Challenge and Conflict

Foundations of Interactive Game Design
Prof. Jim Whitehead
February 4, 2008
Upcoming Assignments

• **Work Breakdown and Schedule**
  ‣ **Due this Wednesday**, February 6
  ‣ Looking for a list of tasks that need to be completed
  ‣ Estimate for how long each task will take
  ‣ Date by which the task should be completed
  ‣ Who will perform the task
  ‣ Slack time to recover if things go wrong
  ‣ Be conservative! Your game will take longer than you think.
  ‣ Details and template on web site
  ‣ A team assignment (turn in 1 per team)

• **Gamelog**: due Friday, February 8, at midnight
  ‣ Game of your choice
Upcoming Assignments

• Busy week next week
  ‣ Partially Operational Game Prototype
    ❖ Due Friday, February 15
    ❖ Need to have started your game
    ❖ Need to have at least some things working already
    ❖ Demonstration that you have spent at least 5-10 hours on your game already

  ‣ Progress Report
    ❖ Also due Friday, February 15
    ❖ An update on where things stand in your schedule
    ❖ Is your project completing tasks on schedule, or falling behind?
Game Design Workshops

- **Game Maker**
  - Wednesdays, 6-8pm
  - Engineering 2, room 180 (Simularium)
    - Enter on plaza level between E2 and JBE

- **RPG Maker**
  - Wednesdays, 5-7:15pm
  - Engineering 2, room 280
    - 2nd floor, on front of building, on driving circle/Communications end (right side, east end) of the building
    - Arrive by 6pm to avoid external doors locking
    - Knock on nearest door if late…

- **CS 20/C# and XNA Game Studio Express**
  - Thursdays, 4:30-7pm
  - Engineering 2, room 399 (third floor, by elevators)
Exam Results

• Class overall did well on the exam
• Exam worth just 17% of course grade
  ‣ Even if your exam is in the 60’s, can still do very well in the class
  ‣ But, you’ll have to study harder for the next exam, and stay on top of gamelogs
1. Bejewelled 2 is clearly a game of emergence, with almost no progression elements.
   • Simple set of rules that combines to create complexity
     • The game’s complexity emerges out of the interaction of these rules
   • Fails the game guide test for a game of progression
     • Description of how to win the game would focus on strategy, not “go here, get key, go back to door, open door, etc.”

2. Bejewelled 2 exhibits Challenge segmentation, of the type puzzle segmentation
   • Gameplay is divided into a series of puzzles (levels) that must be solved to continue to the next level
   • Many students indicated this was “level segmentation”
     • We accepted this, since we could see how the lecture slides could be interpreted to support this conclusion
     • Not correct answer, however.
     • Spatial segmentation is: Division of the gameworld into different spaces, when this division also partitions gameplay
       • In Bejeweled, the spaces are not different, and the division into separate levels only partitions gameplay in the temporal sense – each level is identical in its rules, but come one after another
3. Cardinality of gameplay
   ‣ Clearly 2D – can go up/down, left/right
   ‣ Many students gave definition – we were looking for *application* of definition

4. Gameplay rule
   • Get three jewels in a row to make them disappear and increase score
   • Get four jewels in a row to make special jewel (and make other 3 disappear)
   • Get five jewels in a row for super duper jewel (and make other 3 disappear)
   • Movement rules are also gameplay rules
     • Pressing up makes cursor go up
     • Swapping of gem rules
   • Some *gameworld rules*
     • Gems falling down (pseudo-physical gravity)
     • Boundaries of the game board
5. Games as learning experience
   • Open-ended question, accepted many answers, so long as they discussed learning some aspect of the game
   • Wanted you to think about how games can be learning experiences, and the kinds of knowledge learned in a game

6. What is the magic circle?
   • (a) Were just looking for the definition here
     • The physical space and frame of mind you enter when starting to play a game.
   • (b) The magic circle typically encompasses only the players of the game. You need to get into huge stadium sports to have the audience be an integral part of the gameplay experience.
     • Rules of Play, in its discussion of magic circle, only ever talks about the players of a game, not the audience
Exam 1 Answers

• For questions 7 & 8 (7 only for CS 20), asked whether the *Draw and Kiss* activity is a game, according to specific game definitions.

  ‣ If the activity is a game, need to justify this answer with respect to all the major elements of the definition

  ‣ If the activity is not a game, just need to explain how it fails the definition. Failing one characteristic is enough to fail with respect to that definition.

  ‣ Showing activity is a game (meets all criteria) is a higher bar than showing activity isn’t a game (just need one counter-example)
7. Key elements of Costikyan definition

- **Art**
  - Games are a form of art, hence creating culture
  - *Moot*: Draw and Kiss probably isn’t art, but is a form of culture. Depends on argumentation

- **Decision making players**
  - Players actively participating and making choices
  - Yes: players need to decide whether and how quickly to kiss their assigned person

- **Resource management**
  - Decisions made depend on resources available, and manipulate resources
  - *The main resource here is the number of left-over chairs*

- **Game tokens**
  - Representation of the state of the game, affordances for user action
  - *The list of people to kiss is the game token here.*

- **Goal**
  - Objective of the game
  - *Moot*: there is no clear way to win the game (no win conditions), but the goal is to have an excuse to kiss the other people playing the game
8. Juul’s Classic Game Definition (overview):

- **Rules**
  - Yes: *Draw and Kiss has clear rules*

- **Variable, quantifiable outcome**
  - Yes: *You either end up in a chair, or not in a chair*

- **Valorization of outcome**
  - *Moot: It’s really unclear whether it’s a good thing or a bad thing to end up having to kiss everyone. Generally don’t want to end up being the last person out.*

- **Player effort**
  - Yes: *Have to kiss your assigned people quickly*

- **Player attached to outcome**
  - Yes: *you generally do care who you kiss and are kissed by, and you generally don’t want to be the last person standing.*

- **Negotiable consequences**
  - Yes: *players can choose whether game outcome has impact on the real world. Since play takes place inside magic circle, have deniability (“Yes, that was a nice kiss, but it was just part of a game. I’m sorry, but, I don’t want to go out with you.”)*
9. Implicit game rules
   • Needs to be a behavior that is not part of the stated rules of a game.
   • For a computer game, anything that is encoded into the software of the game is explicitly represented.
     • Gravity in a computer game is explicit, since it must be coded
     • Easier to come up with examples in non-computer games

10. Game Maker resources in a room
    • Objects, backgrounds, scripts

11. Difference between event and action
    • Actions are taken in response to events.
    • Events are special occurrences in the game world
      • Collisions, clock tick, etc.

12. Event handling two objects in same place at same time
    • Collision event
Exam 1 Answers

- CS 20 specific question
  - “Viper Vic”
  - Viper goes into first element of array
  - Vic goes into second element
  - The “.Name” accessor outputs array[0] + “ “ + array[1]
• “We measure ourselves by the challenges we face. In the universe of possibilities that encompasses what we could be, it is the challenges we face up to that delineate who we actually are. We therefore go through life seeking new challenges that permit us to expand our identities.”

• Chris Crawford, “Chris Crawford on Game Design”, p. 37.
Aspects of Challenge

• Challenges take place in a defined context
  ‣ This sets the conditions under which the challenge is presented
    ❖ Financial, physical, emotional, etc.

• Conditions under which a challenge is presented are its rules
  ‣ Use game rules to design challenges
    ❖ Goal is overcoming the challenge
  ‣ Even if you find a loophole in the rules that allows you to easily win, this hasn’t overcome the challenge
    ❖ Winning via exploiting loopholes isn’t as satisfying

• Level design is also integral to creating challenge
  ‣ In progression games
  ‣ Provides control over the timing and interactions of challenges
Cerebellar Challenges

- Cerebellum sits at the base of the brain
- Breaks higher level tasks into fine-grain commands to trigger individual muscles
- A few sports are solely cerebellar: discus, shotput, javelin
Dimensions of Challenge (2)

- Sensorimotor challenges
  - Cerebellar challenges typically also include some form of sensory control loop
    - Receive input via one or more senses
    - React to this input
    - Generate commands to muscles to alter the system
    - Most typically this involves receiving visual input, then responding to that
    - Aural challenges may not exist, or are rare
  - Sports vs video games
    - Most sports involve the entire body in sensorimotor challenges
    - Most video games do not – the body is best left mostly immobile
      - Wii Sports, and Dance Dance Revolution are exceptions
Spatial Reasoning

- Analyze the interactions among the physical positions of game elements to determine future actions.
- If an enemy pops up, need to figure out if it’s an immediate threat, a medium-term threat, etc.
- Also need to estimate distance to formulate plans for reacting to the enemy.
- Strategy games often use spatial reasoning to create complex networks of pieces and their interactions.
Dimensions of Challenge (4)

- Pattern Recognition
  - Identifying patterns, and reacting to them in your play of the game
  - Checkers, Chess, Go all involve pattern recognition
  - Can be visual patterns, as well as deeper patterns of the interactions of pieces
• **Sequential Reasoning**
  ‣ Stringing together long sequences of steps
  ‣ Chess is exemplar: players must examine many possible sequences of moves
  ‣ Video games often have these kinds of challenges, since they are natural to programmers
    ❖ However, the general population often finds them a tedious challenge
    ❖ Crawford recommends keeping them to a minimum
Sequential Reasoning Example

• Babelfish Puzzle in *Hitchiker’s Guide* Interactive Fiction
  ‣ Warning: spoiler!
  ‣ Need to collect Babelfish from vending machine
    ✷ Fish ejects from vending machine too quickly to catch
    ✷ So, hang dressing gown on hook by machine
      • Causes fish to drop to floor, where it falls down a drain
    ✷ So, cover drain with handy towel
      • Causes fish to be cleared away by cleaning robot that dashes into the room, then leaves via a small panel in the wall
    ✷ Block panel with satchel
      • Causes fish to be cleared away by a second cleaning robot!
  ✷ Final solution: place junk mail on top of satchel
    • Cleaning robot is occupied with flying junk mail, and allows Babelfish to arc into player’s ear
• **Numerical Reasoning**
  ‣ Requiring the player to perform computations, or track things numerically
  ‣ Computers are very good at this
    ❖ People often find this tedious
    ❖ Counter-example: Sudoku
  ‣ Crawford recommends avoiding these kinds of challenge
  ‣ What if you are trying to create a computer game to teach these kinds of numerical skills?

http://www.sudoku.4thewww.com/killer_sudoku.php
• **Resource Management**
  ‣ Effectively using a limited supply of scarce resources to handle problems or achieve goals in the game
    ❖ Shooters: ammunition and health
    ❖ Strategy: often dozens of resources
  ‣ Can be overdone. Not necessarily a good idea to add more resource management to an existing game to make it more complex
  ‣ Recall previous discussions
    ❖ Costikyan definition of games had resource management as integral part of his definition
      • Emphasizes resource management over other forms of challenge
      • Perhaps *too strong* an emphasis...
    ❖ Notions of game exhaustion from game ontology
      • Resource exhaustion was one way to have game exhaustion
Dimensions of Challenge (8)

• Social Reasoning
  ‣ Challenges that revolve around social interactions and goals
  ‣ Difficult to achieve at present: involves complex emotional models of characters, and broad autonomy for characters
Conflict

• “Conflict makes challenge personal.”
• “Challenge without conflict is entirely predictable; when you go mano a mano with a crossword puzzle, you know exactly what you’re getting into.”
• “Conflict enlivens and animates challenge; without conflict, challenge is limp and passive.”

› Chris Crawford on Game Design, p. 55
Forms of Conflict

• **Physical**
  ‣ Physically attack the other player
  ‣ Typically the goal is to dominate the other player, and intimidate them, not give them significant injury

• **Performance**
  ‣ Achieving a better outcome than another player in performing a challenge. Running a race, 2 player Galaxian, etc.

• **Verbal**
  ‣ Insults, boasting, insulting joke, narrative assault

• **Political**
  ‣ Recruit allies, undercut opponent’s social alliances

• **Economic**
  ‣ Affecting your opponent financially
  ‣ Primary conflict in business environments