

Introduction to Mobile Games



In this session....

- ★ Definition & Overview of the Industry
- ★ Past, Present & Future
- ★ Evaluation of Platform, Device & Mobile Technology
- ★ Medium, Style and Genre
- ★ Content Delivery Mechanisms
- ★ Value chain and Motivations

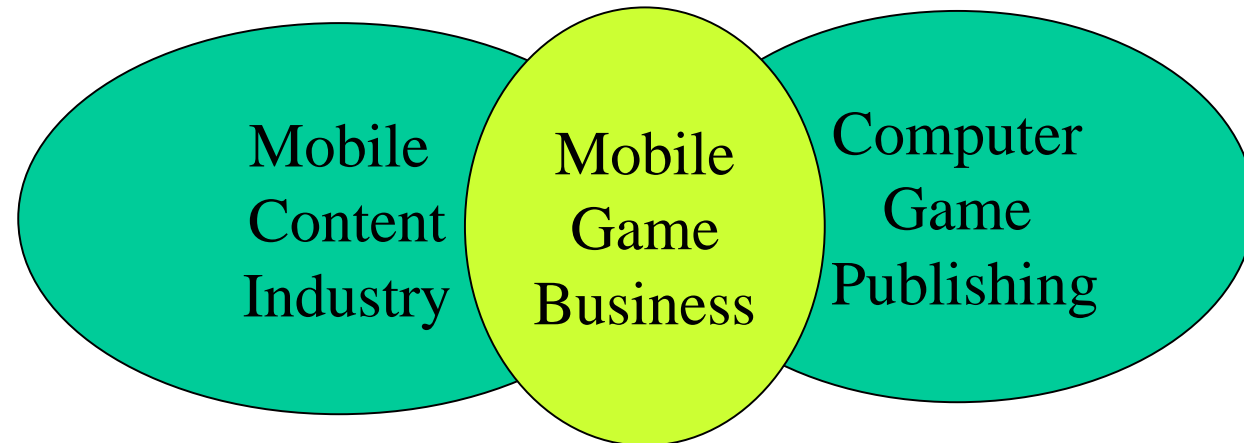


Source: Gamesoft.com

Mobile content industry

- ★ Ring tones
- ★ Wallpaper
- ★ Applications
- ★ Songs (mp3)
- ★ Video
- ★ Advertisements
- ★

Mobile game industry



Computer game publishing

- ★ Games
- ★ Advertisements
- ★

Mobile phones (as a game media)...

- ★ ... are, in most of the features, an inferior platform for console/pc games. (eg. features. screen size, processing power)
- ★ ... are *always* connected to a network.
- ★ ... are highly *personal* devices that cannot be exchanged between owners.
- ★ ... are carried and used in a completely different *context* than other devices. (still major use is communication/telephony)
- ★ ... are *ubiquitous* – always on, always with user
- ★ ... are usable *anywhere*
- ★ ... are having built in *camera, video*
- ★ ... are repository for users' *personal information* (phone book, calendar)

Games (Design variables): Rules, Play and Culture

★ A game is a system of rules.

- Game is a **System**. **Rules** are the formal structure of a game.
 - Variable and quantifiable outcome, player puts efforts and he/she is attached to outcome
 - Game entities, mechanics and interaction
 - Negotiable consequences
 - Controls (UI related rules)

- System. Examples from traditional games
- Rules. Examples from traditional games

Games (Design variables): Rules, Play and Culture

- ★ Play begins when a human enters the system and activates the rules.
 - Question to ponder: “Complex rules are required to produce complex games” (T/F).
 - Compare CHESS and GO – Complexity?
 - Play is an Experience beyond the formal complexity and rules of the game. Everything that happens to the mind and body of the player when he is engaged in the system. (aesthetics and style, story and setting, character)
 - open, creative, improvisational, challenge, scoring, reward

Games (Design variables): Rules, Play and Culture

- ★ A game is a cultural artifact.
 - Relationship with the world. (Precedent, Environment, Audience)
 - What kind of people play and why?
 - » Source: Frank Lantz & Eric Zimmerman
 - » Further reading: www.ericzimmerman.com
 - Eg. Monopoly
 - is a representation of 1930s Atlantic City, a Depression-era.
 - real estate fantasy.
 - a miniature meditation on capitalism.
 - Small property deeds to total market domination.

Mobile phone culture

- ★ Snake is the precedent, not Mario
 - Simple rules and controls
- ★ Constant movement through unpredictable environments, opportunistic desires
 - Quick, short gaming sessions
 - Casual games
 - Minimum-key strokes
 - Played while commuting
- ★ Not your usual video game audience

Games – Common Genres (kind, class)

- | | |
|--|---|
| <ul style="list-style-type: none">★ Action★ Strategy (RTS)★ Adventure★ Role Playing Games (RPG)★ Sports★ Fighting★ Shooting FPS, TPS | <ul style="list-style-type: none">★ Simulation★ Puzzles★ Racing/Driving★ Educational★ Traditional games<ul style="list-style-type: none">– Board games– Card games |
|--|---|

Games database: <http://www.mobygames.com>

Game genres: <http://www.allgame.com/generes.html>

Game Style

- ★ Style of playing refers to the way the character is expected to act and react within the genre of the game to ensure the desired end result. It is a tool for the game master and an instruction for a player. On the other hand styles are not genre specific, but they can be applied to any setting.
- ★ A collection of game mechanics that together create compelling experiences.
- ★ Eg. Card games:
 - Card games of combination (eg. Poker)
 - Trading card game (eg. Magic)
- ★ Game mechanics: - set of laws, rules or guidelines of the play.

Game Style

- ★ Think of the entire game space. Most of the games in that space are not interesting. Why?
 - Only one out of 10 titles becomes profitable
 - There are well established styles (local maxima)
 - Most games are variations on an understood style
- ★ Innovation is driven by discovering new maxima

New Game Styles

- ★ Driven by technology
- ★ Driven by society & culture
- ★

Mobile Game (as a new Genre):

- ★ Mobile game: A game that takes changing relative or absolute position/location into account in the game rules.
 - Question to ponder: Are all mobile phone games are mobile games?

Other Genres that have close relations with mobile games:

- ★ Location based game: A game that uses relative or absolute but static position/location information in the game rules.
- ★ Ubiquitous game: Uses the computational and communications infrastructure embedded within our everyday lives.
- ★ Augmented Reality Game: Integration of virtual and physical elements in the game world.

» Source & Further Reading: "Theory of Pervasive Gaming" - B K Walther

course focus: networked mobile phone games; loosely speaking: networked mobile games

Mobile Games

- ★ Provide a collection of **game mechanics** that, together, produce pleasing experiences for players...
- ★ Some, but not necessarily all, of which would depend on the **unique characteristics** of the mobile device.
- ★ Some, but not necessarily all, of which, already exist in **current games**.
- ★ Some of which involve **imaginative leaps** we cannot realistically predict.

Mobile Games - Success Factors

- ★ New game style (new maxima) (new concept)
 - Innovative game concepts seems to be arising from Asian markets (source: www.acten.net, e-content report 3)
- ★ Usage of unique characteristics of the mobile devices
- ★ Cross-vendor, cross-operator, OS independent
- ★ Produce for larger market (new features are not available in all phones)
- ★ Simple rules and controls (casual)
- ★ Networking, multi-device/multi-platform
 - Online ranking-list, winning in tournaments etc...
 - Combination with television shows. Eg trivia and quiz shows

Past, Present and Future (mobile game



★1980s : Nintendo's portable LCD games series.

www.gameandwatch.com

–70 different kinds of LCD games.

<http://nindb.classicgaming.gamespy.com/gw/index.shtml>

★1990s : Nintendo's GameBoy (portable game console).

–Several LCD game manufacturers

–Nintendo released GameBoy. 100 over games.

<http://nindb.classicgaming.gamespy.com/dmg/index.shtml>

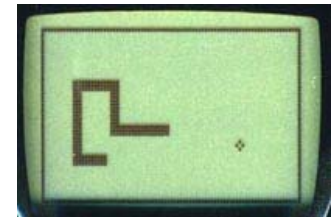
★1997: Games on Mobile Phone

–Nokia's *Snake* game in 1997.

★End 1990s: WAP-games. Slow connection speed, not successful (too much hype)

– in Japan (i-mode network based)

– In Europe Nokia 7100



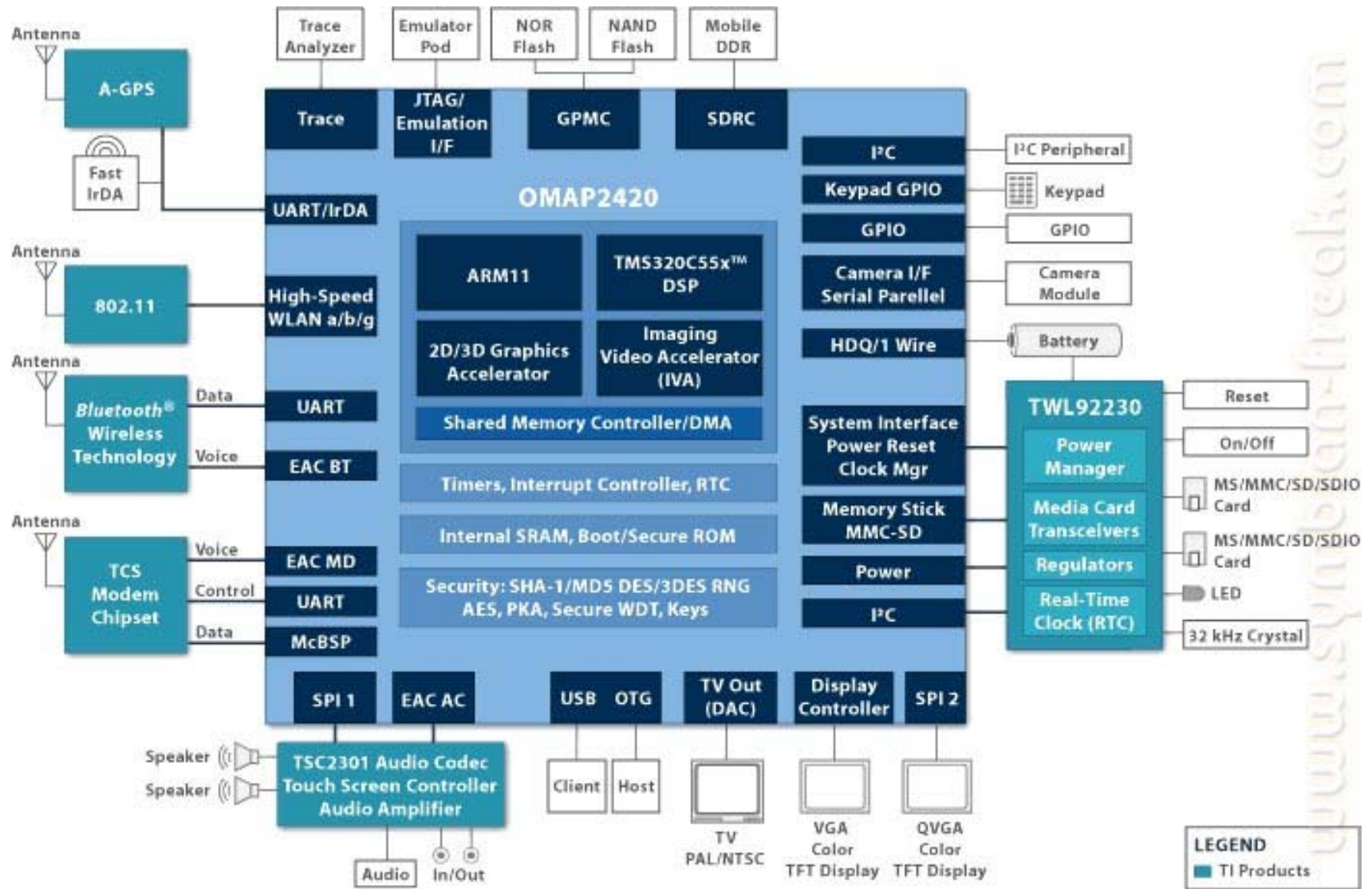
Source: Gamesoft.com



Past, Present and Future (mobile games)

- ★ 2001 onwards: Interpreted Languages, Tech Upgrades, Compiled apps, Downloadable games, smartphones, N-gage Arena, Sony PSP, 3D graphics, natural sounds, W-CDMA, bluetooth.
- ★ 2006 onwards: High speed Network, GPU in Phones (h/w accelerated 3D graphics) with OpenGL ES, Scalable Vector Graphics (SVG), SVG Basic, SVG Tiny, MMMOG, Pervasive Games, Portable consoles with communication capabilities. [eg h/w accelerated 3D: Nokia N93, SE P990, M600, W950i, HTC-DVB H TV, Samsung SGHP910]
- ★ Mainstream mobile gamer will soon no longer be the “young, male, tech-savvy” and high frequent gamers. Middle-aged, male and female, non-tech –person will be requiring different types of casual games. (source: www.acten.net, e-content report 3)

OMAP2420 in Nokia N93



Source: www.symbian-freek.com

Why mobile games? (The market)

★ 2006 onwards:

- The global mobile games market is ready to take off, according to a new report coming out of **Juniper Research**. With casual games acting as a market driver, mobile games are expected to generate **\$17.6 billion** in revenue by 2011.
- The firm is forecasting **2006** revenue totals of **\$3.1 billion**. If the \$17.6 billion prediction comes to pass, the industry will produce a cumulative revenue stream of \$57 billion over the next six years. Market dominance will continue to hail from the Asia-Pacific region, which is expected to contribute 38 percent of cumulative revenue through 2011. By comparison, *Europe and North America will contribute 31 percent and 22 percent respectively.*

» Source: <http://www.wirelessweek.com/article/CA6345674.html>

Why mobile games? (The market)

★ 2006 onwards:

- Mobile online gaming will amount to a **\$714 million** market in China by 2008, more than a sevenfold increase from 2004, a new study by a **Beijing research** firm concludes.

» Source: <http://www.physorg.com/news5048.html>

- The **casual mobile game** market will be worth more than **\$1 billion by 2007**, exceeding spend on high-end feature-rich titles. Puzzle and quiz games are most popular amongst mobile gamers in Japan, with **60% of gamers** playing this genre. source: www.w2forum.com

Why mobile games? (The market)

- ★ Bestselling PC game franchise
 - The Sims, 54 million units
- ★ Bestselling console game franchise
 - Mario, 184 million units
- ★ Bestselling mobile game franchise
 - Snake, 350 million units

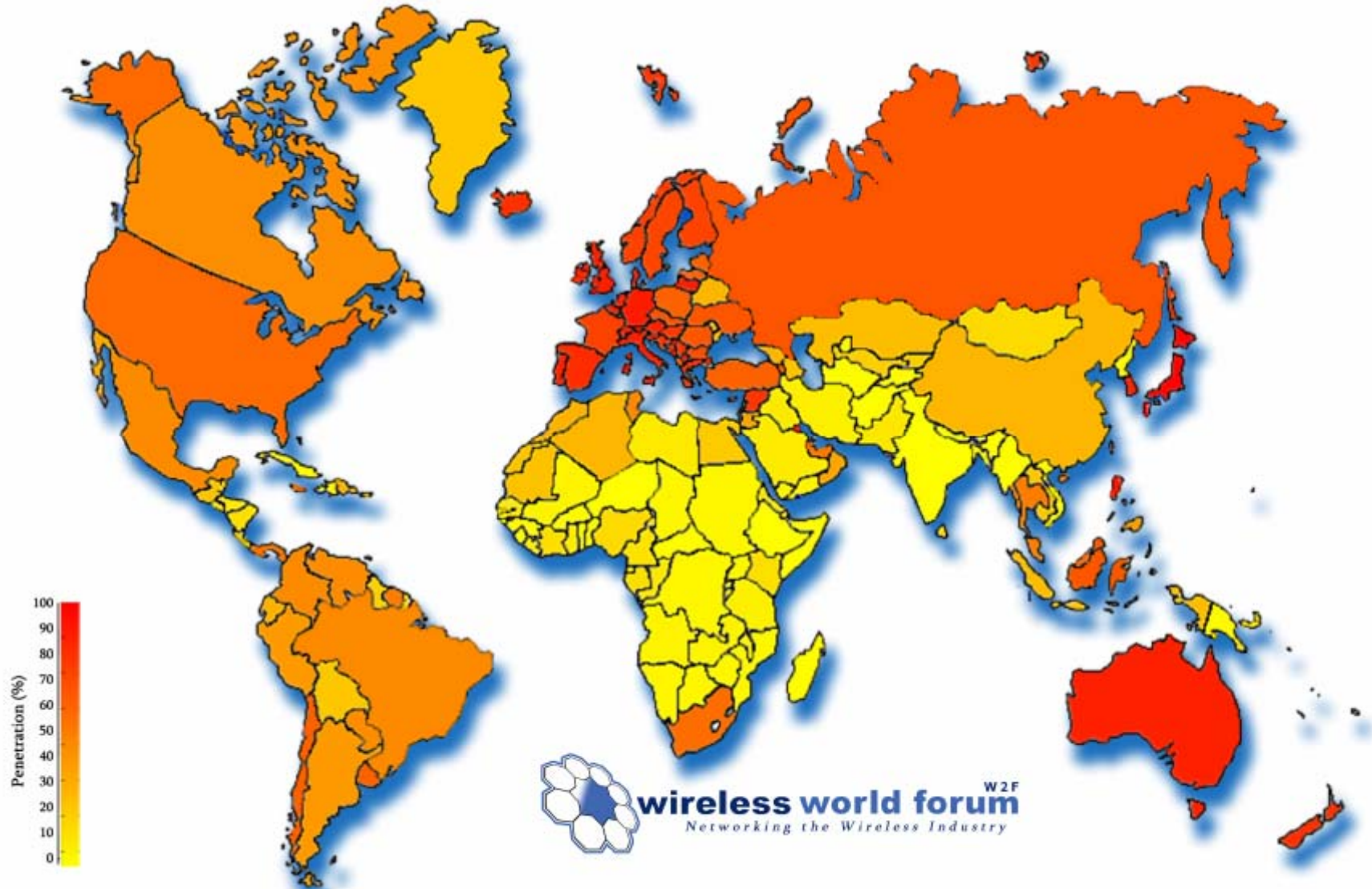
Jamba (German Mobile Portal)

- ★ **300.000 Java Application** downloads/month
 - *80% are mobile games*

Paradox Studios, India

- ★ has grown at a hectic pace Since its inception in 2001.
- ★ over a massive **750,000 games downloaded per day** on the Reliance India Mobile Network. The company clearly stands today as India's largest game developer

2006 World Mobile Phone Penetration Rate



Singapore: 90%, China: 30%, India: 9%, Japan: 82%, Aust: 86%, Malaysia: 68%, Indo: 28%, Taiwan: 91

source: www.w2forum.com

Mobile Phone and Network – Evaluation

- ★ 1980's Voice only (Circuit-switched network, AMPS)
- ★ 1990's GSM, CDMA, Voice & Data (SMS) → Simple standalone games, SMS games.
- ★ 2000 GPRS, WAP Phones → WAP Games.
- ★ 2001 WCDMA, CDMA2000 3G Phones, Bluetooth phones, GPS enabled Phones, Cell-Id → Bluetooth Games, Networked Mobile Games, 3D games, Location Based....
- ★ 2005 HSDPA for WCDMA, CDMA2000 for EV-DO RFID, Smart Sensors

Mobile Game Development Platforms

- ★ J2ME --- Platform independent, Java based, Deployment content aggregators, operators, developers' sites. (java.sun.com)
- ★ BREW --- Native code, C++ based, deployment through operators in partnership with Qualcomm (www.qualcomm.com)
- ★ Symbian --- Native code, C++ based
 - Features (Symbian, J2ME, BREW): High/low level UI, Data Persistence, Access to Personal info (calendar, phone book), networking, 3D, Multimedia, Location Info, Web Services, Security, SVG)
- ★ Flash Lite --- Action Script (Features: [Flash Player 7 Based](#), [Dynamic XML Data](#), [Persistent Data](#), [Powerful and Dynamic Media](#), [Text Enhancement](#), [Shape Drawing](#) [ActionScript API](#), [Action Script 2.0 Support](#), [Synchronized Device Sound](#), [Compressed SWFs](#))
- ★ Microsoft Windows Mobile 5.0 --- Native code, C++ based
- ★ Maphun, ExEn and other...



Symbian OS Release

- ★ 8 <http://www.symbian.com/symbianos/releases/v80/productsheet.html>
- ★ 8.1 <http://www.symbian.com/symbianos/releases/v81/productsheet.html>
- ★ 9.1 <http://www.symbian.com/symbianos/releases/v91/productsheet.html>
- ★ 9.2 <http://www.symbian.com/symbianos/releases/v92/productsheet.html>
- ★ 9.3 <http://www.symbian.com/symbianos/releases/v93/productsheet.html>

OS Market Share (source: The Diffusion Group – TDG, <http://www.tdgresearch.com/>)

- ★ 2005: Symbian 51%, Linux 23 %, Microsoft 17%
- ★ 2004: Symbian 56%, Linux 11.5%, Microsoft 12.6%
 - Will Symbian hold its lead?
 - Success factors for Windows and Linux?
 - How about the Industrial Devices and M2M arena?
(proprietary OS's, Various (huge) classes of devices)

Major Device Classes/Platforms (For developers to focus on mass market) [vendor specific platforms]

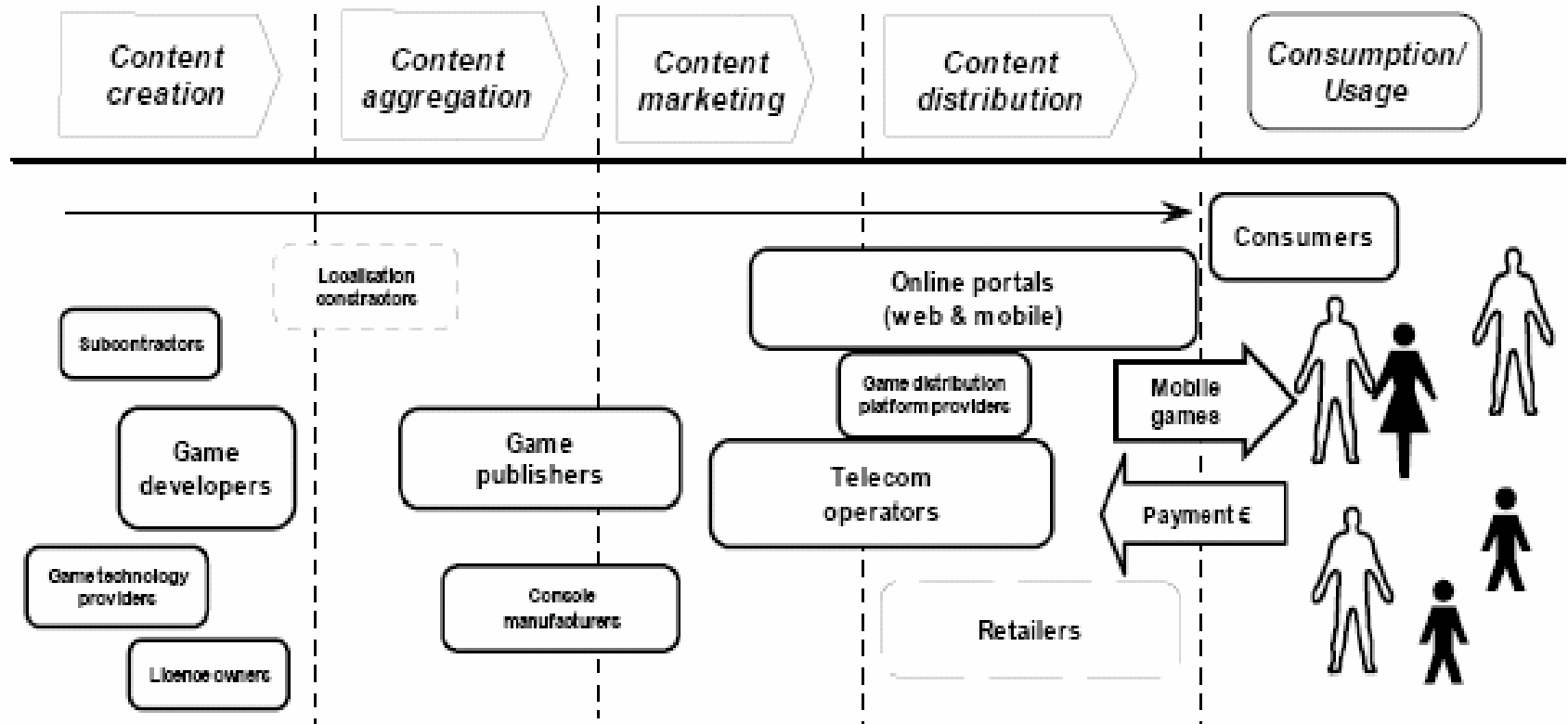
- ★ Nokia Series 60
- ★ Nokia Series 80
- ★ Nokia Series 40
- ★ UIQ Phones (User Interface for Symbian) (www.uiq.com).
 Release 1,2,3 : Flexible platform allowing licensees to differentiate and create diversified phones, still based on one single codeline.
 - Eg UIQ Phones :- [Sony Ericsson W950](#), [Sony Ericsson M600](#), [Sony Ericsson P990](#), [Motorola A1000](#), [Sony Ericsson P900](#)

Know your platform.....

UIQ: 208*320
 Series 60: 176*208
 Series 40: 128*128
 UIQ3 (also new Series40): 240 * 320



Mobile Game Value Chain



source: www.actten.org

Game distribution and marketing business (20-25% total revenues)

★ Revenue sources

- Direct sales to consumers (flat fee)
- Subscription-based fees (e.g. monthly)
- Additional feature sales (e.g. extra levels)
- Game rentals (pay-per-play)
- Advertising & Sponsoring
- Network access and transfer fees (for Telco operators)

★ Costs items

- Personnel costs
- Marketing campaigns (planning + media)
- Infrastructure building and operation costs (distribution platforms, servers, mobile network operation)
- Licence fees to publishers

Publishers (50-60 % of total revenues)

★ Revenue sources

- Wholesale game revenues (flat fees/per sales/per usage)
- Subscription fees from consumers (e.g. to online communities)
- Advertising & sponsoring, e.g. (to include branded content in the game)

★ Costs items

- Personnel costs
- Licence fees brand owners
- Licence fees to console manufactures
- Payments to developers

Mobile game developers (10-15% of total revenues)

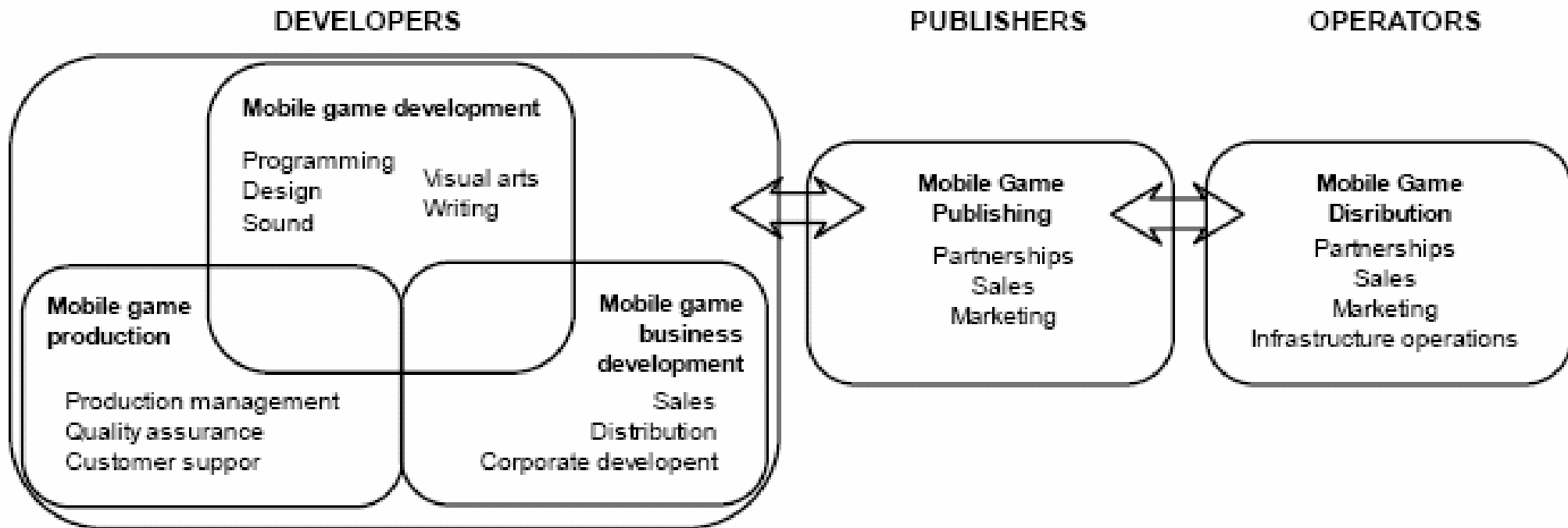
- ★ Revenue sources
 - Flat fee payments from publishers
 - Commissions per mobile game usage/sales
- ★ Costs items
 - Personnel costs
 - Game development software licences and costs
 - Game development hardware costs
 - Licence fees to brand owners

Mobile game console/phone manufacturers

(%??)

- ★ Revenue sources
 - Mobile console sales
 - (Subscription fees to online communities)
- ★ Costs items
 - Personnel
 - R&D costs
 - Marketing costs
 - Distribution costs

Mobile game production process



Business Model

- ★ Revenue by: Consumer payment, Advertising and Sponsorship
 - Publishers : 50% - 60%
 - Mobile operators : 20% - 25%
 - Licensors : 15% - 20 %
 - Game developers : 10% - 15%

- ★ Movie: Director, Producer, Distribution.
 - What is the share?

Mobile game business

Game industry

- ★ High production cost (Minimum 2-4 million USD)
- ★ Long development time (12-24 months to develop)
- ★ Long time reach to distribution networks/chains
- ★ Long life time
- ★ Profit by game s/w sales (not h/w)

Mobile Game

- ★ Less capital investment than traditional games (few hundred thousands of USD)
- ★ 2-4 months for simple and 4-6 months for complex mobile games development
- ★ Short life time
- ★ Distribution through operators. Fast and efficient global reach.
- ★ Profit by long term contract with the customers. Mobile game as a value-add service

Top companies

1. **Electronic Arts (USA), 2482 \$Bn**
2. Sony Computer (JP), 2180 \$Bn
3. Nintendo (JP), 2128 \$Bn
4. Activision (JP), 864 \$Bn
5. VivendiUniversal Games (USA), 832 \$Bn
6. Take-Two (USA), 793 \$Bn
7. Atari (FRA), 761 \$Bn
8. Konami (JP), 740 \$Bn
9. Microsoft Game Studios (USA), 614 \$Bn
10. Sega (JP), 563 \$Bn
11. Square Enix, 526 \$Bn
12. Unisoft (FRA), 494 \$Bn
13. THQ (USA), 480 \$Bn
14. Capcom (JP), 407 \$Bn
15. Bandai (JP), 372 \$Bn
16. Namco (JP), 360 \$Bn
17. Acclaim (USA), 269 \$Bn
18. **Koei (JP), 224 \$Bn**
19. Eidos (UK), 197 \$Bn
20. Midway Games (USA), 190 \$Bn

Game: Main markets

USA, Japan, Korea

Mobile Game: Main markets

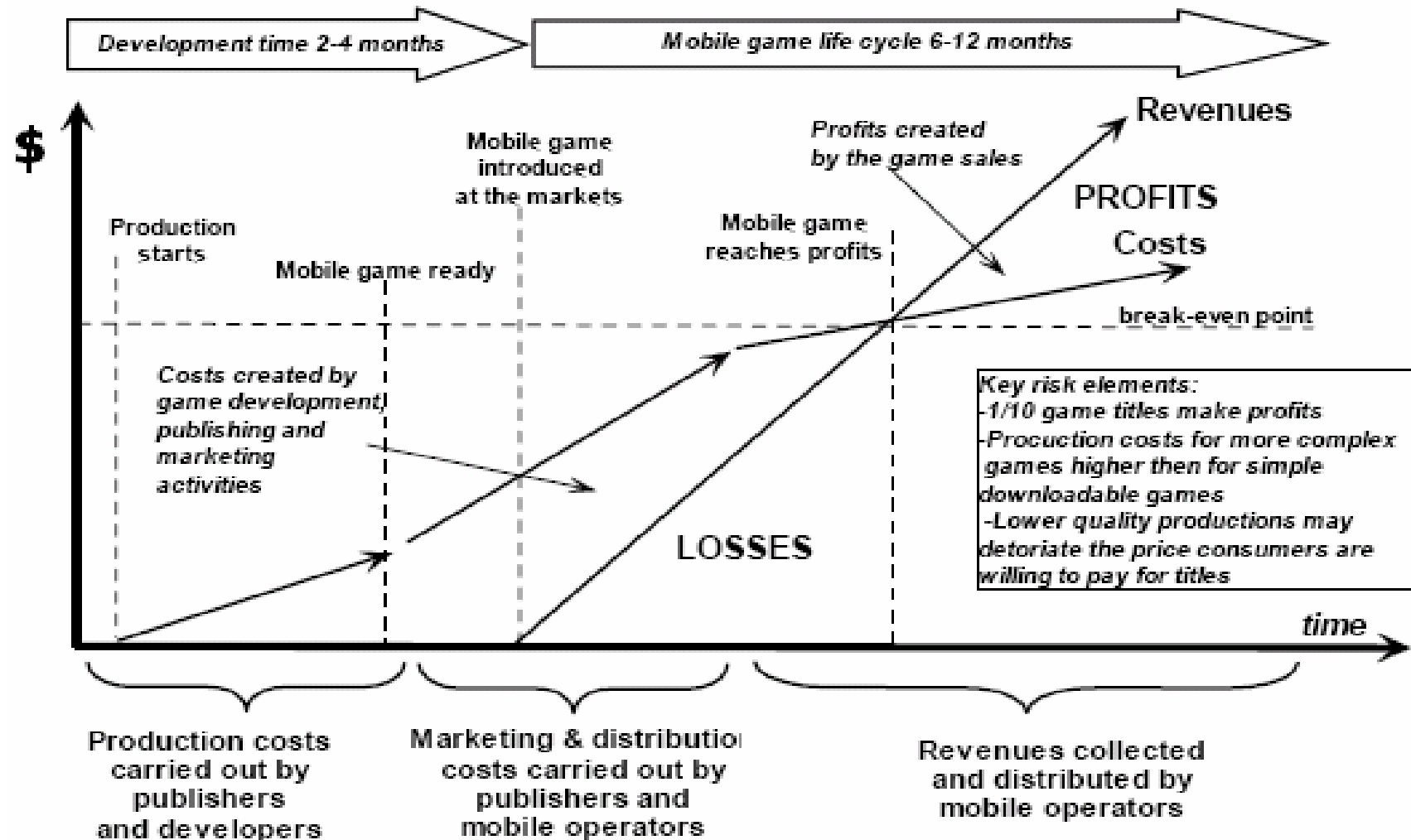
Europe, Japan,
Korea

source: game developer's magazine

Local Game Industry

- ★ IDA, MDA, SEDB initiatives
- ★ Koei (Japan): www.koei.com.sg
- ★ Electronics Arts (usa-game publishing)
- ★ Techwah online www.techwah.com. [game room Eden II: www.edenii.com, @netCafe's]
- ★ System at Work. www.sysatwork.com [prepaid master card]
- ★ Digipen Institute. First game training institute in SG
- ★ Tentacle studio
- ★ Boom Zap (Casual games company)
<http://www.boomzap.com/aboutus.htm> (IGDA Singapore Chapter)

Mobil Game Revenue Life Cycle



Source (modified): www.actten.org

Mobile Games Challenges

- ★ Porting Challenges : <http://j2me-device-db.sourceforge.net> (Microcode)
 - Different screen sizes
 - Varying sound solutions
 - OS differences
 - Memory shortages
- ★ Game piracy and intellectual property rights
 - Device to device copy
- ★ Life time of games
- ★ It is a value added service. People don't buy phone for games as a primary feature.
- ★ Networks & Location-based? network speed, technology, services, QoS....
- ★ UI – screen size, key pad...
- ★