Pipeline
Technology for Service Providers.
www.pipelinepub.com Volume 12, Issue 8

Mobile and Cloud Gaming

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The call is received in the payment inquiry center: "What is this two hundred dollar charge on my Visa?" Pay-to-Win games are monetized by user interaction with an in-game threshold: pay a little money and get a helper artifact or hint that enables the gamer to complete a level and advance.

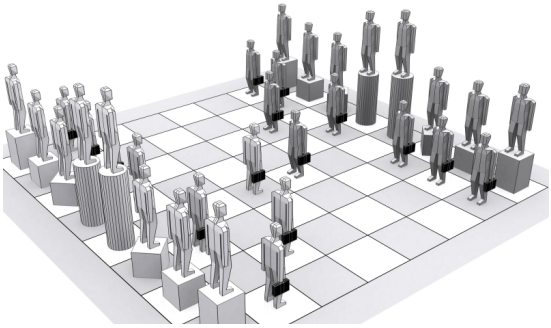
Most of the time these games are free to start and then maintain a low purchase threshold to keep players involved. People start play as a way to kill time when they are bored. After all, a smart phone or mobile device is always at hand. Eventually, the player encounters a paywall, a requirement to pay a small fee before continuing the game.

The Paywall

The paywall is an obstacle in the game which can be overcome by paying a small fee. As their frustration increases, they agree to pay a little bit. Then in the future, making each small payment is easier at the next paywall. The game developer is selling a concept to move forward. On Candy Crush, the "pay to pass" threshold might be delayed until the late levels of the game, sometimes months into the habit, but it seldom is.

Candy Crush is a multi-billion dollar Over-the-Top enterprise that followed Facebook to mobile phones. From this, telecom providers just get data consumption fees; but it is estimated that it is played more than half a billion times a day on mobile phones. For the game publishers, there is high profit from in-app micro payments. Total expenditures on a game by a single addicted user can reach $1,000. Profit is high. R&D and platform infrastructure costs for current phone games are relatively small, as are the transaction fees from the financial system.

King Games, the publisher, also developed an ingenious way to propagate users. Continued play can be "purchased" by inviting other new players to the game via the social network platform which is hosting the game. These player groups can "level up" with each other in their social networks. And players can pass lives to each other, if they have the patience.



The Gaming Market is Balkanized

People play this class of games addictively, but are not always happy with a game. Despite celebrity endorsements on talk shows, many users do not describe their experience as fun and pleasurable. Total time spent on a newly-introduced game is relatively short so there is no incentive to build games with depth or immersive "world view" construction. This market segment may also be future limited; social systems will eventually develop antibodies for this, just as it has for gambling. Big spenders will either request help or be forced to seek help. But these Pay-to-Win players are only a small segment of gamers. These are not what the gaming community itself considers as "serious lifestyle gamers."

Pay-to-Win is not the darkest side of mobile gaming. Gambling is alive and well on the mobile platform. This morally-challenged activity is a natural fit to smartphones which can easily link to unregulated betting platforms. You can log in and place a bet outside of the standard economy and then watch the sporting event in real time on your media-enabled phone. It is not going away. Gambling has built cities in the wilderness and established out of the way places as destinations. Mobile phone gambling will at first compliment these locations, but later steal from the growth of these cities. Virtual bookies are just a fingertip touch on the phone screen. Social service networks will be hard pressed to keep up.

Still most phone gamers are mildly satisfied users. These customers want mobile gaming opportunities to expand but must split their gaming experience by platform availability. My wife plays a jigsaw game on her computer and solitaire on her phone. "You cannot see the jigsaw on the tiny phone screen and I prefer the mouse to move the pieces into place." Nevertheless, for low resolution touch screen game technology, there

is a wide variety of games for users to choose. Current classes of mobile games include 'care for animals', 'shoot em up' (SHMUP), collection games, and puzzle games. In tower-defense games a player holds a territory via collecting resources to combat a wave of enemies. Yet mobile strategy games are mostly not real time. Players take turns with the gaming platform and this limits the immersive experience. These types of mobile games are simple and lack depth of experience. Gamers expect each game introduction to be a fad market-driven by advertising.

Physical and Virtual Platforms

Mobile phone gaming platforms currently lag console-PC gaming in technology and depth of content. Historically the console-PC market is the sole supplier to the "lifestyle gamer." Extracting value from mobile gaming is not a simple crossover of product name association. Fit must follow form in establishing immersive environments. Bad jobs by game publishers in trying to map console and server-based games to the mobile phone still makes lifestyle gamers wary of phones. This is a huge market if exploited successfully. Best seller console-PC games now gross billions and are rivaling film franchises as exploitable media content property.

But today, for this market, mobile phones are only being used in tandem with PC gaming. For example, two companies, Blizzard and Steam, introduced a mobile authentication system for games. The Steam Trading Card system is a meta-game system around other games. Steam controls purchase and user-to-user trading of in-game artifacts. Steam takes a small transaction fee for using their authentication tool allowing secured non-reputable trading transactions. Authenticated, mobile phone trades occur instantly; while out of system, direct player to player trades take days to complete.

Games with depth or immersive "world view" construction are a potential market opportunity. Tie-ins with turn-based Role Playing Games (RPG) work with existing technical limitations on the phone to provide some immersion in the gaming experience. Accommodating to the technical limitations of phones as a delivery platform, one approach is nostalgia. Final Fantasy 9, a popular console game of years past, is imminently forthcoming for Android, iOS and Windows. Final Fantasy fans might appreciate that the game on a modern mobile phone doesn't look a whole lot different from the original. The phone is extending the life-span of an otherwise potentially obsolete game.

Also smaller scope phone game tie-ins extend the virtual world's immersive experience to simple individual play;

Games with depth or immersive "world view" construction are a potential market opportunity

for example, the multi-player interactive, real-time First Person Shooter console game Halo. Set in the Halo world, but a separate game, in Halo for mobile platforms, the user drives an armed vehicle and runs around shooting aliens. This provides the illusion of depth and context by keying on emotions and loyalty developed elsewhere in the large environment console game. It extends the phone market to the console crowd.

By simple extension, a way to add depth might be to tie mobile games to Massively Multiplayer Online Role-Playing Games (MMORPGs). MMORPGs are a combination of role-playing game and online game in which a large number of players interact with one another within a virtual world. The depth of these games is greater even than platform-bound games on PCs and consoles. But the network data usage, memory requirements, storage requirements, control systems and graphic demands of these games are greater than current mobile phone technology. A major obstacle publishers generally need to overcome is that the game can't take up too much space on the phone. Users prefer not to sacrifice too much limited phone storage to mobile games. It may be that MMORPGs will not transition to the mobile phone. Instead brand new uses of the phone for games will be needed.

Natural Fit

My daughter was going through security at the airport wearing a Pokémon hat – a rather obvious orange critter. "Is that a Charizard on your head?" My daughter responded with a small laugh of relief, "Why yes, my friend made it for me." The guard pulls out his wallet and opens it up. There within is an original print holographic trading card of a Charizard. "It's my favorite character. I've carried around this card for 16 years." Cartoon drawing style fits with mobile screen graphic drivers. Millions of kids were raised on classic Pokémon: the anime, the trading card game, and the hand held console games. That is a huge potential of locked-up emotion that an ICT business can leverage.

Gamers expect the next winner of the mobile gaming market to be the forthcoming Nintendo Pokémon GO. It will put Pokémon on phones where the phone becomes a PokéBall, a device used to capture and collect the Pokémon monsters. This is a natural use for the phone that is consistent with the game mythology. It makes use of the mobility of the phone to allow the finding of characters in different places. I expect it will overflow with marketing tie-in as brick and mortar stores perhaps buy rights to offer Pokémon characters that the players come to capture. The millions of past Pokémon collector/player kids are a dedicated marketplace. Other similar anime platforms likely will follow this lead to market.

Expanding on the notion of fit follows form, Pokémon comes with a history of direct player-to-player interaction. Past Pokémon gaming platforms allowed players to trade Pokémon or have live Pokémon battles between co-located users. This natural interaction is more socially engaging than contacting Facebook friends in Candy Crush. Currently it is not known if mobile phone Pokémon GO will interwork with non-phone traditional platforms such as the Nintendo 3DS. However, Nintendo has a history of letting users transfer game progress and characters forward (but not backward) as platforms evolve. This might allow games to drive replacement of phone generations interlinked with Pokémon generations. Always connected mobile phone platforms also open up cloud storage to these players. Pokémon will be stored in the cloud so a player can collect an indefinite number of characters without storage limitations. And this allows rich customization and individuality in these stored characters so the Pokémon become individual virtual pets of their owner player.

Control Issues

Touch screens are difficult for interacting in the environment of games. Small touch screens are not precise enough for dedicated gamers. Obscuring the screen with a finger in real-time play is disastrous. This is limiting what can be done with games and maintains the tech segmented market of console-PC vs. mobile phone. Breaking this barrier should be a goal of mobile device makers. This is happening with cars. At a recent trade show, BMW showed a gesture control system for the car dashboard, eliminating the need to touch anything. Equipment supplier Visteon previewed their practical gesture system in this BMW concept car. Could similar technology be used with mobile phones? Why not.

Evolution of the control interface is already in development as the next big technical improvement to the phone. Gesture systems could overcome touch screen limitations. Eye tracking can improve control without obscuring real-time play on the screen. Motion and orientation sensors could allow the phone to act similar to a Wii motion controller allowing the phone to mimic artifact used in real space by the player. Automatic transactions to cloud storage replace limited phone storage. Working in tandem, Bluetooth listening devices could allow a concurrent audio narrative to occur. Use of conference calling between players interacting in the same virtual game environment might transfer the successful gamer interaction experience of MMORPG.

Gaming content will push phone evolution

Pokémon GO will include a Bluetooth bracelet that unlocks phone game interactions. For other games I expect the IoT market will provide Bluetooth devices that interact as controllers or in-world play artifacts via links to the phone. It is completely reasonable to expect the use of the camera in phones to enhance reality in future mobile games. Already the GPS in phones is used in the game Ingress which was released in 2015 for Android and IOS. Ingress is an augmented-reality massively multiplayer online location-based game. Players travel to specific real-world locations and then interact with the real-world locations of other players.

The Co-Evolution of Phone and Gaming

Gaming content will push phone evolution. Microsoft demos of HoloLens involved a Minecraft experience that appeared to be happening in the real world. Google Glasses will interact with mobile phones in new successful generations of the technology. Virtual Reality (VR) attachments to mobile phones will become a standard product owned by dedicated gamers.

Software in phones will also evolve to push the gaming experience into new realms. A forthcoming example of this is Google's Tango technology. Tango works by combining inputs from a range of phone-based sensors and processes them into usable information, exploiting phone interlinks with fast Cloud platforms. New phone tech sensors include an infrared emitter and infrared

camera which picks up the reflected light. A wide-angle camera adds visual features combining device location to the composite mapping of the local environment. The Tango system also includes enhanced accelerometers, gyroscopes and barometers.

Tango enables a mobile device to map indoor spaces. A Tango enabled phone can determine its location and orientation in relation to a virtually mapped environment of floors, walls, ceilings and furniture. Tango is a platform that can turn a smartphone into a controller with Kinect-like environment mapping and a Wii-like gesture mapping. This turns a mobile phone into an artifact mimic able to interact with other artifacts in indoor spaces. Nexus, Lenovo, Qualcomm, Intel, Nvidia and LG are all signed on to include Tango in their devices. Google offers APIs for game developers. You can be sure this is in concept exploration phase at major game publishers.