Game Design Studio III (CMPS 172)
Making Worlds Seem Alive, Visual Polish
Upcoming Events

- Daniel Benmergui
  - Wednesday, April 18, 2012, E2 180, 11am
  - Created *Storyteller*, the winner of the 2012 Independent Game Festival Nuovo Award for innovation.

- Zynga Campus Visit and Tech Talk
  - Wednesday, April 18
  - 5pm – 7pm, Career Center Library (3rd floor bookstore building)
  - Food served, RSVP to robin@soe.ucsc.edu

- Spring Job and Internship Fair
  - Tuesday, April 24, 11am-3pm
  - College 9/10 Multipurpose Room

- Stone Librande
  - Creative Director/Game Designer, EA/Maxis
  - Wednesday, April 25, 2012
  - E2 180, 11am
Upcoming deadlines

- Thursday and Tuesday: no class, team meetings in lab
  - **Thursday**: Sonar, MicroVentures, Devil’s Bargain
  - **Tuesday**: Puzzle Defenders, Firewall, Chroma
  - Hello World: come see me at end of class to schedule a meeting time

- Friday (April 20)
  - Team status reporting due
  - Be aware that campus will likely be a little crazy on Friday (420 celebration: Friday, weather will be warm and nice)

- Friday (April 27)
  - Sprint II ends
  - Sprint III begins
  - Team status reporting via report tool
Reminder: Lab Cleanup

- A reminder about teams responsible for lab tidying duty

- Week 3 (week of April 16): Chroma
- Week 4 (week of April 23): Chroma
- Week 5 (week of April 30): Sonar
Bringing Game Worlds to Life

- A common problem in many games is the game’s world feels static, not alive.
- The game starts, and if the player doesn’t use the controls:
  - The player avatar is completely still
  - There is nothing moving on screen
  - The visual image given to the player is completely unchanging
  - The game might as well be a still image, instead of an interactive experience

- Symptoms of a game world that feels static and dead
Ideal: Game worlds that feel alive

- The game world should feel like it is alive, with interesting activity that makes the player want to explore the world.

- Typically this does not mean you want a detailed simulation of the game world.
  - No need to create a detailed simulation of plants, insects, animals, weather, etc.

- Instead, you wish to create a symbolic, or metaphoric representation of a living world
  - For example, add elements into the game world to reinforce the themes of the game, or to make a particular point about the world of the characters
Motion brings worlds to life

- Once there are elements on-screen that are moving, the eye is drawn to these.
- In real life, things that are alive tend to move
  - When we see motion, we sense that things are alive

**Rule of thumb**

- Any situation where the on-screen image is completely static should be changed to add some motion.
- May wish to violate this rule if stillness is the desired effect. Typically stillness is an unwanted and unintended side-effect.
Class discussion

- What kinds of motion have you seen in computer games that communicates that things are alive?
  - Idle state animation, moving back and forth, occasional movement to indicate puzzlement/waiting for player input
    - Reinforce with sounds (“Come on!”)
  - Particle effects: hero has aura about them, shield effect
  - Realistic facial expressions: blinking, motion that indicates processing signals from environment (sight, listening, etc.)
  - Night/day cycles
  - Animated details in terrain (ex: trees drop leaves in Hexen 2)
    - Birds and butterflies!
  - Ambient motion of NPCs
  - Dynamically moving backgrounds (clouds)
  - Flickering lights (buzzing of fluorescent lights, flicker of a torch)
  - Go meta: give tutorial instruction
Sound brings worlds to life

- Sounds of ambient activity can also bring a world to life.
  - In the real world, places filled with activity are typically also filled with sound.
  - Sound can convey action taking place off-screen, or emphasize motion visible on-screen
  - Sound is also very powerful at communicating emotion, creating an overall feel to a place or situation

- Consider using ambient sound effects to convey a sensation of activity and life, or to convey emotional tone
  - Be careful not to overdo this: a little sound goes a long way
What kinds of sound have you seen in computer games that communicates that things are alive, or sets an emotional tone?

- Monster sounds to communicate danger, build suspense (Dead Space monster sense, hear monsters in the vents)
- Metroid Prime: embed sound of the monster into the music where that monster appears. Helps immersion, builds suspense.
- Silent Hill: radio crackles when monster is near (builds suspense)
- Bioshock: music sets the era/time period of the game, personalities of enemies
- Fallout: DJ explains what you just did over the radio (makes world seem like it is reacting to you)
- Grand Theft Auto: ambient conversations to give impression of life in the city.
- Secret of Evermore: sounds of market, then muffled, gives position in the city.
- Boss music: conveys difference of enemy, importance of encounter, builds drama
- Muffled gunshots/etc in background: gives impression you’re part of larger battlefield
- Starcraft: illegal move sounds
- LA Noire: feedback to player, good interview, more to search, etc.
- Final Fantasy victory music: music can reinforce a brand
Game Demonstrations

- In-class demonstrations of games to identify ways they succeed and fail at creating the impression of a living game world.
- Games demoed
- SNES
  - Lion King
  - Buster Busts Loose
  - Donkey Kong Country
  - Super Mario World
- Saturn
  - Magic Knight Rayearth
Visual Polish

- **Polish is an effect that creates artificial cues about the physical properties of objects through interaction.**
  - Steve Swink, Game Feel, Chapter 9 (Polish Metrics)

- Distinction between polish and simulation
  - When two objects collide
  - Simulation:
    - Determines that if both objects are solid, they rebound with certain force in specific directions.
  - Polish:
    - Visual: a spray of particles shoots out of the collision point
    - Visual: the two objects squish and then rebound
    - Audio: an emphasized “crunch”, “whack”, “thunk” etc. noise to emphasize the magnitude of the collision
    - Polish items may not be **realistic** but they make the player **feel** the interaction more
The “feel” of game objects

- It is important to explicitly design the characteristics of objects in your game worlds.

- These characteristics together contribute to the player’s feel for these objects, and will lead to the use of specific visual, audio, and vibratory effects.

Example: Shadow of the Colossus
- Giant bosses are massive and heavy
- Foot slamming into ground:
  - Visual: screen shaking when near, clouds of dust and sprays of gravel
  - Audio: deep booming noise, sound of debris being thrown
Elements of game objects

- Some aspects of game objects:
  - **Weight:** heavy? light?
  - **Texture:** soft, hard, fuzzy, sticky, slimy, furry, smooth, rough, dry, wet
  - **Rigidity:** stiff, bendable, limp, floppy, bouncy
  - **Robustness:** durable, fragile, brittle, deformable

- It is especially important to determine these characteristics for your player avatar, and for common NPCs
This year’s games

- Chroma
  - Right now the cube is very stiff and rigid and seems to be fairly light
  - What if it was soft and plushy?
    - Could have corners deform slightly on movement
    - Might add mechanics where things bounce off the cube?
  - What if it was really massive?
    - Might introduce squishing mechanics, or deform soft parts of the world

- Sonar
  - Right now enemy NPC seem relatively light with no discernable surface qualities
  - What if they were sticky and gloopy, and moved with sucking sounds?
  - What if they had skin like sandpaper, and made raspy, scraping sounds while moving?
  - What if they were crumbly, and fell apart while moving?
  - What if they are really massive, with booming, thudding movements?
Conveying mass and texture

- Combination of visual, audio, cinematic and tactile effects
- Visual
  - Animation can convey qualities of motion, speed, weight, etc.
  - Effects can convey interactions between objects
  - Ex: Blurring movement of fast moving objects
- Audio
  - Sound can convey surface texture aspects
  - Can also convey magnitude of actions
- Cinematic
  - Can convey mass (shaking screen), importance (focus, temporary slow motion)
- Tactile
  - Can convey impact (shooting recoil), surface texture qualities (rough surface yields more vibration)
This year’s games

- **Firewall**
  - Player’s tank is large, massive, and rigid
  - How can this be conveyed to the player?
  - When player takes damage, there is no visual feedback. What kind of feedback might make sense?
    - Leave tracks
    - Add objects for scale
    - Effects when damage is taken, tank shaking if really big
    - Tanks shaking if they run into one another, screen shake?
    - Audio emphasis of mass of tanks when moving
This year’s games

- **MicroVentures**
  - The player and all enemies in the world move at the same rate, and behave the same. However, they presumably have different weights, speeds, textures.
  - How can these differences be conveyed to the player?

- Different animations for different types of movement
- Different momentums for different size/weights
- Ambient audio effects
This year’s games

- Devil’s Bargain
  - The hero is wearing stiff, heavy, metallic armor.
    - How can this be conveyed to the player?
  - What different animated sequences should the player possess?
  - The monsters in the dungeon appear to have medium weight, and are furry.
    - How can this be conveyed to the player?
This year’s games

- **Hello World**
  - The spaceship is presumably quite heavy, yet it falls straight down to the planet and then comes to a gentle stop.
  - What can be done to better convey the sensation of weight?
  - When the player descends into a world, there is no associated sounds. What sounds could be used to emphasize the interactions the player has with elements in the surroundings?