

# Understanding Fun

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## Question for you: Why do you play games?

### Why Do Players Play? Some intuitive answers:

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- ❑ Players want to HAVE FUN!
- ❑ Players want a challenge – sense of accomplishment, or adrenaline rush
- ❑ Players want a **dynamic** solitaire experience – different from books or movies- interactive.
- ❑ Players want to socialize – play with friends and strangers over the network; bragging rights
- ❑ Players want bragging rights- high scores & score comparisons at the end of each multiplayer tournament
- ❑ Players want an emotional experience – excitement in shooters; fear in horror
- ❑ Players want to fantasize – do what is not normally possible; become someone else

### What Do Players Expect?

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- ❑ Expect to be Immersed – suspension of disbelief, ignoring their own surroundings.
- ❑ Expect a consistent world – same rules should apply everywhere.
- ❑ Expect to understand the game-world's bounds – What is possible and not possible in a game.
- ❑ Expect reasonable solutions to work – ie solutions should not be arbitrary.
- ❑ Expect Direction – truly free form games do not really exist (yet); players want some notion of a goal.
- ❑ Expect to accomplish a task incrementally – ie sub-goals present themselves towards the final goal.

## What Do Players Expect?

- Expect to Fail - save games are therefore important.
- Expect a Fair Chance – multiple levels of difficulty – the game must be at least completable at the easiest level.
- Expect to Not Need to Repeat Themselves – repetitions should also include some differences (e.g. different levels of a platformer).
- Expect to Not Get Hopelessly Stuck – provide multiple solutions to a problem so that if a user forgot to do something early on in the game, they are not prevented from finishing the game. RPGs are notorious for this.
- Expect to Do, Not Watch – do not make cutscenes too long; provide a way to skip through long scenes.

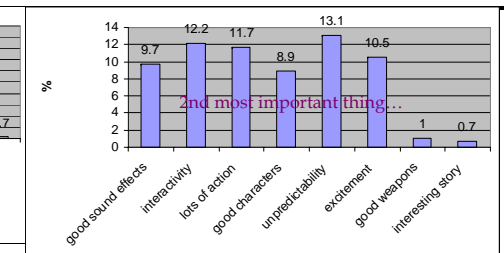
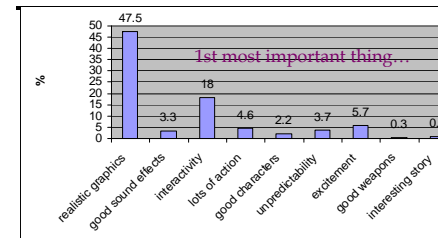
## What Do Players Want *A little survey*

- From this list choose and rank the top 3 features that are most important to you in order to attract you to plunk down \$50 to buy a game.
  - Good weapons
  - Interactivity
  - Unpredictability
  - Lots of Action
  - Excitement
  - Interesting Story
  - Realistic Graphics
  - Good sound effects
  - Good characters
  - Others- please specify

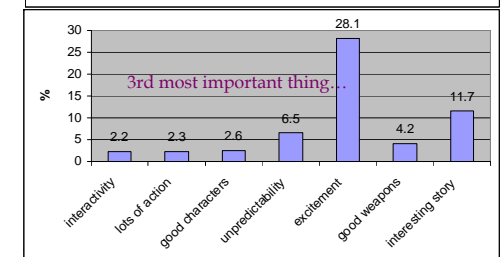
## What Do Players Want *A little survey*

- What type of game player are you:
  - Casual Player – play arbitrary games now and then
  - Hobbyist – have many genres of games but not an expert in any one
  - Hardcore – hobbyist who is an expert in a genre and follows it "religiously"

## Survey

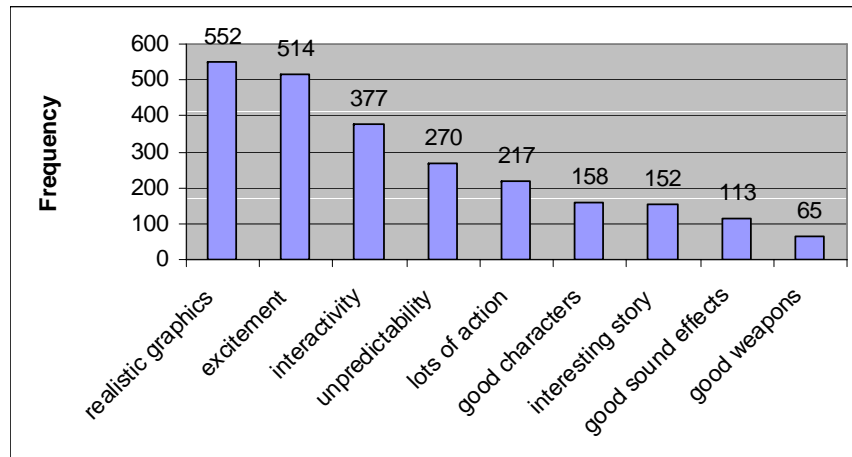


Steve Jones  
1162 respondents  
Name 3 of the most important characteristics of a good game.



## Summing up all the frequencies from the 3 tables

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## Is there a more “theoretical” basis for why people play games and what they want?

## First lets consider what is meant by: **FUN**

### Funativity

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- What is Fun?
  - Dictionary: Enjoyment, a source of amusement..
- Funativity
  - Thinking about fun in terms of measurable cause and effect
- “What is the Funativity Quotient?”
  - In 1980, Dr. Stephen Arnold, new manager of Lucasfilm Games (previously at Atari) - practicing child psychologist for years before that.
  - Steve’s question for any new game proposals: “What is the Funativity Quotient?” – a question that encouraged us to think about just what aspects of the idea would make it fun.
  - Ie: What elements of the game contributed to the feeling of fun, and to what degree was each part of the design important to that process.

## Natural Funativity

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- Natural Funativity
  - Basic concept is that all fun derives from practicing survival and social skills
  - Tries to explain the **Natural** basis for FUN
  - Three overlapping categories: **Physical, Social, and Mental**
- Natural Funativity: ie **based on Evolutionary** concepts.  
For example:
  - **Chris Crawford** - Animals learn by playing, not going to school.
  - **Marshall McLuhan** (Communication theorist) - there is little difference between education and entertainment.
  - **Christopher Wills** - Animals play to practice basic survival skills, establish social dominance, learning to live with their peers.

## Consider our ancestors:

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- We were/are **hunters / gatherers** - is it surprising that games like Halo & Pacman are so popular?
- After returning from a hunt, they can:
  1. Go back out again and hunt some more- the workaholic.
  2. Rest until your belly is empty again.
  3. Foraging - constructive "rest". Use off-time to learn new things, to think about how to improve things for the next hunt- ie better strategies, better weapons. They can do this in safety and so there are benefits over going on the hunt without end.
- Similarly, video games allows us to learn/do things in a **safe environment**
  - Much like martial arts today are a safe way to engage in historical battle.
  - Without some kind of learning, an activity eventually becomes mundane.
  - When people stop learning in a game, they stop playing it.

## Consider our ancestors:

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- Hence,
  - The survival skills crucial to our ancestors, as well as hobbies & pastimes popular today, are good sources of inspiration for new game themes.
  - Consider what skills and information the player learns over the course of your game, and emphasize skills important to the player's survival in the game.
  - Establishing a safe, familiar territory & then inviting players to explore its mysterious boundaries is a proven feature of many successful games.

## 3 Categories of Natural Funativity

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- **Physical Fun**
  - Our strongest instinct: survival
  - We are hardwired to enjoy practicing physical activities that enhance our survival
  - We enjoy TV shows, books, news, about survival- e.g. police shows, doctors, etc.
  - Forms of physical fun based on survival
    - **Hunting**: 1997 surprise big video game hit: **Deer Hunter**
    - **Gathering**: Shopping, Gambling, Beanie Babies, Pokemon, Pacman
    - **Exploring places**: e.g. traveling. There are inherent survival advantages of knowing where to find "good stuff" or to avoid dangerous places. **Myst**
    - **Tool Use**: Build bigger better solutions / weapons etc.
    - **Dancing**: All cultures dance. It is a social survival skill. **Dance Dance Revolution**
    - **Reproduction**: activities like, meeting, attracting a mate. Multiplayer games facilitate social engagements.



### 3 Categories of Natural Funativity

- Physical Fun
  - Hence, video games are about doing, not telling. Let the players control or initiate actions so they can learn physical skills instead of making them into a passive observer.

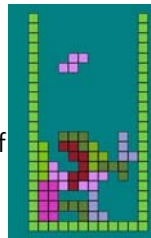
### 3 Categories of Natural Funativity



- Social Fun
  - Shopping, trading collectibles, team sports, storytelling (vital for survival as a means of sharing information)
  - Social fun manifests in several ways in games:
    - Stories about places and people, stories told by people in the game
    - Multiplayer games. Everquest, Ultima Online.
    - Cooperative single-player games. Halo
    - AIs (Artificially Intelligent characters) have been used to expand multiplayer games but once AIs are detected the player loses interest- because the challenge is in beating another player that is normally better than an AI. E.g. Jedi Outcast
  - Hence, adding secrets, Easter eggs, tradable objects, or characters to games that players can share with friends adds social aspects that can extend gameplay opportunities.

### 3 Categories of Natural Funativity

- Mental Fun
  - Our large brains make humans unique
  - Games that test our logical or pattern-matching skills. Chess, Tetris, Rubic's cube
  - How is pattern-matching useful in survival? Your entire visual system is a complex pattern matcher- over 2/3 of your brain is dedicated to visual image processing.
  - Music, Art, and Puzzles are all based on pattern matching and generation
  - Gathering also has mental aspect, categorizing and identifying patterns
  - Hence, making underlying play patterns in games consistent & predictable makes them easier to learn, but adding new patterns as the game progresses keeps it fresh & fun.



### 3 Categories of Natural Funativity

- Many games have all 3 components (Physical, Social, and Mental Fun)
- Halo
  - physical mastering of game controller and weapons, navigating and exploring spaces, killing aliens, gathering weapons; multiplayer capable; devising tactics to use against aliens.
- KOTOR
  - is an excellent example where to get thru a phase of the game you could either fight, or solve a puzzle.
- Deconstruct your game idea...



## Essential Elements of a Great Game

- Sid Meier's definition of a "great game":
  - "A great game is a series of interesting and meaningful choices made by the player in pursuit of a clear and compelling goal."
- A series of ... choices:
  - Must have choice - otherwise it's not interactive
  - Must be a series of choices - otherwise it's too simple to be a game
  - This is fundamentally different from creating a movie - where there is no choice.
- In pursuit of a ... goal:
  - Must be a series of choices with a goal - otherwise it's a toy
  - Will Wright (designer of Sim City / The Sims) calls his "games" software toys- not games. But players can create goals for themselves rather than have them set by the game designer.
  - Clear goals are better than confusing ones- otherwise players become bored and frustrated.
  - Survival is always a compelling goal

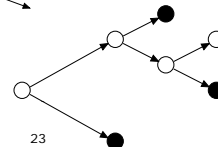
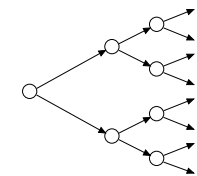
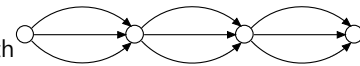
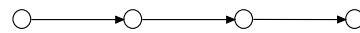
## Essential Elements of a Great Game

- Interesting and meaningful:
  - If you offer a choice in a game, it better pay off for the player and not be redundant.
  - E.g. Weapon A vs. B or Path A vs. B should not produce redundant results.
  - Otherwise the choice is functionally meaningless & ultimately unsatisfying- usually you hear this as "poor level design."
  - If 2 objects in a world have different functions but the player does not notice the difference, the choice is not meaningful.
  - Meaningful choices are perceived by the player as having significant consequences.
- Hence,
  - Make sure the player is aware of both short-term & long-term goals at all points of the game.
  - Test your game regularly with people who have never seen it before. Periodically ask them what they think they are supposed to accomplish next, & why it is important. That will tell you if your goals are clear & compelling.

## Essential Elements of a Great Game

### □ Interesting and meaningful choices

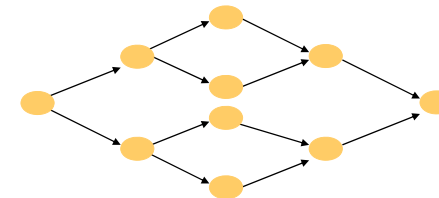
- No choice
  - No-interaction
- Meaningless choice
  - Obviously fold back into same path
  - Players discover this quickly
- Infinite choice
  - Quickly become unmanageable
- Multi-choice, one path
  - Better but frustrating
  - Kill off players with any wrong choice



23

## Classic Game Structure

- Convexity is the notion that one option or choice expands into many and then back to one again.
- A game designer applies convexity structure by creating choices that continuously diverge and later converge at "crisis points".
- Role-Playing Games & Chess are excellent examples.



Gives the player the sense that choices are available and yet makes the game tractable for developers. I.e. it is not infinitely open-ended.

## Classic Game Structure

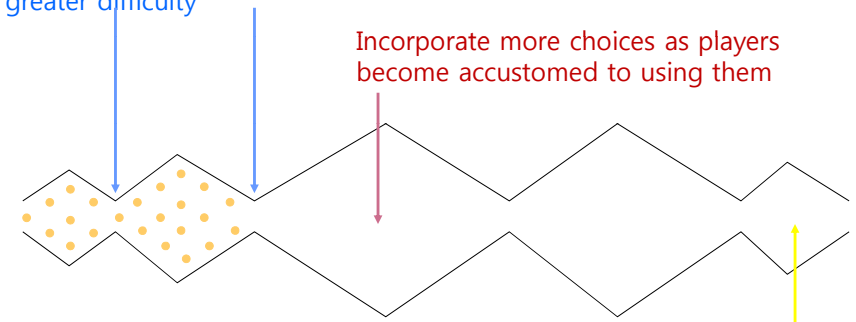
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- Hence,
  - Change the story, setting, or interface if necessary to make limitations in a set of choices invisible.
  - Give players alternatives to tough challenges that let them improve their skills or gather new resources to avoid frustrating bottlenecks.

## A Series of Convexities

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Episodes or Chapters gives the player a sense of accomplishment  
And allows them to save the game  
Allows game to adjust difficulty level and to train players to handle greater difficulty



In long RPGs players can sense the end of the game coming & become more impatient. Start reducing size of convexities toward the end.

## A Series of Convexities

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- Many overlapping convexities in great games – examples include Halo, Zelda, Civilization, Diable II, many others
- Player can be starting one task or area, in the middle of another, and at the end of a third, all simultaneously
- Gradual learning and introduction of new skills at the heart of fun game play
- “Easy to learn, difficult to master”
- “Simple, Hot, and Deep” (Trip Hawkins, founder of EA)

## Flow

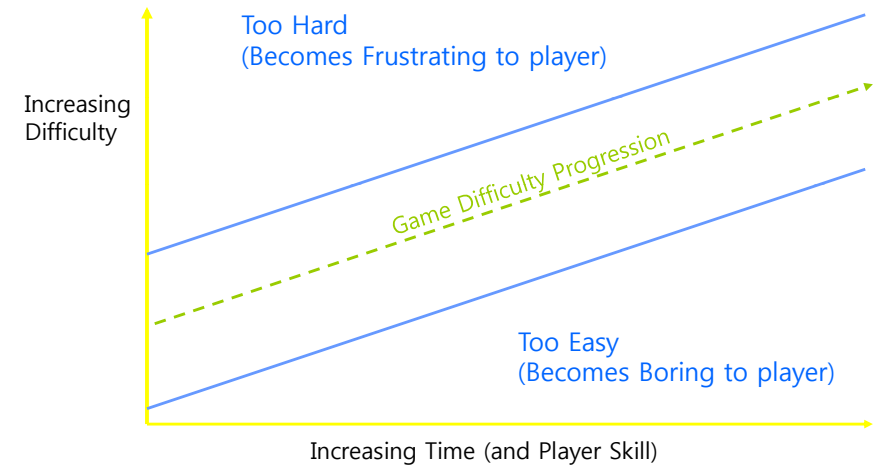
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- A series of convexities provides a good place to gradually increase difficulty.
- According to Natural Funativity- mastering those challenges is at the heart of a good game.
- But how do we introduce increasing difficulty?

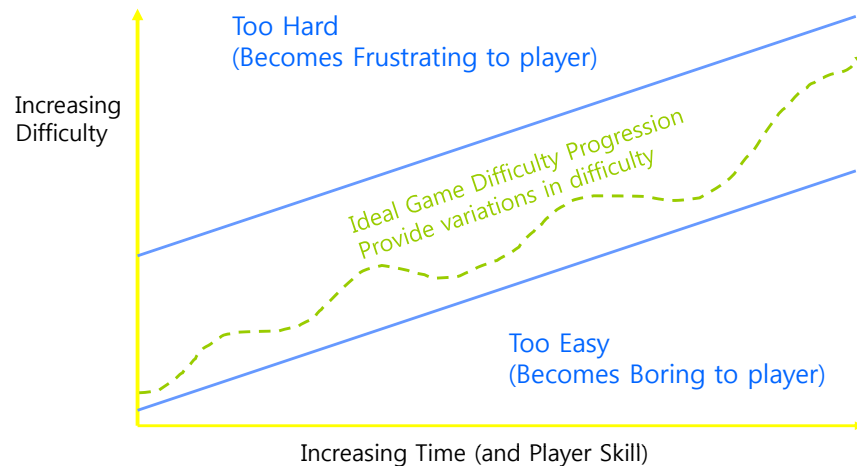
## Flow

- Mihaly Csikszentmihalyi (psychologist at U of Chicago) - Flow, The Psychology of Optimal Experience.
- Flow refers to a kind of optimal experience, which is simultaneously demanding and rewarding.
- E.g. musicians lost in their music; programmers composing code; athletes who are "in the zone"; gamers playing for hours.

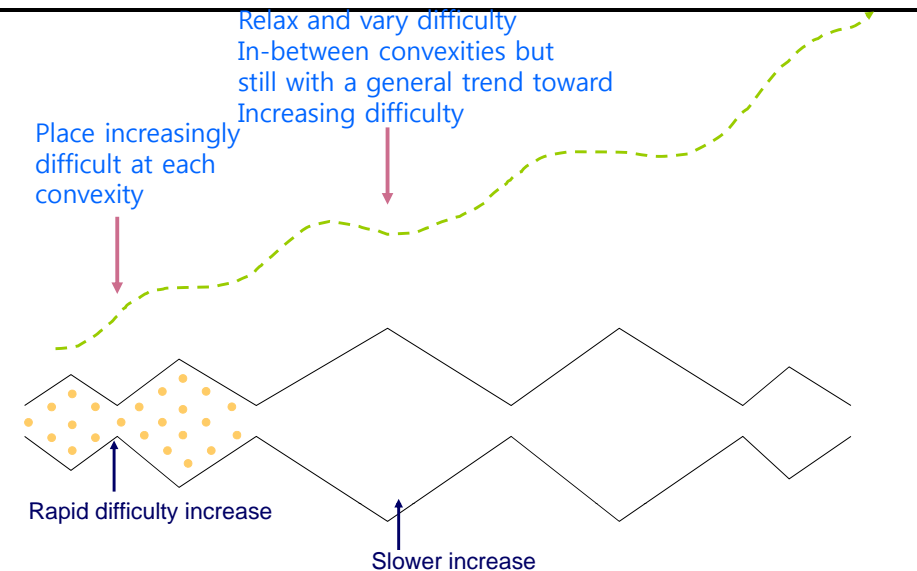
## Dr. C suggests The Flow Channel - the path between 2 extremes of difficulty



## An even better way to introduce difficulty is as follows...



## Mapping Flow to Convexities





## Typical Game Mechanisms

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- High-level difficulty increase:
  - Boss monsters, climactic battles, quest resolutions
- Low-level difficulty increase:
  - Bonus levels, new resource- and treasure-rich areas, series of easy “minion” enemies
- Overlap introduction of new skills, areas to explore, tools, enemies

33

## Story and Character

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- Back to “interesting choices” and “compelling goals” – how to achieve?
- Story and character can add emotional association, strengthen reaction
- Storytelling has long history, but interactive storytelling can differ critically from traditional linear modes

34

## Story

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- Most modern “big budget” games are driven by a story.
  - Art of writing takes years to perfect. Beginning game developers often forget that.
  - If your game has a story, bring a writer in early.
- In writing the mantra is: **“Show don’t tell”**
  - Accomplish storytelling by having players DO the action- not by watching a cutscene.
- Beginner writers:
  - “Largo LaGrande was an evil man, the type who would trip a blind man and laugh or steal candy from a baby.”
- Better:
  - “LaGrande watched the blind beggar hobble slowly down the sidewalk, & stuck out his foot at just the right instant to send the graybeard sprawling on the pavement. LaGrande chuckled & grabbed a lollipop from a little boy who had stopped to gape in horror.”

## Interactive Storytelling

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- Always try to let the players make the interesting choices- not take them away by doing them in a cutscene because it’s easier for you.
- E.g. in the Matrix game you can’t do the fancy cartwheel-&-pick-up the gun trick but you can watch it in a cutscene.
- Prince of Persia excels in this.
  - Delete non-essential cutscenes, & minimize essential cutscenes.
  - If faced with a conflict between a design decision that will favor gameplay or story, first look for a compromise that favors both, & failing that, favor gameplay. Changing a story is easier than the gameplay.
- Games that abruptly wrestle control from players to show a cutscene is jarring to players.
- When making the transition between interactive & narrative modes, be sure to warn the player with visual & auditory cues, & try to minimize or eliminate those transitions.

## It's All About Interactivity

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- ❑ Don't make choices for the player
- ❑ Story should add emotional context to the choices
- ❑ Keep any cut scenes brutally short
- ❑ Break up non-interactive sequences by adding interactivity, even if very simple

37

## Characters

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- ❑ Characters can make the game world seem more real and exciting
- ❑ Bold stereotypes may seem crude but are better than colorless characters, and can help avoid boring exposition
- ❑ Bring out character through action, not description or exposition

38

## Gameplay Trumps Story

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- ❑ If you have a conflict between gameplay or story, first look for a compromise that favors both
- ❑ Failing that, make sure that the gameplay is good at expense of story
- ❑ Always signal player clearly in narrative to interactive transitions with visuals, audio

39

## Summary of Tips

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- ❑ **Reading tips don't help unless you try them.**
- ❑ Consider what skills and information the player learns over the course of your game, and emphasize skills important to the player's survival in the game.
- ❑ The survival skills crucial to our ancestors, as well as hobbies & pastimes popular today, are good sources of inspiration for new game themes.
- ❑ Establishing a safe, familiar territory & then inviting players to explore its mysterious boundaries is a proven feature of many successful games.
- ❑ Video games are about doing, not telling. Let the players control or initiate actions so they can learn physical skills instead of making them into a passive observer.
- ❑ Adding secrets, Easter eggs, tradable objects, or characters to games that players can share with friends adds social aspects that can extend gameplay opportunities.
- ❑ Making underlying play patterns in games consistent & predictable makes them easier to learn, but adding new patterns as the game progresses keeps it fresh & fun.
- ❑ Make sure the player is aware of both short-term & long-term goals at all points of the game.
- ❑ Test your game regularly with people who have never seen it before. Periodically ask them what they think they are supposed to accomplish next, & why it is important. That will tell you if your goals are clear & compelling.
- ❑ Change the story, setting, or interface if necessary to make limitations in a set of choices invisible.
- ❑ Give players alternatives to tough challenges that let them improve their skills or gather new resources to avoid frustrating bottlenecks.
- ❑ The smaller your budget, the more critical it is for you to make sure the player sees & uses everything you can afford to put into the game.
- ❑ Introduce new skills to master one at a time, & give players a chance to enjoy their sense of mastery (if they so choose) before challenging them with a tough obstacle or opponent & then moving on to the next skill & challenge.
- ❑ Always include variations in type & difficulty of challenges & actions the player must accomplish to account for the range of players' skills & abilities to make your games accessible popular to a wider audience.
- ❑ Designers should work with experienced writers (& vice versa) to take advantage of the best integration of gameplay & story.
- ❑ Whenever possible, reveal character & advance the storyline thru gameplay, not exposition.
- ❑ Let the player play. Delete non-essential cutscenes, & minimize those that cannot be deleted.
- ❑ Make your playing characters & non-playing characters memorable, & give them colorful & fun qualities- ie not drones.
- ❑ If faced with a conflict between a design decision that will favor gameplay or story, first look for a compromise that favors both, & failing that, favor gameplay.
- ❑ When making the transition between interactive & narrative modes, be sure to warn the player with visual & auditory cues, & try to minimize or eliminate those transitions.

## Reference

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- <http://www.evl.uic.edu/spiff/class/cs426/>