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**MORE
of the
400**

Discovering
the Rules
of Design

Four
of the
400

4x400 re-cap

What is design?

Mysterious
process

Unknown
territory

RULES



Design is planning...

- Conceiving what will become real
 - automobiles & buildings
 - bridges & books
 - machinery & movies
 - garments & games
- Feed-forward process...
- Journey from MURK to CLARITY

Design is a matchup...

- Interactive possibilities vast
- Psychological preferences fewer
 - players have taste
- Designers must match
 - possibilities
 - preferences

Design happens...

- Activity isn't fully conscious
- People muddle through
- Activity CAN'T be fully conscious
- Many mental processes are
 - hidden
 - unknown

Can we improve?

- Designers acquire "Bag of Tricks"
- Think of the tricks as RULES
 - they can be re-applied
 - help solve new problems

Design is discovery...

- Rules are real
- Pure invention comes from
 - new possibilities...
 - ...quantum mechanics
 - ...LASER

Design is discovery...

- Discoveries come from
 - ▶ new possibilities...
 - ...telescope
 - ▶ tested against reality...
 - ...planet Jupiter
 - ...JOVIAN MOONS

Design is discovery...

- In games, reality means...
 - human nature...
 - ...what's FUN, anyway?
- Rules represent explored terrain



Discovery of the Cut...

- 100-year-old debate...
- What's a movie anyway?
 - ▶ is it ONE SHOT?
 - ▶ or MANY SHOTS?
 - ▶ how about TRANSITIONS?
- What works?



The CUT

- Invented (or discovered) by Edwin Porter in 1902
 - ▶ "The Life of an American Fireman"



The CUT

- Brutal juxtaposition
- Use RULES to make sense



The CUT

- Images from "2001: a Space Odyssey"



The CUT

continuity

insert

time cut

parallel action





Discovery of Pickups...

- Gamers like to gather stuff
 - who knew?
- Interactivity provided proof
- Organizing principle of many games

Jak & Daxter eggs...

- Subgame pickups



Jak & Daxter orbs...

- Critical path pickups





Seeing patterns...

- Alexander's "Pattern Language"
- A welcome allied analysis
- We don't use this vocabulary
 - ▶ lack of imperative
 - ▶ word meaning stretched
 - ▶ use by software engineering
 - ▶ lack of trumping information

Talking rules...

- Our rule idea comes from LINGUISTICS

- ▶ rules are semi-conscious
- ▶ they can be broken
- ▶ have hierarchical structure
- ▶ with many apparent exceptions



English Past Tense...

- The grammatical RULE is...
 - ▶ add "-ED"
- Phonological rules govern pronunciation...
 - ▶ WASTED versus WANED
 - ▶ BOPPED versus BOGGED

English Past Tense...

- Whoops -- what about:
 - ▶ GO and WENT?
 - ▶ IS and WAS?
 - ▶ SING and SANG?
- And do you say...
 - ▶ SNEAK and SNUCK?
 - ▶ SNEAK and SNEAKED?

English Past Tense...

- What about this construction:
 - ▶ GO and GOED?
 - ▶ RIDE and RIDED?
- You wouldn't say this, but your 2-year-old might
 - ▶ understands rules
 - ▶ but not TRUMPING



Rules are tools...

- Rules are instructions
 - ▶ reasonably concrete
 - ▶ can be consciously followed
 - ▶ can be broken & ignored
- Their purpose is USE!
 - ▶ we're looking for HAMMERS
 - ▶ not telephones

Exceptions prove...

- Philosophers know thought is messy
 - set theory paradox
 - incompleteness theorem
- Rules are not guaranteed perfect
- Nor is the entire design process

Trumps...

- Rules overlap
 - Rules conflict
 - Rules have limits
 - How do we sort them out?
 - Judge which ones apply?
-
- Must study how rules TRUMP each other

Last year's rules...

1. Fight Player Fatigue
2. Maximize Expressive Potential
3. Maintain Level of Abstraction
4. Concretize Ideas

Philosophy to practice...

- Now on to what's new
- 6 new rules to ponder...

5.

5. Provide Clear Short-Term Goals

- Supply goals directly or indirectly
- But always make them clear
- Domain is General
- Good way to "Fight Player Fatigue"

5. Provide Clear Short-Term Goals

- Can trump "Maintain Level of Abstraction," but shouldn't have to
- Also submitted by Jurie Horneman



Proven Methods...

- Mission briefing
- Ever-present companion
- Pick-ups form trails of breadcrumbs
- Can be subtle
- Or...

Diablo II Quests

- Doesn't get clearer than this



6.

6. Identify Constraints

- Find your constraints as first step
- Keep in mind throughout development
- Domain is Design Process
- Creative, Technical, Business, Team
- 'Political' constraints can trump all!



Isn't this too obvious?

- Should be - but sometimes ignored
- And sometimes forgotten
- Need to keep rules in conscious mind

7.

7. Maintain Suspension of Disbelief

- With narrative, keep player in story
- Don't remind them "it's only a game"
- Domain is games with any narrative

7. Maintain Suspension of Disbelief

- Deep implications - not just consistent fantasy, basic storytelling!
- Don't put yourself in the game
- Submitted by Mark Barrett

B.

B. Emphasize Exploration ≠ Discovery

- Like pickups, a basic fun human activity
- New landscapes, items, characters, dangers, patterns of all kinds
- Domain is universal to all games
- Trumped by "Clear Goals"



Civilization III

- Exploring the territory



9.

9. Let Players Turn Game Off

- Construct good savegame systems
- Entertain, don't punish
- Design to hold player interest
- Commercially important rule
 - ▶ "The customer is always right"

9. Let Players Turn Game Off

- Domain is all genres
- Trumps with "Fight Player Fatigue"
- Trumped only by production constraints!
- Submitted by Dale Geist & LEC Game Theory Group



Maximo in his shorts...

- Must BUY savegames!



Rayman in trouble again...

- Save only between levels



Jak on the beach...

- Save anywhere; fear not death



10.

10. Build Subgames

- Allow for self-tuning experience
- Encourage "fan" interest
- Motivate thorough exploration
- Domain is Action-Adventure / RPG
- Trumps with Fight Player Fatigue
- Can be trumped by Maintain Suspension of Disbelief
- Allied to unlockables & easter eggs



Jak & Daxter eggs...

- Pickups again!



Starfighter bonus objectives...

- Medals are the reward





Takeaway...

- Don't take design tasks lightly
 - complex & demanding
 - no sure guides
- Proceed with confidence
 - rules help make good decisions
 - your work can be completed



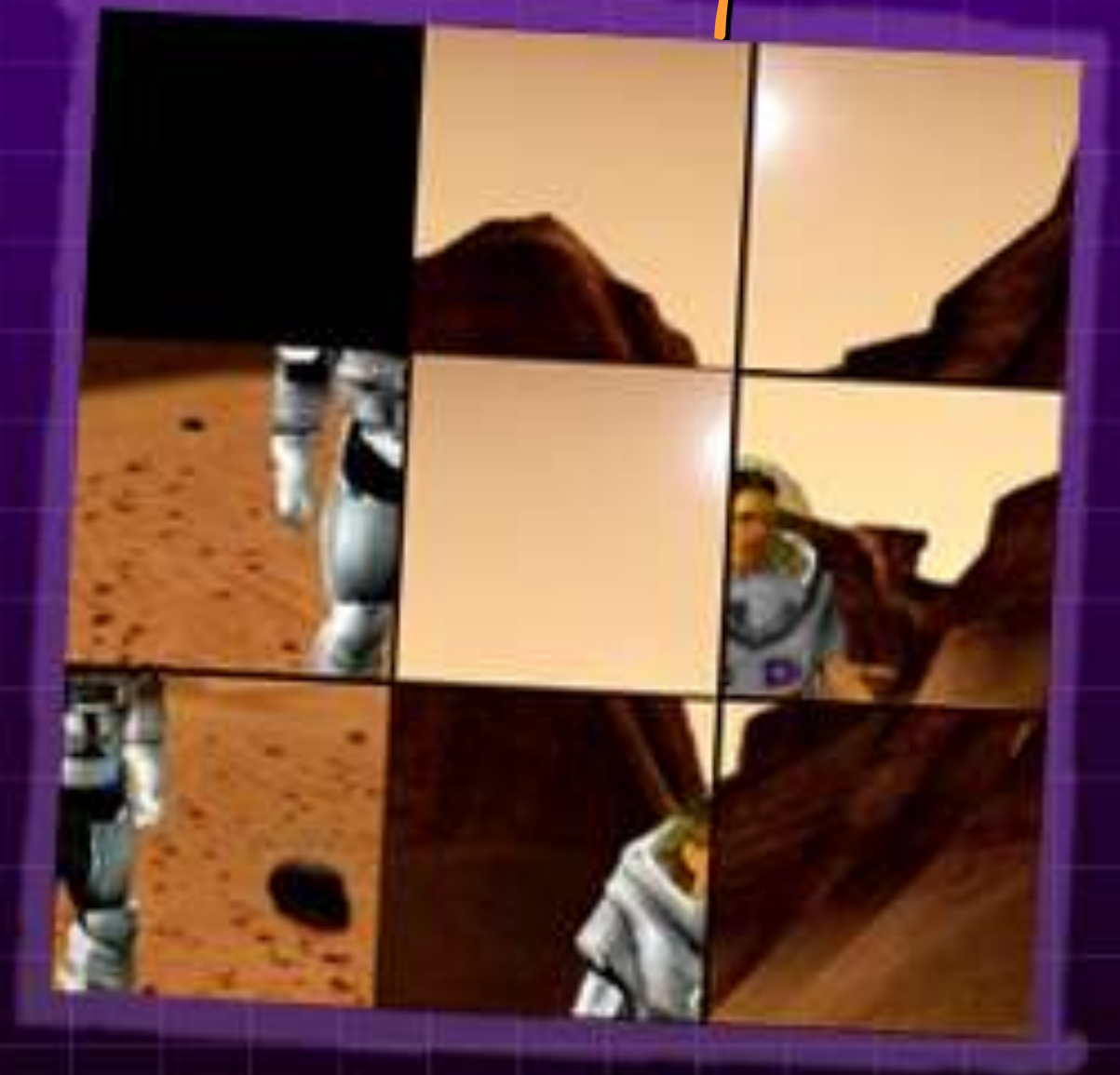
9-square slider metaphor



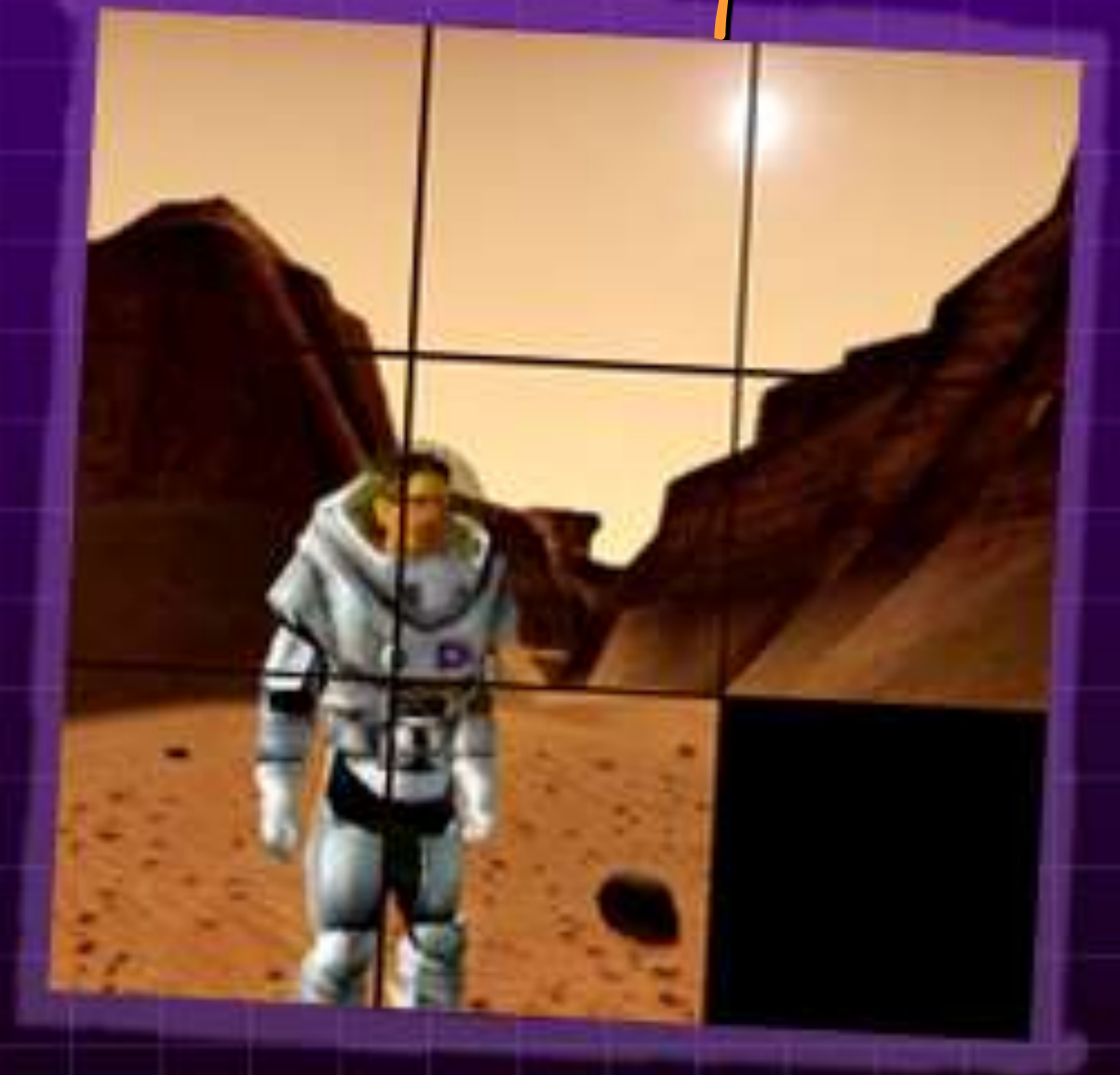
9-square slider metaphor



9-square slider metaphor



9-square slider metaphor





Human Spirit...

- 9-square slider!?
- Seems mechanical ≠ rigid
- Where's the creativity?

Human Spirit...

- Remember that piano piece?
 - ▶ C -- the prelude
 - ▶ constant form
 - ▶ simple material
 - ▶ surprising usage!

[except, no music is available for this web show]

Human Spirit...

- How did Bach take us from
 - ▶ this bar?
 - ▶ to this one?
- He used RULES
 - ▶ Common Tone Modulation
 - ▶ Cadences
 - ▶ Development

[except, no music is available for this web show]

Human Spirit...

- Rules can't account for result
- Like a brilliant CHESS move
- Human spirit is resourceful
 - deeper than any algorithm
 - richer than any system

Human Spirit...

RULES

shall set you

FREE



Call for submissions

- Read the column in:
Game Developer Magazine
- Send rules to:
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