1997 - 2007:

The First Decade of Mobile Games

A special presentation version 2.0 for GDC Mobile 2007

By Robert Tercek
Game Developers Conference
San Francisco
March 6, 2007

join the community: http://mobilefun.ning.com
download the deck at www.roberttercek.com
I wish to thank my many friends and colleagues within the mobile game industry who have contributed to making GDC Mobile a success for more than six years, and who have taught me with their creativity, business acumen and presentation skills about this inventive, malleable and ever-surprising medium.

I am grateful to those who contributed to this short history: Dr. Mark Ollila, Tim Harrison, Dr. Eric Bilange, Kristian Segerstrale, Eric Goldberg, Jason Ford, Mike Yuen and Kyu Lee and many others at telecom companies, publishers and developers who have requested that their comments and contributions remain anonymous. I am deeply obliged to you for your patience, generosity and wisdom.

In particular, I wish to extend a special thanks to David “DC” Collier and Matthew Bellows, without whom there would be no GDC Mobile. DC and Matthew have made a tremendous contribution by gathering examples of the best mobile games each year from every corner of the globe. Many of the breakthrough games which they demonstrated in the annual “World Tour of Mobile Games” are included here. On behalf of every attendee, I thank DC and Matthew for the education!

And of course thanks are due to every one of the game publishers whose games and trademarks are featured here.

The market research data provided by M.Metrics, Telephia and Informa Telecoms is immensely helpful to me and to all of the developers and publishers who are attempting to glean an understanding of the complex dynamics of this business.

I’d also like to thank the people at CMP who have fostered GDC Mobile, beginning with Jennifer Pahlka, Alan Yu and Susan Marshall who encouraged me to start the event. CMP’s support continues today with Jamil Moledina and Evelyn Donis who provide leadership and continuity. Their steady support for the mission of an open forum for the exchange of ideas has truly helped hundreds of pioneers in this fledgling medium find their creative vision and the inspiration to advance the state of the art.

Mobile games represent a brand new media format that evolves swiftly in different parts of the globe. As a result, it’s likely that this report contains errors or lacks some important information. The responsibility for inaccuracies is solely mine. I’d welcome your clarifications, corrections or suggestions for improvement at the MobileFun network at www.ning.com.

Finally, I thank the thousands of creative game developers who have rallied to the mobile phone. It takes real courage to create content for any new platform; but the developers of mobile games have confronted special challenges including the doubts of a multitude of conventional thinkers. I salute your fortitude and tenacity in these early days as our industry evolves. Let’s celebrate our progress with this look back at ten years of collective progress, and remember the GDC Motto: “Make Better Games!”

Robert Tercek
Los Angeles 2007
www.roberttercek.com
Prelude: aggressive projections from 2003

In 2003, the major market research firms published a broad range of global revenue estimates for the year 2006 for the Mobile Game segment:

- Informa: $3.6 B
- Ovum: $5 B
- ARC Group: $11 B
- Datamonitor: $18.5 B

“I believe that in a couple of years, the mobile games business will be bigger than PC and console gaming combined”

Ilkka Raiskinen
SVP Entertainment, Nokia
At GDCM 2003

Source: Gamespot
Informa Telecoms revised estimate: Mobile games 2006 global revenue = > $2.5 Billion

Source: Informa Telecoms & Media “2006-2007 Mobile Entertainment Industry Outlook”
US: Mobile Game Audience and Revenue climbing

Source: TELEPHIA
Solid growth, but less than projected. What accounts for the current state of the mobile games industry?

1. A highly complex ecosystem
2. Ceaseless business model evolution
3. Consolidation: the rise of the global publisher
4. Bigger budgets and tighter margins
5. Plus: a look at more changes coming soon
1997 - 2000: A Complex Ecosystem Emerges

To understand the evolution of the mobile game industry, let’s begin with an examination of how the mobile content economy differs from traditional media models.
Ecosystem: a simple start

1997: Snake by Nokia

The Nokia 6110 mobile handset shipped with three embedded games: Memory, Logic and Snake. But Snake was the only game that was playable or, in any meaningful sense, fun. Quite a feat, considering it consisted of black dots on a dull grey screen. But that wasn’t so far removed from the simple games for the personal computer prior to MPC 1 (1993) and the simple games for early TV consoles in the 1970s that spawned today’s console industry.

This humble game started the wireless gaming phenomenon.

Snake also set a few ugly precedents which linger to this day:
- The game wasn’t originally designed for mobile.
- It didn’t sell any phones.
- The carriers didn’t market it.
- And the developer didn’t make money.

The value chain represented by this first mobile game title was simplistic in the extreme:
No end user transactions occurred and no revenue was shared.
Ecosystem: not the typical value chain

Analysis of mobile content publishing begins with a diagram depicting the classic Michael Porter value chain:

Producer > Distributor > Retailer > Consumer

In mobile the value chain is typically described like this:

Developer > Publisher > Carrier > Consumer

But these simple diagrams fail to account for the complex dynamics which are specific to the mobile content industry. Namely, the mobile game business is a hybrid scenario combining aspects of console game publishing with aspects of mobile telecommunications. One might consider this the collision of two totally distinct and incompatible business models.

The console game business is characterized by a process of “punctuated equilibrium,” whereby the market is subject to periodic disruption every 5 - 6 years when a new generation of hardware platforms is introduced. Following the turbulent transition to new generation consoles, publishers typically enjoy a long period of stability and a chance for profitability. In order to achieve broad consumer penetration, consoles are sold at or below cost: the console manufacturer makes profit by taking a toll on all games published. This so-called “path fee” is typically in the 25% range.

The mobile games industry bears only superficial resemblance to the console game business. Although it is true that mobile operators subsidize the purchase of next-generation handsets in order to spur consumer adoption, the similarity to the console game industry ends there. Mobile content has never experienced an extended period of stability akin to the console game market. The entire mobile content value system is subject to perpetual turmoil caused by unique competitive dynamics of mobile telecommunications. Business models, technologies, regulation and consumer expectations evolve ceaselessly in mobile. This turmoil deprives publishers of the long periods of stability necessary to grow and develop franchises, optimize marketing and maximize investment in new titles. Game publishers and other mobile content providers manage their business in spite of the churn caused by competition among carriers, handset makers and infrastructure vendors. Many variables affecting profitability lie outside the control of the mobile content provider, making mobile content publishing an exercise in managing chaos.
Ecosystem: Ever more complexity

The following value chain players also participate in the ecosystem:

- Celebrity talent
- Content IP licensor
- Porting shops
- QA testing facilities
- Licensed porting toolkits
- Licensed 3D engines
- Multiplayer platforms operated as a managed service
- Outsource platform operators (ie: Motricity)
- Portal operators (ie: Jamba/Jamster, Zingy)

However, the precise combination of value chain participants (and the percentage of revenue that they collect) varies from region to region, and even within a single region on a carrier-by-carrier basis.

It may, therefore, be helpful to depict the wireless ecosystem as a matrix containing many players (shown on the following page).
Wireless Entertainment Ecosystem

**CONTENT LAYER:**
- Branded Content
- Game Developer
- Internal Studio
- Publisher
- Content Aggregator
- MVNO & Operator Portal
- Online Portal
- Retail Outlet

**NETWORK LAYER:**
- Mobile Internet Service Platform
- Software Platform
- Mobile Network Infrastructure
- Browser, JVM, BREW, MMS client
- Operating System
- Terminal Device: Phone, SmartPhone
Carriers, infrastructure vendors and handset makers struggle to differentiate their wares via software features in order to fend off looming commoditization...
...which creates havoc, lack of interoperability, porting hassle and massive inefficiency in the content value chain.

**Create**
- Branded Content
- Game Developer
- Internal Studio

**Distribute**
- Publisher
- Content Aggregator

**Exhibit / Retail**
- MVNO & Operator Portal
- Online Portal
- Retail Outlet

**Chaos Zone**
- Mobile Internet Service Platform
- Software Platform
- Mobile Network Infrastructure

**Terminal Device**
- Phone, Smartphone

**Operating System**
- Browser, JVM, BREW, MMS client

**Portal**
- Online Portal

**Retail Outlet**
- MVNO & Operator Portal
An ever-evolving revenue model has generated shock waves and occasional bonanzas.
The Billing System Shapes the Content

People outside the mobile game industry remain largely unaware of the significant role that the billing mechanism has played in the design & performance of mobile games. During the first ten years of mobile games and other mobile entertainment, mobile operators have introduced a variety of billing mechanisms which have inspired new game designs.

Because the mobile phone is a versatile computing platform with secure microtransaction capability, it supports a wide variety of billing methods. Whenever a new billing model is introduced by carriers, developers quickly devise new games intended to stimulate consumption of billable events. For instance: subscription billing engenders episodic game design to encourage low churn and long customer loyalty; premium SMS billing caused developers to create games which required periodic refills of scarce supplies via messaging; flat rate data led to the innovation of downloadable games of huge file size which were sold at much higher price points. Each billing method, then, evokes a new generation of games which are particularly well suited to stimulate the new type of transaction.

In this respect, mobile games follow a grand tradition of mainstream media, namely: make money, not art. Content creation always conforms to the revenue model. Examples from the history of art, literature and mass media illustrate the point. During the Renaissance, when wealthy Dutch merchants supplanted the Vatican as primary patrons of the arts, religious motifs were replaced with portraits of secular leaders and images of quotidian life. In the 19th century, when novels were sold by the chapter as pamphlets, authors such as Charles Dickens crafted masterpieces of suspenseful action with cliffhanger chapter endings, the better to stimulate the next purchase (a tactical response to a revenue model which was replicated in the action adventure serials shown in Saturday matinees during the Golden Age of cinema, and by radio dramas in the 1920s). Likewise, in television, the classic five-act dramatic story structure was adapted to 3 acts, the better to conform to the needs of commercial sponsors. In recorded music, the advent of the longplay album introduced bundling, whereby a few hit singles were sold as a package together with lesser songs. Each of these examples illustrates the tendency of content creators to adapt their wares to suit the prevailing commercial dynamics.

An examination of the milestones in the evolution of the billing mechanism reveals how this, more than any other factor, has set the paces for waves of innovation in mobile game design, packaging and presentation.
Feasibility bounds creativity.

- Complexity
- Cost
- Localization
- Volume Production
- New Technology
- Quality
- Creative Concept
NTT DoCoMo iMode
The first “network as platform”

In 1999, spurred by the prospect of dwindling voice revenue, Japanese mobile network operator NTT DoCoMo launched the world’s first successful consumer mobile Internet service. Dubbed “iMode” for information mode, the service was intended to facilitate data retrieval, transactions and banking. Entertainment was initially considered a low priority.

But a series of smart decisions by DoCoMo yielded an unexpected windfall: a geyser of creative content that piqued the interest of consumers. iMode’s open standards (Compact HTML) made it easy for creative people to develop new content; uniform implementation of handset specifications minimized porting hassle; efficient micropayments made transactions secure and subscriptions easy to implement; and DoCoMo’s decision to take a low share of revenue made it possible for developers to be profitable. Within 18 months of launch, tens of thousands of companies were developing content for the iMode platform.

The results were spectacular. Within six months, one million consumers signed up for the iMode service. During the next two months, another million had joined. Thereafter, one million or more new customers joined the service every month. Within 3 years from launch, iMode had outstripped America Online with 33 million subscribers to AOL’s 30 million, thereby becoming the world’s largest ISP (wired or wireless), a feat that had taken AOL more than 15 years to achieve. By 2004, more than 40 million Japanese were subscribers to iMode.

At the outset, the service was rudimentary, but it worked. Subscription pricing models were inflexible, with only three payment plans of 100, 200 and 300 yen per month. Java applets (introduced in 2001) were initially restricted to 10 kilobytes in size. The content approval process was a bottleneck. Despite these limits, the prospect of financial gain attracted both large and small content providers, particularly those who were deterred by the dotcom meltdown. In the late 90s, paid content was almost unknown on the Internet (with the exception of a few niches), so iMode compared favorably despite the bottleneck of 14.4 kbps data throughput and the low resolution black and white screens. By 2002 iMode was sharing billions of yen with content partners.

iMode introduced new features at a measured pace. Executive Director Takeshi Natsuno explained during his opening keynote at GDC Mobile 2003 that iMode features are typically introduced in 9 month intervals “at the rate that humans can teach each other new habits.” iMode introduced the first color screens, the first camera phones, the first downloadable Java applets, the first 3G network & handsets (FOMA) and the first widespread mobile payment system for retail purchases (Felica).
iMode innovation:  I-Appli

Examples of the first downloadable mobile games.

Limited to 10 kilobytes, these miniature marvels pioneered new formats and revived proven formulas from early video game consoles and arcade classics.
Milestones in Transactional Content

1997

 › Embedded free game
   • Finland: Nokia 6110 Snake

1999

 › Subscription game arcades
   • Japan: NTT DoCoMo iMode.
     – Example: Namco Island game pack

 › Pure email mobile game:
   • “Love by Email” from Bandai
   • 3 month limit imposed by carrier because users were becoming addicted

 › First mobile game service
   • Korea: LG Telecom

 › WAP game + messaging
   • Japan: example Tsuri Baka Kibun

 › WAP airtime charges
   • Europe: providers including Handy-Games, PicoFun, lomo, nGame,
   • US: Jamdat & Indiqu
iMode innovation: Subscription Game Arcades

DoCoMo’s portal menu structure established the supreme importance of deck position, a pattern that was repeated in every mobile game service thereafter. In most countries, the game publishers had to lobby carriers for shelf space for every new title. But in iMode, rather than continuously request additional deck slots for new titles, publishers instead were free to introduce new game offerings under a single umbrella brand, accessible for a flat monthly subscription fee. In Japan, the key publisher skill became subscriber management instead of carrier account management.
Milestones in Transactional Content (2)

2000:

- **Episodic games**
  - Japan: NTT DoCoMo iMode.
  - Example: Samurai Romanesque from Dwango

2001

- **IVR toll call billing method for WAP game**
  - Europe: Digital Bridges and others

- **First pay-per-locate GPS game**
  - Sweden. Publisher: It’s Alive. Game: BotFighters

- **First in-game purchase of powerups**
  - France: Ferrari Racing and others from InFusio)

- **First advertising in mobile contest**
  - Finland: Pepsi Football promotion by Small Planet
Breakthrough Games: Original Networked Games (circa 2000)

Tsuri Baka Kibun by Dwango (Japan)
LifeStylers from PicoFun (Sweden)
Alien Fish Exchange by nGame (UK)
Milestones in Transactional Content (3)

2002:

- First event-based billing system in North America
  - Telus Mobility: rent, try before you buy, subscribe

- Premium SMS on messaging games and WAP games
  - Europe: many examples from many providers

- Reverse-billed premium SMS on off-portal downloads
  - Europe: many examples

- First Java game download service launched in US
  - Nextel. A failure due to cumbersome transaction: separate credit card entry was required

- Pay-per-download game purchase widely available via carrier storefront in Europe and US
  - Europe: several carriers launch services, culminating with the Vodafone Live! pan-regional debut.
  - USA: Verizon “Get It Now”, Cingular and Sprint PCS launch.

- Subscription billing to non-carrier portal services via P-SMS
  - Europe: Jamba, Bongiorno, Jippi and many other portals

- Prepaid scratch cards sold at retail for games delivered OTA
  - UK: Digital Bridges, other publishers
Milestones in Transactional Content (4)

2003

✴ First “mega download” 3D game at $12 price point
  › Japan: Namco Ridge Racer 3D

✴ First real-time head-to-head multiplayer game in US.
  ✴ No additional airtime revenues for the publisher
    › Bejewelled multiplayer from Jamdat Mobile.

✴ First multiplayer game with in-game microbilling
  › Korea: SK Telecom turn-based multiplayer competition with in-game microbilling @ 10 cents per play

✴ First cross-network multiplayer game available on operator decks launched in UK
  › Cannons Tournament by Macrospace: 2M game sessions played

✴ First cross-network multiplayer racing game available on operator decks in US
  › IHRA Racing by Mforma

✴ i-Mode arrives in Europe
  › with Bouygues Telecom (FR), Wind (IT), E-Plus (Germany) and eventually 02 (UK) and Telefonica (Spain) introducing subscription game services to Europe.

✴ Free game demo versions available without purchase
  › US: Verizon experiments with free game demos. A failure as the free versions cannibalize paid consumption. Experiment ends when publishers rebel.

✴ First shortcode used to download a mobile game
  › Korea: SK Telecom

✴ First mobile games sold in cartridges in retail shops
  › Europe / US: Nokia N-Gage MMC cards

“Photo Battler” from NEC
- Use camera to create character
- Algorithm evaluates photo to determine attributes: life, power, speed
- Add text comments
- Compete with others via infrared

“Shakariki Petto” from Panasonic
- Beyond Tomagotchi: a “cameragotchi”
- Feed your virtual pet using the camera
- IR rare food items to friends
Design Innovation: Music Games (2002-04)

Karaoke Adventure Games (Japan)
Sing your way to freedom
Adventure story plus songs

Samba De Amigo by Sega (Japan)
Rhythm Game for mobile
Downloads new tunes every day!

Name That Tune by Sonic Branding
Polyphonic guessing game
Download new songs to guess
Winner gets to unlock a tone!
Design Innovation: Network-aware games (2001 - 04)

“Fishing Anywhere” from Panasonic
Used GPS location data
Compete against others in your area

“BotFighters” from It’s Alive
SMS combat with location info.
Like paintball or assassin.
Use phone as weapon and as radar.

“Aqua Mode” from Moss/Bandai Networks
Raise fish in virtual aquarium.
Use infrared to exchange them with your friends.
Design Innovation: SMS to TV gameplay (circa 2002)

Send a premium text message to interact with other players. The gameplay is displayed on your home TV, transmitted over local television.

8 minutes of fame for only 13 Euro!
A combination of gameplay and TV chat. First genuine multiplayer game experience in mobile, and first example of truly integrated in-game advertising & sponsorship in mobile.

**Waterwar**
Send text messages to reload your water pistol.
30 simultaneous players for 8 minute sessions.
Developer: Frantic Media (Finland)
Broadcaster: MTV3 & SubTV (Finland)
ARPU: 13 Euro

**Astronaut**
Send text messages to control your astronaut in the path of giant asteroids.
60 simultaneous players
4000 messages per hour @ 80 cents
Developer: Red Lynx (Finland)
Broadcaster: MTV3 & SubTV
Milestones in Transactional Content

2004:

- **First publisher-branded game channels in US**
  - AT&T Wireless experiment in the iMode vein. A failure.

- **3 Day rental and pay-per-play gaming launched by 3 UK**

- **First integration of real-time online fantasy sports and mobile**
  - US: Mforma’s CBS Sportsline Fantasy Sports mobile companion

- **First carrier-branded “private label” game titles to compete directly with content provided by publishers.**
  - Cingular “Texas Hold’em”

- **Carrier offers top deck slots in exchange for aggressive hard-dollar spending by publisher on co-operative marketing in print and media.**
  - France: SFR
Milestones in Transacational Content (6)

2005:

- First auction by a mobile network operator of top deck slots in the BREW menu.
  - US: Alltel
- Legal action against non-carrier portals for deceptive marketing practices.
  - Verisign’s Jamba/Jamster is sued on both sides of the Atlantic (US, UK, Netherlands)
- First mobile-to-arcade game integration
  - Konami Beat-Mania allowed players to customize tunes on the phone and play in the arcade.
- Level editors introduced for mobile games
  - Airborne Entertainment’s Pinball Factory, nGage Mile High Pinball, more
- First synchronized day-and-date release of mobile game with major motion picture and console game title
  - Worldwide: Mforma’s “Fantastic Four” with Marvel, 20th Century Fox and Activision

2006:

- First ad-supported game download portal
  - Europe: GreyStripe
This is the end of Part One of the FIRST DECADE OF MOBILE GAMES by Robert Tercek. Please continue reading in Part Two.

The entire presentation can be downloaded at www.roberttercek.com.

You can join the online discussion at www.ning.com: look for the “mobile fun” network.