A Multivocal review on derivation games

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Introduction

- Games have emerged as a prominent form of entertainment [1, 2]
    - One of the most profitable
- Process of developing a game [2, 3]
    - Extremely complex
    - Multitude of activities, components, and team members
    - Long time to be produced

Introduction

- Game community [2]
  - High number of players
  - Opportunistic reuse
    - Many advantages
  - Modding [2]
    - Lack a structured framework
  - Reuse X Mod
    - Multivocal review [5, 6]

Multivocal review

- Research protocol [5, 6]
  - Scopus, ScienceDirect, IEEEXplore
  - PICOC
  - Snowballing process
  - Research execution procedure
    - Inclusion criteria
    - Exclusion criteria
    - Quality Criteria

Multivocal review

- What modifiers are used to create games from other games?
- What characteristics are needed to derive a game?
- What are the advantages and difficulties of creating games from others?
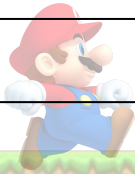- What tools strategy or frameworks support these changes?

What modifiers are used to create games from other games?

- Modding is the process and technique of modifying or adapting video game - "Do It Yourself" [2, 4]
  - Interface customization
  - Conversions Partial
    - Mutators/tweaks
    - Add-ons
    - Mods
  - Total Conversions
  - Machinima
  - Patch

What characteristics are needed to derive a game?

Avatar	Game world	Game play	General features
Operation rules	Levels	Strategic dilemmas	Rules
Transition rules/states	Rules of objects	Winning and losing conditions	Score
Actions	Behavioral rules	Chains of actions	Behaviors
	Temporal states		Goal
	Obstacles		Rewards
	Mission		Game loop
			Interface

What are the advantages and difficulties of creating games from others?

- Advantages
  - Shortest time
  - Fewer processes
  - Adaptation
  - Components
  - Don't reinvent the wheel

- Difficulties
  - Understand the code
  - Lack of tools

What tools strategy or frameworks support these changes?

- Cloning and do-it-yourself [2, 4]
  - Most popular methods of mod development
  - Ad hoc reuse
- Software development kits (SDKs)
  - Creation Kit, GECK, Construction Set, MODKit…
- Open Source
- UI modification tool

Conclusion

- Game companies are growing in size
  - Billions of dollars per year
- Time-consuming process
- Review
- Software Reuse
  - Ad hoc reuse
  - Process and tools

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THANK YOU!

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