



Video Game Design

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The Cabal: Valve's Design Process



Documentation of Process

- “The Cabal: Valve’s Design Process for Creating Half-Life” Gamasutra December 10, 1999
- “Scaling the Cabal: Valve’s Design Process for Creating Half-Life 2,” Game Developer November, 2005



Bad Start

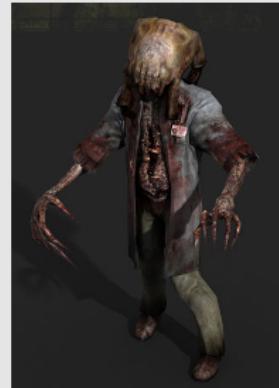
- Half-Life originally planned to be released in November 1997 (about a year of development)
- Would have been a Quake Total Conversion (TC)
- Wasn't any fun!

(and Gordon Freeman looked goofy)



Possible Solutions?

- “Gloss over the worst of the problems and ship what we had.” or....
- Start Over



Starting Over

- Took everything fun from their original game and made one single prototype level
- Prototype level was fun!
- Prototype level became the vision (“Die Hard meets Evil Dead”)



Pre-Cabal

- Analyzed prototype level
- Developed theories of why the level was fun



First Theory:

- “experiential density” – fun things per unit time/distance
- Player should always have something to do, but generally set their own pace



Second Theory

- Player Acknowledgment
- “game world must acknowledge players every time they perform an action”
- E.g. bullet holes, seemingly push-able objects should move when pushed, etc.



Third Theory

- Players should always blame themselves for failure.
- Don't kill the player with no warning



Implement Ideas

How?



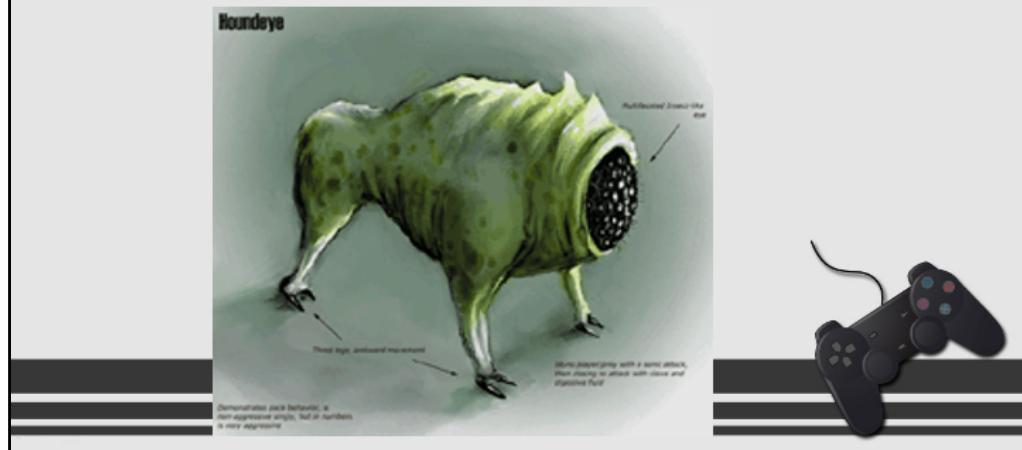
Hire “Official” Game Designer?

- “someone who could show up and make it all come together.”
- “This ideal person doesn’t actually exist.”



The Cabal is Formed

- Cross Section of the company
- First Task: Design Document



Cabal?



Main Entry: **1ca·bal**

Pronunciation: \kə-ˈbäl, -'bal\

Function: *noun*

Etymology: French *cabale* cabala, intrigue, cabal, from Medieval Latin *cabbala* cabala, from Late Hebrew *qabbālāh*, literally, received (lore)

Date: 1614

1 : the artifices and intrigues of a group of persons secretly united in a plot (as to overturn a government); *also* : a group engaged in such artifices and intrigues

2 : CLUB GROUP <a cabal of artists>

synonyms see PLOT

Design Document

- Described:
 - Major monster interactions
 - Special effects
 - Plot devices
 - Design standards
 - Required player skills
 - Methods for skill training
 - Etc.



Cabal Meetings

- “Semi-Structured brainstorming sessions”
- Typically dedicated to specific area of the game
- One person would record/write up design
- Another drew pictures
- Develop high level ideas for the given area

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Participation

- Meeting were grueling
- Not everyone contributed every day
- Inspiration hit different members at different times



Schedule

- Met four days a week, six hours a day for five months straight
- (on and off until end of project)
- Emotionally and physically draining



Group Make-Up

- 3 engineers
- 1 level designer
- 1 writer
- 1 animator
- Cabal members each had development responsibilities



Cabal Popularity

- Worried that egos would get in the way
- Worried about designed-by-committee blandness
- Actuality:
 - people tired of working in isolation
 - Energized by collaborative process
 - Resulting designs had consistent level of polish



Mini-Cabals

- Formed to come up with answers to a variety of design problems
- Include people most affected by resulting decision
- Also include people completely outside problem for fresh perspective
- Rotated members to avoid burn-out



Cabal Result

- 200 page document detailing everything in the game:
- “how high buttons should be”
- Time of day in levels
- Rough drawings of levels
- Technology requirements
- Artwork needed



Play-Testing

- Sierra (publisher) put together local gamers from product registration cards
- Played prototype levels



Play-testing

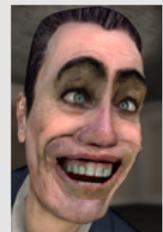
- Cabal members sat behind player:
 - One cabal member from area being played
 - “primary” level designer
 - Occasionally an engineer
- Not allowed to say anything
- Only start game/reset if crashed





Results

- “Nothing is quite so humbling as being forced to watch in silence as some poor play-tester stumbles around your level for 20 minutes, unable to figure out the “obvious” answer that you now realize is completely arbitrary and impossible to figure out.”
- “Sure way to settle any design arguments”
- “Just because you were sure something was going to be fun didn’t make it so”



Results (cont.)



- Two-hour play-test session: result in ~100 “action items”
- (things that need to be fixed, changed, added, or deleted from game)
- For Half-Life, did more than 200 play-test sessions (about half repeat players)
- “Play-test sessions were critical for teaching [Valve] what elements were fun and what elements were not.”



Play-Testing for Fine Tuning

- Middle of project, could almost play all the way through
- Developed data collection code
- Captured all player activities to log
 - E.g. dying, hurt, saving, position, health, etc.
- Graphed results from multiple sessions
- Determined boring areas, too easy, too hard, etc.



Play-Testing for Fine Tuning (cont)

- Save game format compatible across all versions/builds
- Meant that bugs could be reproduced or fixes confirmed



Quality

- “Constant cycle of play-testing, feedback, review, and editing”
- Ensured game levels/ideas met quality standards



Contention Among Designers?

- Game play problems identified in objective play-testing sessions
- Solutions arrived at by cabal consensus
- No “authority” for employees to rebel against unlike more hierarchical organizations



Half-Life 2

- Much more ambitious than Half-Life
- Starting from scratch on technology/engine



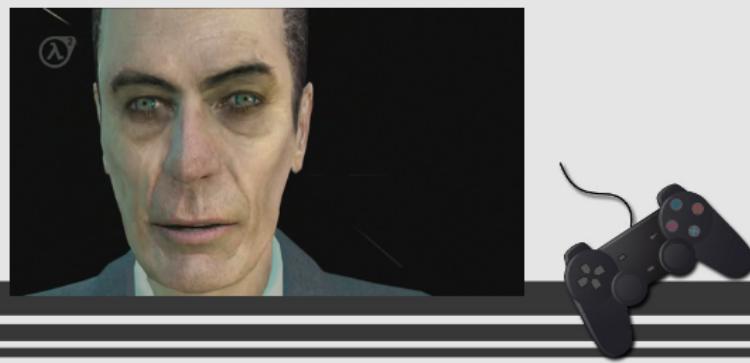
Problem

- Cabal Process became bottleneck
- Couldn't produce content fast enough



Solution

- Create three nearly independent cabals
- Each responsible for one third of game
- Also, dedicated cabals for art, sound, acting



Burden of Art

- Order of magnitude more art assets than Half-Life
- Approx. 3500 models, 10000 materials, 20 MB levels (compared to Half-Life: 300, 4000, 3 MB)



Art and Gameplay

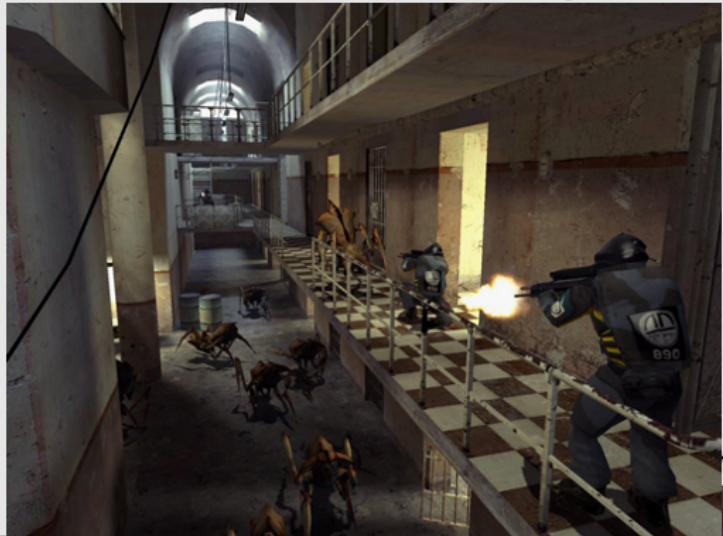
- Art pipeline insulated from gameplay changes
- Artists developed non-playable “style guide” maps -> template for final production maps
- Orange Maps for testing gameplay
 - Save artists for levels that make the cut
 - Avoid critiquing art instead of gameplay experience



Orange Map - Prison



Final Prison Map



Another Orange Map



Global Consistency

- Team-wide play tests
- Gameplay cabals to share/synchronize

