

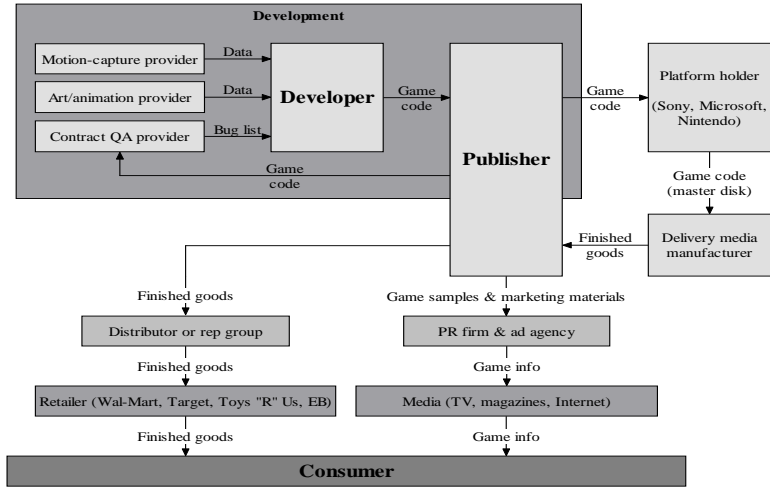
Game Production

(adapted from
"Introduction to Game Development"
by Steve Rabin)

Game Production

- Developer's view
- Publisher's view
- Production
- Marketing
- Intellectual Property 101

Video Game Industry



Revenue from \$50 Console Game

Amount	Purpose	Paid By	Paid To
\$3	Cost of goods	Publisher	Media manufacturer
\$7	Publishing license royalty	Publisher	Platform holder
\$13	Retailer profit	Consumer	Retailer
\$3	Markdown reserve	Publisher	Retailer
\$8	Development cost	Publisher	Developer
\$10	Operating cost	Publisher	Internal (overhead, freight, co-op, bad debt)
\$6	Marketing	Publisher	Ad agencies and media

Game Developers

- Can be independent, or subsidiaries of publishers
- Many developers started on PC due to accessibility of tools
 - Console development requires proprietary development kits and preexisting relationship with publisher

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Game Development

- Cover: art, animation, programming, asset management, production
- Idea for the game (“intellectual property”) can come from developer or publisher
- Paid set amounts per milestone completed
 - Payments are advances against future royalty payments
 - Royalties are calculated as percentage of publisher’s “net receipts”
 - Definition of net receipts is frequently obscure

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Game Development

- The Developer is responsible for:
 - Game conception
 - Prototype
 - Design
 - Technology
 - Development and implementation

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Publishers

- Publishers handle:
 - Production process
 - Quality assurance
 - Licensing
 - Manufacturing and shipping to retail
 - Sales
 - Consumer marketing and PR
 - HR, finance, investor relations, legal

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Publishers

- The Publisher is responsible for:
 - Funding/Budget
 - Promotion
 - Marketing
 - Distribution
 - Support

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Art and Animation Service Providers

- Developers can outsource art and animation assets to external companies
- Specified at contract and included in development budget
- Art houses can become full-service developers with judicious addition of programming talent
- Cost is a function of quality, team location, and volume of assets

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Quality Assurance Service Providers

- Alternative to maintaining team of full-time salaried testers
- Established in PC publishing, due to amortization of multiple hardware configurations over multiple projects
- Gaining ground in console publishing; security of sharing proprietary console equipment is a perceived concern

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Platform Holders

- Console companies (Nintendo, Sony, Microsoft) control nearly every aspect of games on their platforms
 - Proprietary development hardware and software
 - Permission to become a licensed publisher
 - License to use console company trademarks in marketing materials
 - May require permission to start a game
 - Certification of a finished game
- Investment in hardware must be offset by revenue from software (around \$7/unit for third-party games)

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Platform Holders

- Revenue comes from:
 - Hardware sales
 - Licensing fees from compatible peripherals
 - First-party games
 - Licensing fees from third-party games
 - Licensing fees from development tools
 - Revenues from sales of proprietary delivery media

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PCs are an Open Platform

- Intersecting relationships among:
 - CPU manufacturers, application software providers, graphics chip manufacturers, and box assemblers
- CPU (Intel, AMD) and graphics chip (NVIDIA, ATI) manufacturers provide developer support and market their technology benefits directly to consumers
- Application software providers (Microsoft) give developers free tools to ensure compatibility
- Box manufacturers (Dell, HP) may bundle hot software titles to add value to their sale
- Low barrier to entry for developers, but high competition for shelf space

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Phases Within Phases

- Pre-production
- Production
 - Early production
 - Mid-production
 - Alpha
 - Late production
 - Beta
- Post-production

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Pre-Production Phase

- Game Design Document (GDD)
- Technical Design Document (TDD)
- Team selection
- Internal staffing plan

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The Technical Design Document (TDD)

- TDD is a statement of the *solution* to a specific game concept outlined in a "Game Design Document" (GDD)
- Foundation for the programming work
- Identify technical challenges
- Plan for technical solutions
- Set forth asset format guidelines

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Plan Everything!

- Generate task lists from GDD & TDD
- Including:
 - Programming
 - Assets
 - Demos
 - Approvals
 - Green lights
 - Vacations, holidays
 - QA
- Work backwards from completion

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Budgeting

- Personnel costs
 - Salary x time x involvement %
- Developer/Contractor payments
- Equipment & software
- Supplies
- Travel & meals
- Shipments

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In Production

- Here are some example development periods for different platforms:
 - 4-6 months for a high-end mobile game
 - 18-24 months for an original console game
 - 10-14 months for a license / port
 - 16-36 months for an original PC Game

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Beginning of Production

- Programming now underway
- Kick-off tasks - art creation
- Kick-off tasks - audio creation

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Red Flag Spotting

- The usual causes of red flags:
 - Team conflicts
 - Personnel issues
 - Design problems
 - Money troubles
 - Technical glitches
 - Change requests
 - Schedule delays
- Take immediate action

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Development Milestones: Milestone Definitions

- An example milestone schedule for a 20-month development cycle:

Milestone Phase	Month 1-3	Month 4-6	Month 7-9	Month 10-12	Month 13-15	Month 16-18	Month 19-21
Pre-Production - Core Concept Doc Full Concept Proposal Project Scheduling and Cost	■						
Proof of Concept		■					
Alpha Stage		■	■	■			
Beta Stage					■	■	
QA Testing				■	■	■	
Gold Master							■
Production and Duplication Platform Specific Testing							■

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First Playable – Proof of Concept

- Key game prototype features:
 - Core gameplay mechanic
 - Key selling pts/ pts of difference
 - Game engine / technological proficiency
 - Artistic / styling guide
 - Demonstration of control / camera system
 - Example gameplay goals

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Development Milestones: Alpha Definition

- At Alpha stage, a game should:
 - Have all of the required features of the design implemented, but not necessarily working correctly
 - Be tested thoroughly by QA to eliminate any critical gameplay flaws
 - Still likely contain a certain amount of placeholder assets

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Development Milestones: Beta Definition

- At Beta stage, a game should:
 - Have all content complete
 - Be tested thoroughly for bugs and gameplay tweaks
 - Be shown to press for preview features

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Development Milestones: Gold Master Definition

- At Gold Master stage, a game should:
 - Be sent to the platform holder/s (where applicable) for TRC testing
 - Be sent to press for review
 - Be sent to duplication for production
 - Be backed up and stored

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The Producer (In Production)

- Managing time of production
- Expecting the unexpected
- Red flags in mid-production
- Licenses
- Working with platform holders
- Working with marketing

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Post-Production

- Marketing
- ESRB rating
- Box & docs
- Strategy guide

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Quality Assurance

- Test plan
- The QA database
- QA – the view from inside
- The QA-producer relationship

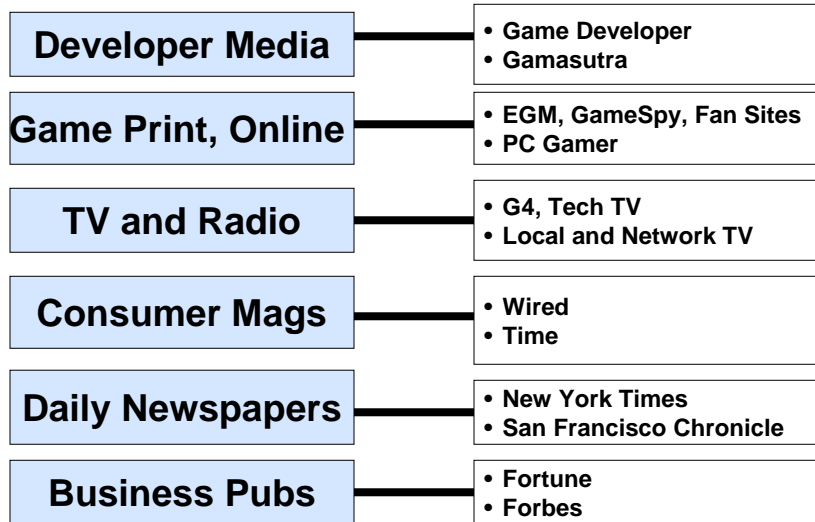
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Marketing

- How can a developer build a brand for the company?
- How do you maximize the coverage for a title?
 - What media categories can you get to?
 - What techniques do you use?
 - How do you involve fans?

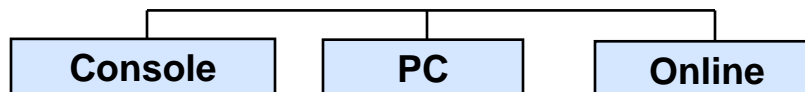
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Cover all of the Media Bases



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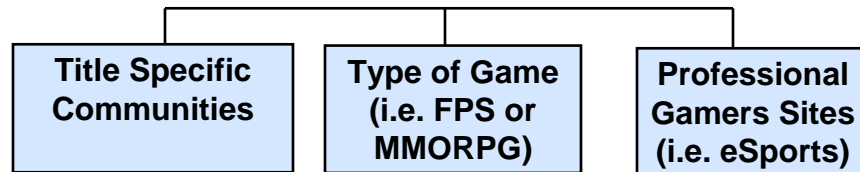
ENTHUSIAST MEDIA



- Value
 - Perhaps the best exposure for your game in creating early sales
 - Builds a following with game fans

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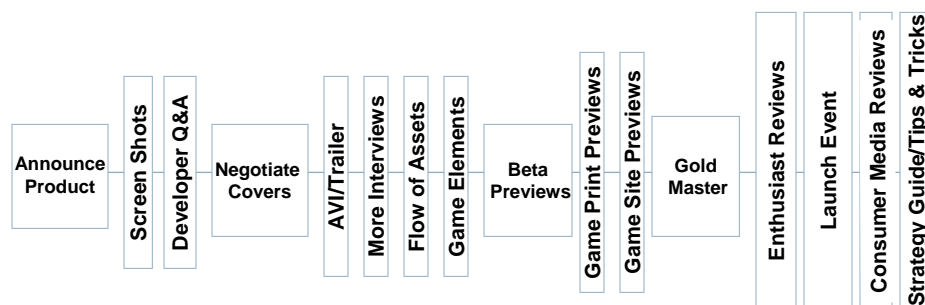
Fan Sites Will Give More Coverage



- Hundreds of fan sites exist; you just have to do some research

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Maximizing Press Coverage for a Game Title



Marketing is the "force" of production

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Intellectual Property 101

- Patents
 - Protect certain novel, useful and nonobvious *inventions* having a utilitarian function
- Copyrights
 - Protect *creative expression* in a fixed medium
- Trademarks/Tradedress
 - Confer exclusive rights in any word, symbol or device that *serves to identify* the source or origin of goods or services
- Trade secrets
 - Protect commercially valuable *secure information* whose contents are secured from public knowledge and disclosure

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IP Content of Video Games

- Patent examples
 - Hardware technology, media on which game is recorded, and software that enables game to perform its functions
- Copyright examples
 - "Software", artwork, storyline, characters, props, costumes, text, dialogue, sound effects, music
- Trademark/Tradedress examples
 - Business name of the developer and publisher, game title, mascots (Mario and Sonic), designs, unique packaging
- Trade secret examples
 - Confidential know how used to program, budgets, secret projects, contract terms

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Patents

- Works Protected
 - Inventions and processes protected by utility patents can be “any new and useful process, machine, manufacturer or composition of matter, or any new or useful improvement thereof...”
 - So-called “method” patents are utility patents that cover computerized processes and functions
 - The design of physical objects, such as the Xbox, can be protected separately by a design patent

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Patents

- Standards
 - To qualify for utility patent an invention must be:
 1. New
 2. Useful
 3. Nonobvious
 - Nonobviousness requires that the invention be sufficiently different from known technology and knowledge so as not to be obvious to a person with ordinary skill in the field of the invention.

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Patents

■ Ownership

- In general, the inventor is the owner of the patent
- The inventor may assign rights to the invention to others, such as the inventor's employer, through written agreement
- They may be multiple inventors in group works
- Registration is essential to secure patent rights

■ Exclusive Rights

- The patent owner can exclude others from making, using or selling the patented invention or objects embodying the patented invention

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Patents

■ Duration

- A utility patent is granted for 20 years from the date the application is filed
- Patents issued prior to June 8, 1995, exist for 17 years from the date the patent is granted
- The patented invention may be freely copied once the patent expires

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Copyrights: Standards

- A copyright has 2 requirements:
 1. Originality
 - To be original, the work must not have been copied by the author and have a small level of creativity
 2. "Fixation in a tangible form" met if the work is recorded in any medium such as:
 - Text, videotape, photograph, sound recording, or CD

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Copyrights

- Works Protected
 - Almost any recorded original expression such as:
 - Literary works
 - Musical works (including lyrics)
 - Dramatic works (including music)
 - Choreographic works
 - Pictorial, motion picture, graphic and sculptural works
 - Sound recordings
 - Architectural works

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Copyrights

- **Ownership**
 - Ownership of a copyright belongs to author or authors of the work
 - The author is generally the creator of the work, but certain works made under contract as “works for hire” are owned by the person contracting for the work
 - Registration is not required but confers enforcement rights
- **Exclusive Rights**
 - A copyright owner has five exclusive rights:
 1. Reproduction right (copy, duplicate or imitate)
 2. Modification right
 3. Distribution right
 4. Public performance right
 5. Public display right
- Moral rights are granted to visual artists to prevent improper attribution and protect the integrity of the work

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Copyrights

- **Duration**
 - For works created by an individual or individuals after January 1, 1978, the copyright lasts for the life of the author plus seventy years
 - Copyrights in anonymous works and works made for hire exist for a period of 95 years from the date of first publication or 120 years from the date of creation, whichever is sooner

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Trademarks/Tradedress

- Works Protected
 - Any word, symbol, name, slogan, picture, design, shape, color, sound or smell that serves to identify the source or origin of goods or services can be a trademark
 - A service mark is a trademark applied to services instead of products

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Trademarks

- Standards
 - A trademark must be capable of distinguishing the owner's goods or services from the goods or services of others
 - The relative enforcement strength of a trademark is determined on the basis of the degree of such differentiation:
 1. Arbitrary or coined
 2. Suggestive
 3. Descriptive
 4. Generic

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Trademarks

■ Ownership

- A trademark is owned by the first party to use it in connection with the goods or services
- Registration is not essential but establishes important enforcement rights

■ Exclusive Rights

- A trademark owner has the exclusive right to use the trademark in connection with specific goods or services
- Subsequent users of the same or similar mark are deemed infringers

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Trademarks

■ Duration

- A trademark continues as long as it remains in use
- Federal registrations are subject to renewal every ten years

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Trade Secrets

■ Works Protected

- Each state has its own laws, but many have adopted versions of the Uniform Trade Secrets Act
- The UTSA provides that information that derives “independent economic value” from not being publicly known and whose secrecy is properly guarded is protected from unauthorized use by others

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Trade Secrets

■ Standards

- Trade secrets must have commercial value and remain secret
- There is no requirement that they be recorded and there is no provision for registration
- Unlike patents and copyrights, trade secrets can include ideas that have no current utility or application

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Trade Secrets

- Ownership
 - An employer generally owns trade secrets developed by employees and by independent contractors hired to develop or create such information
- Exclusive Rights
 - The owner of a trade secret can maintain it as long as secrecy is properly maintained

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IP Transfers

- The owner of IP rights can transfer all rights by written assignment or a portion of rights by a written license
- Rights transfer between an employee or independent contractor is dependent on:
 - The nature of the rights transferred
 - The existence of an enforceable agreement between the parties setting forth the terms of any such transfer

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Avoiding Infringement

- Existing patents, copyrights and trademarks can be searched
- Trade secrets cannot be searched, but violation generally requires intentional theft
- Copyrights are only violated if there is actual copying of the protected work
- Patent infringement does not require intent or even knowledge of the patent
- The standard of infringement for trademarks is whether there is a “substantial likelihood of confusion” between trademarks among intended consumers