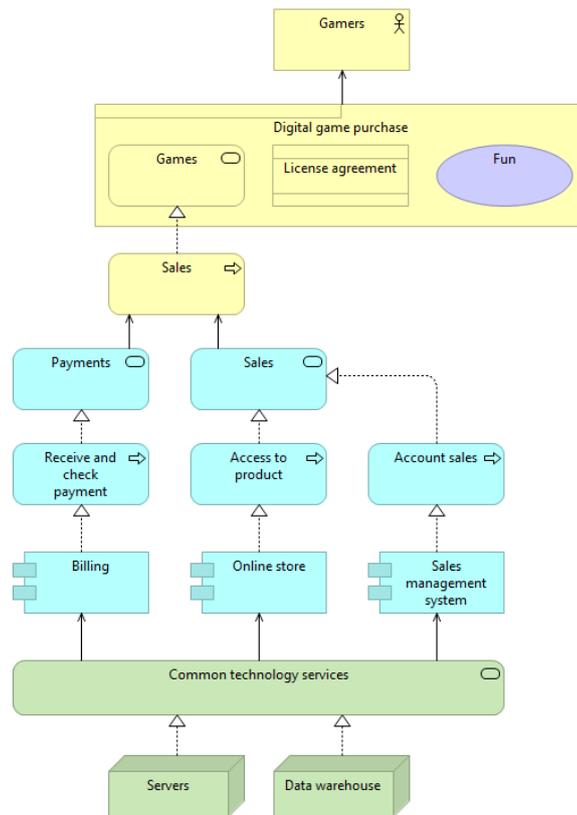


Fig. 5. The game digital product implementation model

In the future Model of digital product portfolio formation becomes a service for game developers included in digital platform. With the help of it all the process of game monetization would be automatized and limited to the point when companies won't suffer from wrong monetization decisions.

5 Conclusion

The formed meta-model and models were put into practice by a large company in the gaming industry field and became the foundation for the further formation of digital purchases. At the same time, the architectural approach provided an opportunity for the enterprise to further scale their digital platform.

As part of the study:

- The main methods of monetization in the gaming industry are considered.
- A gaming digital platform metamodel and digital products and services patterns have been formed.
- A gaming digital platform top-level layered model is presented, as well as a digital product value model and a digital product portfolio generation model.

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