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ASIAN INSTITUTE OF MANAGEMENT

MOBILE GAME DEVELOPMENT BY COM2US (A)

In late 2000s, the global mobile phone industry was shifting to a totally different paradigm following Apple's successful launch of its iPhone. The iPhone's embedded software allowed applications to be easily downloaded from the Internet so that even general users could become content providers and application developers for the mobile phone. Along with these developments, the expansion of WiFi and the LTE (Long Term Evolution) currently in the 3G stage have reduced the cost of high-speed Internet close to zero. These broad environmental changes in the IT industry further directed the technology trends of mobile games from standalone embedded games to mobile items downloadable from application stores such as the App Store by Apple and Play Now by Google. Coming from these changes, mobile game industries are also shifting to a different paradigm.

Company Background

Com2uS is a leading developer and publisher of mobile games, and has been at the forefront of the mobile game industry since its inception in 1998. The firm built its reputation as the number one mobile games provider in Korea—itself one of the most advanced mobile game markets. Com2uS is a successful developer of many premium titles including *Slice It!*, *Home Run Battle*, and *Tower Defense*, and has successfully shifted to Freemium casual social games including *Tiny Farm*, *Derby Days* and *Magic Tree*.

Com2uS' exceptional technology extensively ranges from network expertise and content development to server operation and platform transition know-how. The growing appetite for designing fun games on new technology has been the source of rapid and steady growth within the game industry, which led to Com2uS' listing on the KOSDAQ in 2007.

In September 2008, the mobile game division of Disney, mDisney, made a deal with Com2uS in which the latter would develop games for the former to be published and distributed in the United States. *Disney Puzzle Family* was the first game developed under the agreement, which was released later that month. The next title with Disney Interactive, *Disney Game Parade*, was released in the succeeding year. In 2008, Com2uS also began a game service on iOS by publishing *Crazy Hotdogs* and *Chronicles of Inotia* for iPhone and iPod Touch. In 2010, Com2uS began online golf game, *Golf Star*, for audiences in Europe and Korea. In April 2011, their game *Slice It!* recorded 10 million downloads on iOS and Android.

In July 2012, Dowon Lee, general manager of Com2uS, iterated the vision of Com2uS during the Casual Connect in Asia Conference in Singapore. The conference is produced by the Casual Games Association, and it is the premier event for the casual games industry with over 5,500 professionals attending Casual Connect each year. Com2uS brought some useful case studies for developing Freemium titles and shared their vision and experience of key success factors of Freemium games with useful statistics and analysis.

Mobile Game Trends

The idea of a casual game is that it is something any user can play without any previous knowledge. Casual gamers are very commonly seen playing in arcade game rooms and playing with consumer electronic devices (such as PCs, mobile phones and game consoles). These types of games appear in smartphones as Premium Games because they generate most of the revenues and because users must purchase the games from application stores. *Slice It!*, *Homerun Battle*, and *Tower Defense* are flagship games from Com2uS. A premium game, however, can only generate revenue when it is installed because it is not based on value-added services but single product download purchasing.
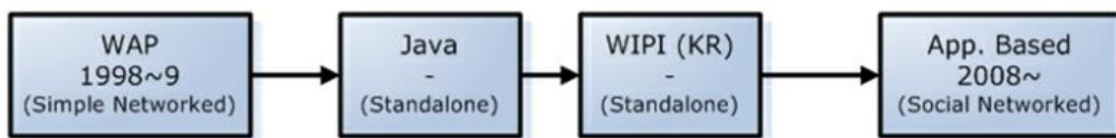
FREEMIUM (FREE-TO-PLAY): Unlike Premium Games, users do not need to purchase free-to-play game titles in order to play them. In this sense, Freemium games are "almost free." Instead of purchasing each game title, Freemium games generate the revenues during playing time by having users purchase items to enhance playing experience (i.e., "in-app" purchases). Free-to-play is a good example of mobile game monetization.

SNG (Social Network Games): A social network game is a type of online game that is played through social networks, and it typically features multiplayer and asynchronous game play mechanics. This category represents the most popular games played in the world, with many products hosting tens of millions of players. Because of the expansion of social network services, SNG is one of the popular game areas and represents the

next evolution of earlier classic online games such as *Starcraft*, *Warcraft* and *Dawn of War*. As noted previously, SNG is a subset of online games but it dynamically interacts with social network services such as Facebook. *FarmVille*, *Mafia Wars* (by Zynga), *The Sims Social* (by EA) are well known SNGs.

BRIEF HISTORY OF MOBILE GAME TRENDS: In the late 1990s, Wireless Application Protocol or WAP-based mobile games were launched. Most games connected with mobile networks were WAP-based, but these did not click with very many users because the price of cellular data usage required to play these games were extremely expensive at the time. After Java programing platform for mobile (J2ME or Java 2 Micro Edition) became available, more mobile games were developed based on Java, which required no network connections to play. As mentioned in the beginning, mobile games require a lot of data usage. Around 2008, many mobile games would also become aligned with social networks (See Exhibit-1).

[**Exhibit 1.** Mobile Game Trends]

| WAP 1998~9 (Simple Networked) | Java - (Standalone) | WIPI (KR) - (Standalone) | App. Based 2008~ (Social Networked) |

(Source: case writer)

Mobile Game Product Development of Com2uS

The development and rise in popularity of games shares many similarities to the production and distribution of films. In the film industry, it is hard to predict which movies will become hits until the movie is actually released. In addition, movie customers seldom even know the names of actual production companies. Customers know about movie companies because they have *distributed* hit movies, not produced them (They sometimes do both, in which case, it is a more complicated process). Movie audiences may be more interested in the film's cast and director, rather than the production or distribution companies. In the case of games, the customers rarely care who the directors or developers are. Once one mobile game hits the market, the company that develops it becomes famous even if it has produced only one hit game. *Dragon Flight* by Next Floor is one example in the mobile game industry. This may be good news for up-and-coming developers, but this pattern also reflects the shortness of a product's life cycle; it can easily disappear once other hit games are launched.

Some features of mobile game development are that (1) a game's life cycle is rather similar to the movie industry, (2) no one knows which game will succeed in the market, and (3) pure business-to-consumer (B2C) interaction characterizes the market. Time-to-market is one critical issue

because development activities are very dynamic. The whole development process may range from one to two years (see Exhibit 2).

IDEA GENERATION: Ideas of new games are usually proposed by Producers (PD) in Task Force (TF).

PROTO-TYPE & STRATEGY REPORT: Once an idea has been recognized, the TF makes a pro-type of the game that can demonstrate the basic concept of the game.

STRATEGY MEETING: Once a demo and the strategy report are ready, the strategy meeting is set up with other TFs (akin to an R&D team) and Quality Assurance (QA) teams. In this meeting, the decision for development are made and the actual development is started. It will take around a couple weeks to couple of months until build open.

BUILD OPEN: Once build is opened, actual trials are initiated within the company. At this point, further development and bug-fixing are done simultaneously until the game is stable enough for opening to limited channels. It usually takes a couple of months to two years before alpha testing (or a demo) takes place.

ALPHA TEST (or DEMO): At this phase, the game is opened to limited channels such as mobile operators or publishers. Internally, a QA team is actively involved to ensure stability and quality of the game. Additionally, this is the time for obtaining feedback from people outside the company. Market feasibility (that is, fun and enjoyability) are determined during this phase.

BETA TEST (or DEMO): Beta testing is primarily meant for fixing bugs, and a Customer Service (CS) team is actively involved at this phase. Balancing the game levels and difficulty is also finalized based on the market feasibility study during the Alpha Test. A game may be terminated in this phase if it is not good enough for the current market.

COMMERCIAL LAUNCH: Once all tests (alpha and beta) are completed, the game is opened to the public.

LIVE MAINTENANCE: After launching the game, maintenance of the game (i.e., bug fixes and upgrades) is still required. In the case of SNGs, both maintenance of the game application and game servers are to be covered during the maintenance phase.

SEASON PATCH (Optional): During special seasons such as Christmas or New Year's Day, seasonal patches may be launched. Special skins and promotions are created for seasonal patches.

In the software development process, the classical process models such as waterfall model, V-model and Spiral model may not be applicable for mobile game development because it requires flexibility towards external environments, which in itself is a feature of the gaming industry.

Action Puzzle Family Project (APF)

About the Game

Puzzle Family brings twitch game action and excitement in the form of delightful classical puzzle games. All puzzles in the set are smooth and easy but loaded with excitement. This game is available on both Android and iOS platforms and has more than six (6) million users. Users can try to get all the silly costumes for 20 comical characters and may compete with their friends to get higher rankings in eight (8) delightful puzzle games. The goal of the game is simple: collect all puzzle pieces to move the family into a house with wacky features (Exhibit-5). The eight (8) eccentric puzzle games are:

FLICK AND FLY: Someone messed up the room. Clean it up before mom comes home.

BOING BOING: Blocks spring up to stick and pop! Have fun bouncing them around.

COPY COPYCAT: Remember the puzzle to duplicate it!

WHO'S NEXT: Waiting in line... How far can you count?

ORDER THE ORDER: Too many orders to take! To keep them in order, you need speed.

SHANGHAI POP: Match and Pop the Chinese way.

TAP ON TIME: Tick tock, goes the clock! Tap on time to clear the blocks!

HIDE AND SEEK: Baby puzzles hide: roll them around, and match them right.

Game Development Process

Action Puzzle Family (APF) is known as one of the more popular Freemium casual games that can be developed by small members (less than 10 persons). In the view point of game development process, some elements in process are excluded but most of them are enumerated below (Exhibit-x).

DEVELOPMENT START: Ideas of new games are usually proposed, which are based on classic puzzle games.

PROTO-TYPE: The TF creates a pro-type of the game that can easily demonstrate its basic concept. In the case of *Action Puzzle Family* (APF), it takes 2.5 months to make the first pro-type.

ALPHA TEST (or DEMO): The APF is opened to limited channels such as mobile operators (SK, KTF and LGT). Internally, the QA team is actively involved to ensure stability and quality of the game. It takes three (3) months to ensure that APF is of top quality.

BETA TEST (or DEMO): Beta testing is primarily meant for fixing bugs, and a Customer Service (CS) team is actively involved at this phase. Balancing the game levels and difficulty is also finalized based on the market feasibility study during the Alpha Test. The game may be terminated in this phase if it is not good enough for the current market.

COMMERCIAL LAUNCH: After completing the beta test, APF was launched on phones operated by SK Telecom (SKT) on August 1, 2007.

As APF project manager, what are the potential risks of development? How can these risks be resolved? In addition, mobile game development is also a subset of software development, and the development process can be aligned with general software development process and tools. What kind of software development process might be suitable for developing APF?
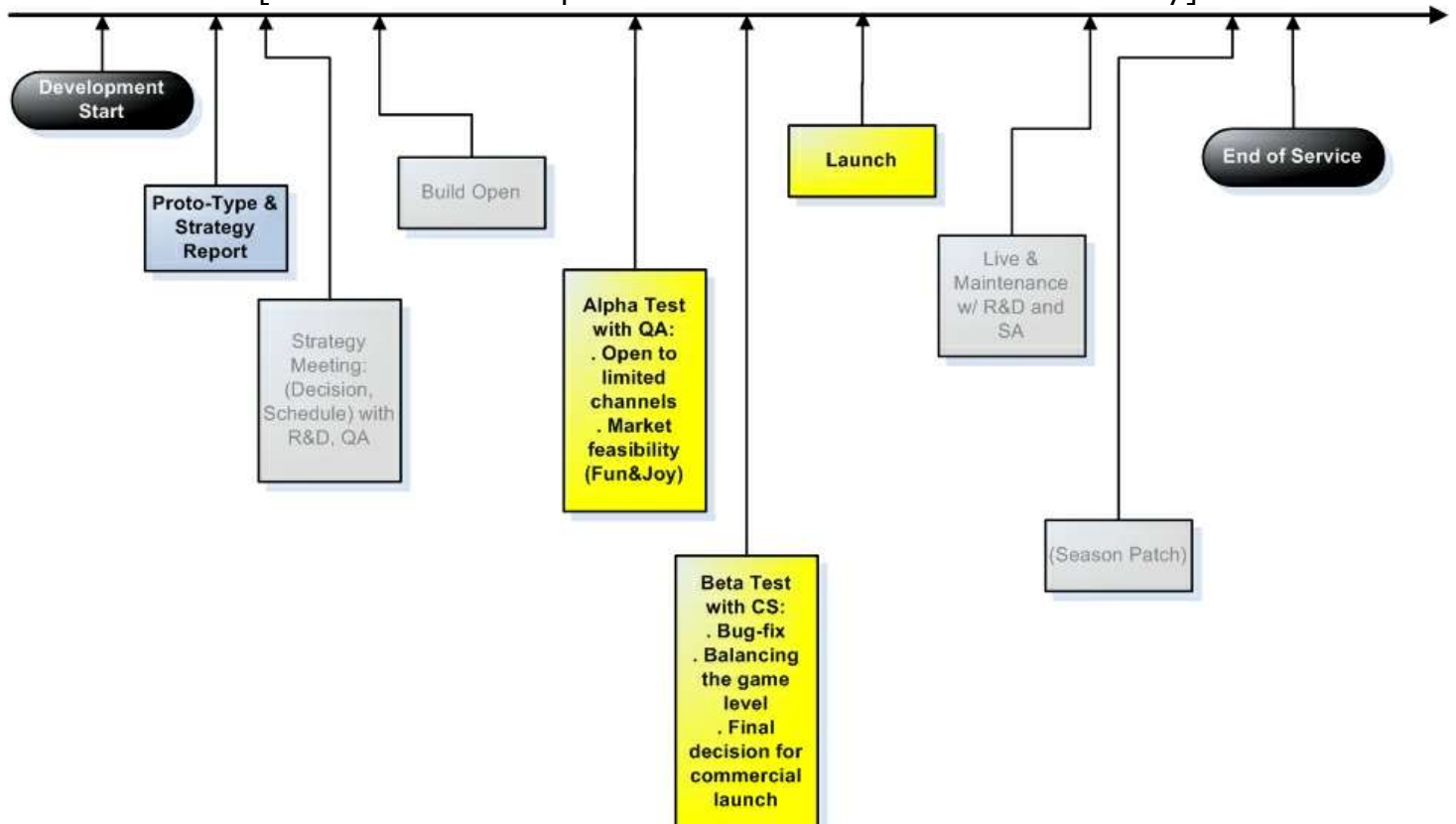
[**Exhibit 2.** Com2uS Mobile Game Development Process]
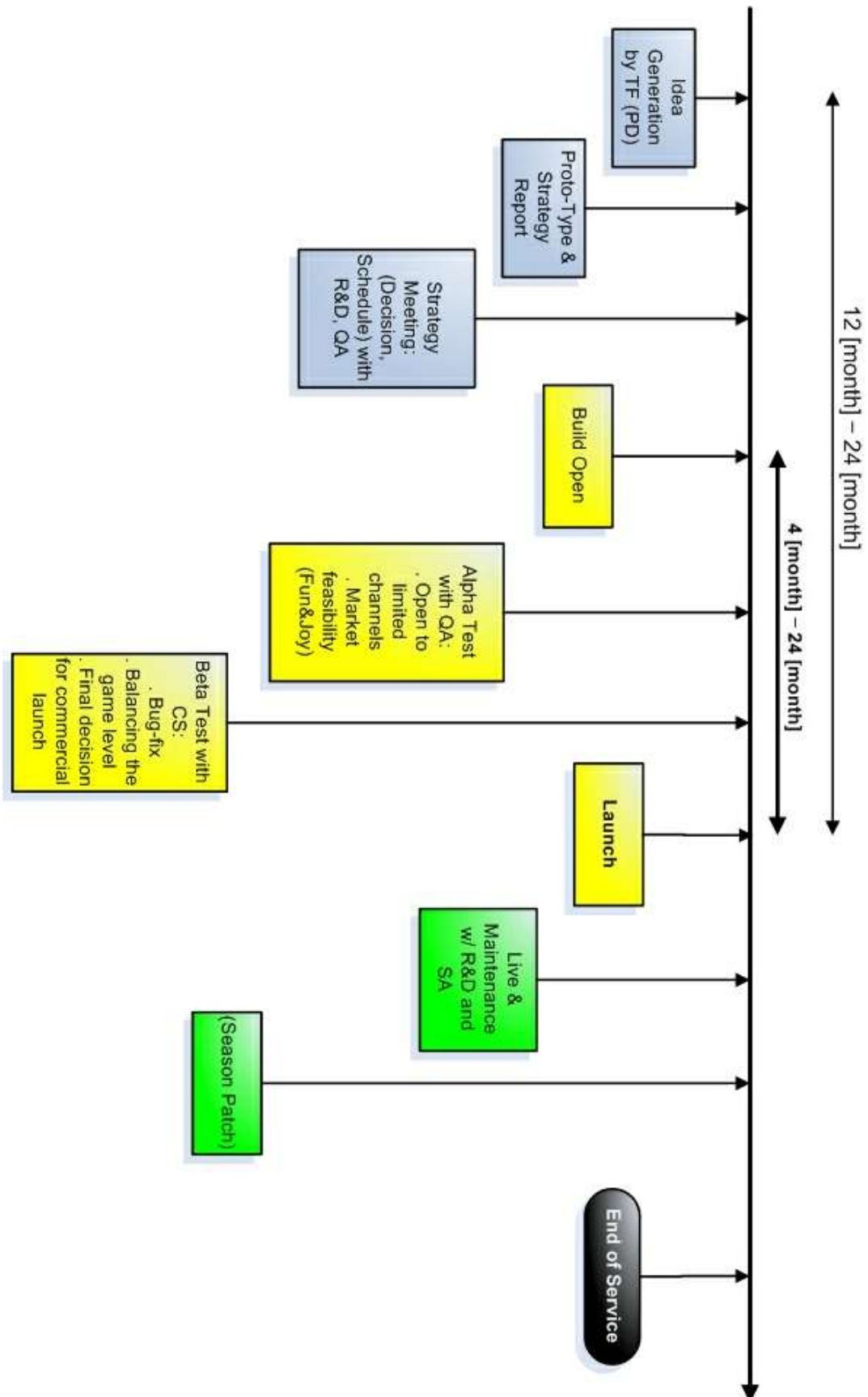
[**Exhibit 3.** Com2uS Action Puzzle Family]

[**Exhibit 4.** Development Process for Action Puzzle Family]

[**Exhibit 5.** Com2uS Tiny Farm]

[**Exhibit 6.** Com2uS Hub on Smartphone]