VK Computer Games

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Agenda

- Game Design Aspects
- Game Projects
- Common problems in game projects

Game Design: Principles

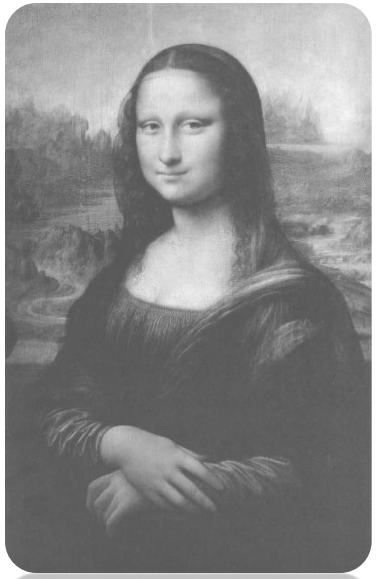
Review game in several aspects:

- Challenge
- Choice
- Clear and Compelling Goals
- Representation
- Conflict
- Feedback

Source: http://www.cs.wisc.edu/graphics/Courses/679-s2007/Main/GameDesign

Game Design: Aesthetics

- What is this needed for?
  - Look / sound / move “nicely”
  - Feel “right”
  - Evoke “right” emotional response
    - Satisfaction, joy, hate, etc.
- Appearance & Mechanics
  - Contribute to a “good” game
  - Eye Candy? – Yes if it contributes to big picture



Aesthetics: Example

Onslaught 2

Aesthetics: Example

- S.T.A.L.K.E.R. – Shadow of Chernobyl

Aesthetics: Example

- World of Goo

Challenging Goals

- Premise of the game
  - Story
  - Character
  - Motivation
- Why do I play the game?
- Why do I build towns, jump & run, ...?

Clear Goals

- Different aspects
  - **What** is the goal?
  - **When** is the goal achieved?
- Strongly connected with feedback
  - I need to know when I’m making progress
- Short term vs. long term goals
  - “Get over fire pit” vs. “Rescue princess”

Clear Rules

- Figuring out rules
  - In play: learning curve?
  - Common sense (gravity, rebound, etc.)
- Unclear rules are frustrating
  - I couldn’t .. because I didn’t know …
- Do not allow workarounds
  - Circumventing != cheating
    - Happens within allowed rule set

Choices

- Player should have meaningful choices
- Consider example choice qualities:
  - Hollow -> No consequence
  - Obvious -> Choice without alternative
  - Informed -> based on provided information cp. guessing
  - Dramatic -> Connects to emotions
  - Weighted -> Both neg. and pos. outcomes
  - Immediate -> Need fast decision
  - Orthogonal -> Choices are independent

Challenge

- Tuning / Balance
  - Make things hard, but not too hard
- Dynamic games
  - Change with game progress & gamers skills
- Challenge from design vs. technical issues
  - Can’t figure out puzzle vs. can’t find button combo

Feedback

- Action & Reaction
  - Choose a new car and feel the effect ...
  - Buy new clothes & see them on avatar ...
- Gamers need rewards
  - Cp. concept of *highscore*
- Experience
  - Buy weapon or skill upgrades
  - Reach new levels & challenges

Assumed audience ?!?

- Who will play your game?
- Who will pay for your game?
- What are appropriate distribution channels?
  - App Store, Steam, Download, Boxed, ...
- See Crash Commando Trailer ...

Agenda

- Game design aspects
- Setting up game projects
- Common problems in game projects

Design Documents (not technical)

- High Level Document
  - Abstract of the game in 2-4 pages
- Game Treatment Document
  - Present game in a broader outline
  - It’s also more sales than dev document
- Game Bible
  - Character design
  - World design
  - Flowboard: flow of gameplay modes
  - Story & level progression: storyline
  - Game script: rules and mechanics of the game

Game Script

- Should enable one to play the game
- Create a paper prototype
  - Use it for testing

Sample Design Document: Abstract

Catch the Clown

Catch the Clown is a little action game. In this game a clown moves around in a playing field. The goal of the player is to catch the clown by clicking with the mouse on him. If the player progresses through the game the clown starts moving faster and it becomes more difficult to catch him. For each catch the score is raised and the goal is to get the highest possible score. Expected playing time is just a few minutes.

source: http://www.yoyogames.com/make/tutorials

Sample Design Document: Game Objects

Game objects

There will be just two game objects: the clown and the wall. The wall object has a square like image. The wall surrounding the playing area is made out of these objects. The wall object does nothing. It just sits there to stop the clown from moving out of the area. The clown object has the image of a clown face. It moves with a fixed speed. Whenever it hits a wall object it bounces. When the player clicks on the clown with the mouse the score is raised with 10 points. The clown jumps to a random place and the speed is increased with a small amount.

source: http://www.yoyogames.com/make/tutorials

Sample Design Document: The Rest

Sounds

We will use two sounds in this game. A bounce sound that is used when the clown hits a wall, and a click sound that is used when the player manages to click with the mouse on the clown.

Controls

The only control the player has is the mouse. Clicking with the left mouse button on the clown will catch it.

Game flow

At the start of the game the score is set to 0. The room with the moving clown is shown. The game immediately begins. When the player presses the <Esc> key the game ends.

Levels

There is just one level. The difficulty of the game increases because the speed of the clown increases after each successful catch.

Game Postmortems

- Written after finishing the project
  - Done by senior developer or manager
- Summarizes dev process to
  - Avoid pitfalls in later projects
  - Apply practices that worked well in later projects

Check for instance gamasutra.com

Game postmortems: Structure

- **Project Overview**
  - *Describe the game (idea, setting, story, features)*
  - *Describe team and circumstances*
- **What went right**
  - *Describe „best practices“*
  - *Describe and argue „good“ decisions*
  - *Motivation for this part: Think of benefits for future projects*

Game postmortems: Structure

- **What went wrong**
  - *Describe pitfalls and difficulties*
  - *Describe mistakes experienced, technical as well as from management perspective*
- **Conclusion & Closing**
  - *Final note from the authors, personal experience*
  - *Project brief: Dev tools, resources, ...*

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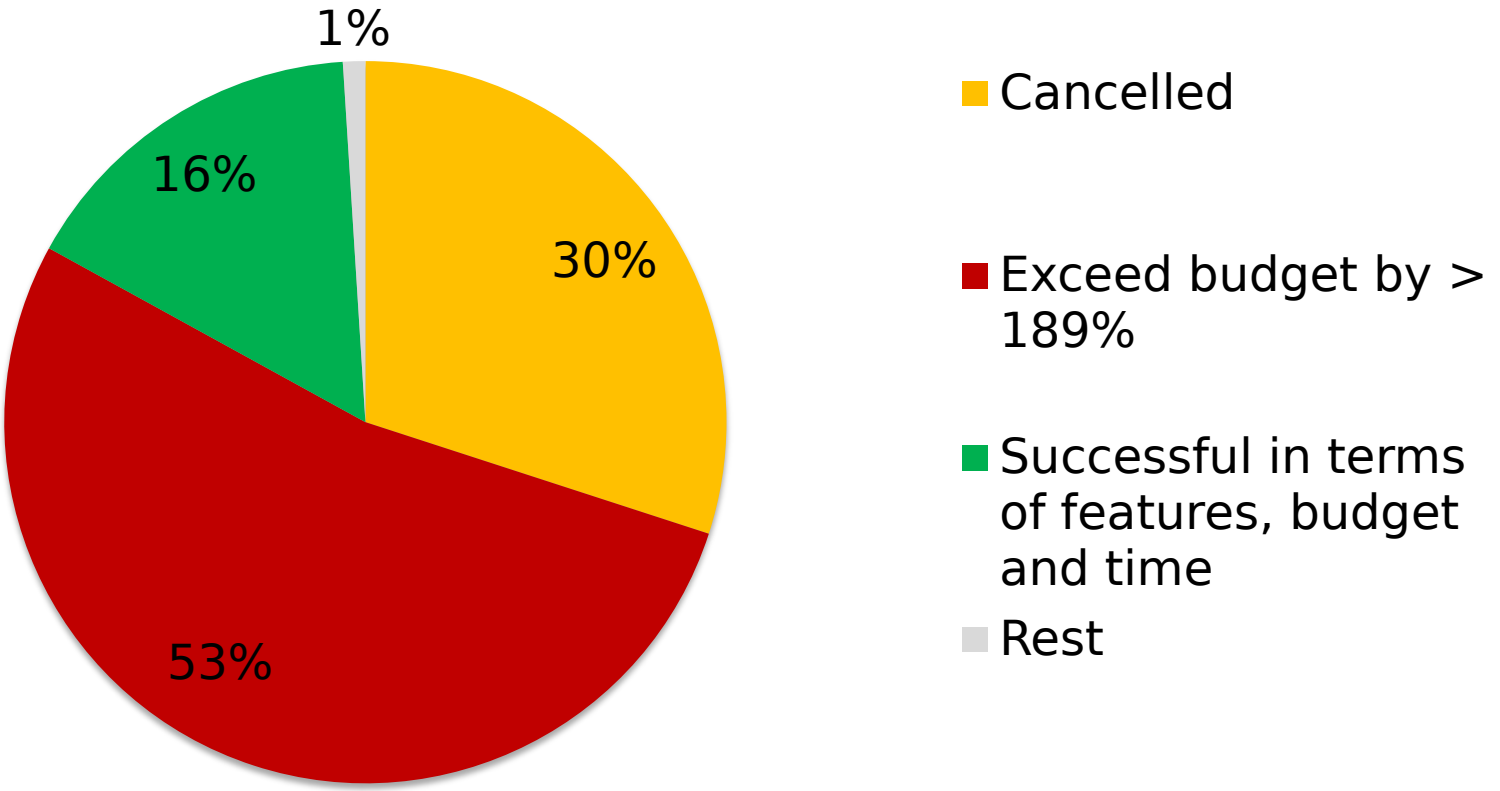
Success of general SW Projects (1995)



source: F. Petrillo et al., What went wrong? A survey of problems in game development, ACM CIE, 2009

Problems of general SW Projects (1995)

- Scheduling Problems
  - If scheduling poor -> project doesn’t meet deadlines
  - Optimism + inexperience are common reasons
- Budget Problems
  - On average: SW project exceed budget > 200%
  - Corresponds to person months and their estimations
- Quality Problems
  - If product doesn’t meet expectations of consumer
  - On average: 61% of requirements are met
- Management Problems
  - Bad communication & monitoring
  - Poor investment in the teams training

source: F. Petrillo et al., What went wrong? A survey of problems in game development, ACM CIE, 2009

General Problems of Game Development Projects

- Delivered behind schedule
- Final product contained many defects
- Functionalities in final version not as intended
- Lot of pressure and immense amount of work hours

➔ Commonly games industry adopts poor methodology (if any)

source: F. Petrillo et al., What went wrong? A survey of problems in game development, ACM CIE, 2009

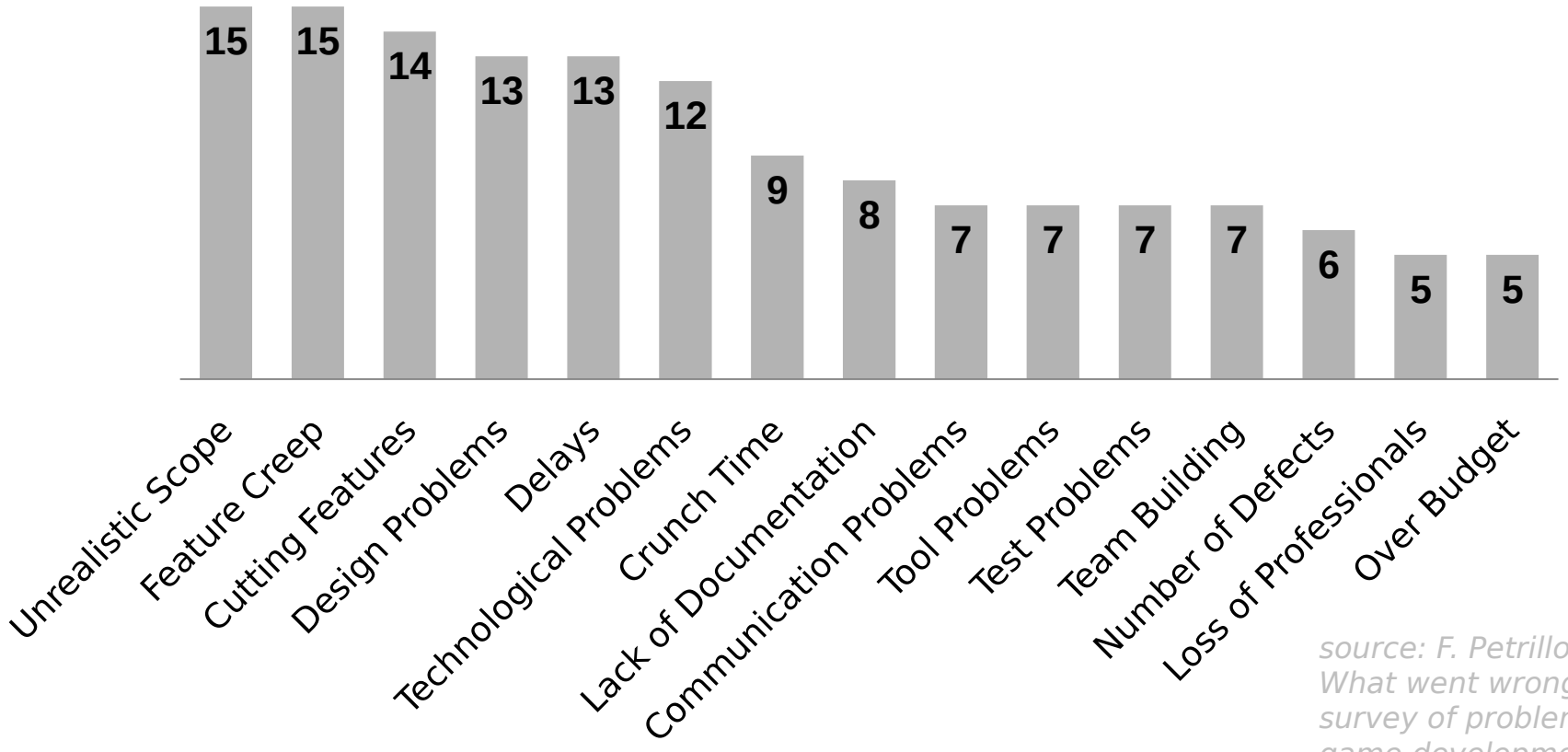
Types of problems in literature

- Scope of the project
  - Project gets bigger and more complex over time
    - E.g. developers add features in development (feature creep), ...
  - Integration of 3rd party components
  - Re-implementation of 3rd party libraries
- Scheduling problems
  - Something goes wrong despite careful planning
  - Communication, interdisciplinary work, etc.
  - Developers underestimate the time needed to …
  - Trade-off bugs vs. opportunity vs. costs vs. revenue

Types of problems in literature

- Crunch time
  - Periods of extreme work overload
  - 12 hours, 6-7 days a week is common
  - Typically before deadlines
  - Results in high turnover rates
- Technological Problems
  - Cutting edge technology brings risks
  - New platforms: opportunity vs. risk
    - “Launch Titles” .. delivered at launch time of a platform

Problems described in 20 postmortems



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Readings

- Bruce Chia, Desmond Wong: *Postmortem: Singapore-MIT GAMBIT's CarneyVale: Showtime*, Gamasutra, Feb. 2009
  - Find the link on the course page

Successful Game:

- Guitar Hero World Tour ...