Creativity

Main concepts on creativity from “Creativity: The Psychology of Discovery and Invention”, M. Csikszentmihalyi
Upcoming deadlines

- Sunday, October 12 (11:59pm)
  - Homework #2 – Game Pitch Evaluation

- Thursday, October 16 / Saturday, October 18
  - First game pitches in class
Class details online

- Syllabus online at
  - courses.soe.ucsc.edu/courses/cmps170/Fall14/01

- Piazza
  - https://piazza.com/class/hwis1w6st1a5rv

- Office Hours
  - Tuesdays, 4:30-6pm, Engineering 2, room 273
Google Drive

- We’ll be using Google Drive and Google Documents during the quarter
  - For homework submission
  - For providing feedback on game pitches given in class
  - For presentation of game pitches

- If you do not yet have access to the CS 170 Google Drive folder, please see me after class
Homework #2: Game Pitch Evaluation

- You will review 75 game pitches found on Steam Greenlight, Kickstarter, Indiegogo, or other crowd funding/voting site.
- Develop your own scheme for evaluating game pitches:
  - Needs to have at least five elements
  - Can be numerical ratings (recommended), short written statements, etc.
  - Describe your evaluation scheme in a document
  - Should have sufficient descriptive text to understand what each category means, and how you tell good from bad
- Evaluate the 75 game pitches according to your evaluation scheme:
  - I.e., use a spreadsheet to record your evaluations
Homework #2 (more)

- Pick your top 3 and worst 3
  - Write those, and a brief explanation in a post to Piazza
- Evaluate the evaluation scheme
  - 2-3 aspects that worked well, or didn’t work well
- Submission:
  1. Evaluation scheme, evaluation scheme feedback
     - Place in a document in Homeworks/Homework #2 folder
  2. Evaluation spreadsheet with evaluations
     - Place in a spreadsheet (or document) in Homeworks/Homework #2 folder
  3. Top 3/Bottom 3 plus rationale
     - Put in Piazza post

- Due Sunday, October 12, 11:59pm
Friday Section

- Meet at 8am outside of the recital hall/Department of Music building
  - Located just downhill from the Digital Arts Research Center, on the edge of the Great Meadow
- Make sure you’ve looked at the Design Seed images on Abduzeedo first:
  - [http://abduzeedo.com/daily-inspiration-1877](http://abduzeedo.com/daily-inspiration-1877)
- Be sure to bring a laptop, or other writing device
- Both sections: keep an eye on Piazza for posts describing the location for that week’s sections
By now you should ideally have been approved for access into the game lab

BE 368, BE 366, BE 364, all on third floor of Baskin Engineering building

Three step process

- Receive approval for use of the space (should be done)
- Follow link in email you receive, and approve
- Have your keycard upgraded to use omnilock
  - … or, receive a keycode
  - Do this step with BSOE facilities, office on 3rd floor of Baskin Engineering
Game Lab Use (I)

- Network use
  - Eduroam Wifi is enabled in this space, works well
    - If you haven’t already, be sure to enable Eduroam
  - No peer to peer filesharing, or other illegal filesharing hosting in the game lab
  - If a network cable is plugged into a desktop machine, DO NOT unplug it
    - It will not work – hard coded to MAC address for machine
  - There are some network cables that are not connected, these are open DHCP and can be used
Game Lab Use (2)

- Big TV and Game Consoles
  - Feel free to play games on the big TV
  - If game playing disturbs others, please either stop, or turn volume way down. Work takes precedence
  - Games need to stay in the lab.
  - Please:
    - DO NOT remove HDMI cables from the game consoles – there are many HDMI cables throughout the lab (many are already connected to monitors), and it’s easy to buy more
    - DO NOT remove network cables from game consoles – there are DHCP cables on the tables to the right of the consoles
Game Lab Use (3)

- Batteries
  - Xbox and Wii controllers use AA batteries
  - We have a large number of NiHM rechargeable batteries.
  - NiMH (and NiMH batteries only) can go into the charger
    - These are typically white, and have “NiHM” and “rechargeable” on them
  - Normal Alkaline batteries **DO NOT** go into the charger
    - These are typically black and gold and marked Duracell.
    - You will destroy the charger, worst case

- Charger
  - Make sure it’s plugged in.
  - Put in batteries (look for direction indicator)
  - Look at LED for completion of charge
Game Lab Use (4)

- **Air conditioning**
  - There are temperature controllers on the wall.
  - Feel free to reset temperature, within reason
  - Note that if one room is at 78 and the other is at 68 and the door is open, the cooler room will effectively be cooling the hotter room

- **Machines/monitors**
  - The computers in the lab are both computation devices, and space heaters
  - If it’s hot, be sure to turn off the machines when you’re done
  - Same for the monitors, they’re surprisingly warm even when on standby
Game Lab Use (5)

- Food and drink are allowed in the lab
  - However, it is important to clean up after yourself
  - There is no cleaning service.
  - I and the TAs are not a cleaning service.
  - Janitorial services are limited to just emptying trash cans, occasional vacuuming

- You are allowed in the lab 7 days a week, 24 hours a day
  - Occasionally sleeping in the lab is OK, especially if you are too tired to drive home safely.
  - You are not allowed to live in the lab. You must have a bed somewhere that is not the game lab.
  - There is a public shower in the basement of Baskin Engineering (BYO)
Game Lab Use (6)

- PC access
  - You will have Administrator privileges
  - Feel free to install new software
  - No P2P file sharing services
  - Be very careful about starting any network service
    - UCSC computers are under constant attack, so any weakness in a network service will be found and exploited
Creative Beverages

- Today, before your very eyes, I will invent two completely new beverages

- First beverage
  - Start with juice from two mysterious green-tinged yellow round fruits
    - Just discovered in my backyard this morning
  - Add white crystalline carbohydrate powder
  - Mix together with Bonny Doon well water

- I hereby name this the Super Doon Refresher
Issues with Super Doon Refresher

- Is the beverage novel?
  - No, it’s lemonade

- Was its development a creative act?
  - No: well known recipe, many people know this recipe

- Does the unique presentation count for anything?
  - Was entertaining. Made lemonade creation interesting. Got a reaction.
  - But, doesn’t materially affect how original the beverage actually is
Creative Beverages – The Sequel

- Undaunted, I now present to you a truly novel beverage, never before seen on the face of planet Earth.

- Game Design Supergoop
  - Juice of one lemon
  - 2 tsps molasses
  - 1 tsp tamarind paste
  - sugar
  - water
Issues with Game Design Supergoop

- Is the beverage novel?
  - Yes, as near as we can tell, no one else has created a beverage with these ingredients (and lived to tell the tale)

- Will this recipe take the world by storm, and end up in recipe books, and in online beverage databases?
  - Probably not, because expert chefs who are given the beverage would probably not like it.
  - Very few students wanted to even try the beverage
  - Use of tamarind perceived as a gimmick?

- Who decides whether a new idea takes off, or simply dies?
  - Experts in a domain (taste makers)
Types of Creativity

- Big C and little c creativity

- Little c creativity
  - An idea that is new to a particular person
  - … but, not unique globally
  - Just because you think an idea is novel and unique, doesn’t necessarily make it so

- Big C creativity
  - An idea that is truly unique
  - … and validated by a community
Systems View of Creativity

- Creativity results from the interaction of a system comprised of three elements:
  - A culture that contains domains comprised of rich collections of symbols
  - A person who brings novelty into a symbolic domain
  - A field of experts who recognize and validate the innovation

- Creativity involves making permanent changes to **culture**

- Discuss the two beverages with respect to this definition

- How does this relate to game innovation?
Creativity Varying Over Time

- Since a field of experts is involved in assessing creativity, it is possible for perceptions of a person’s creativity to vary over time
  - Raphael (the artist) had varying views of his creativity over time
    - Viewed as being creative in 16\textsuperscript{th} and 19\textsuperscript{th} centuries, when his impact on art practice was high
  - Poet John Donne was not viewed as important in 19\textsuperscript{th} century, but is now viewed as a great figure of 17\textsuperscript{th} century poetry

- In games, who are “the field of experts”? 
Who can be creative?

- Creativity no longer viewed as only something for tortured geniuses
  - Indeed, most highly creative people are happy and satisfied
- Current view is that most humans are inherently capable of big C creativity
  - However, requires substantial training in a field
    - A necessary, but not sufficient condition for creativity
  - A person cannot be creative in a field they do not know
  - Example: child math prodigy
    - No matter how smart they are, will not be able to make unique contribution to mathematics without extensive training.
    - Cannot make a lasting contribution unless efforts are recognized by other mathematicians, journal editors, etc.
depends on field being open to creativity

- Since creativity depends on the reception of creative ideas by experts in the domain…
  - … the amount of creativity depends on their willingness and ability to recognize novel ideas

- Games have gone through periods where creativity and novelty were challenging to get published
  - Today, large emphasis on novelty via the indie game movement, and much more open publishing platforms (Steam Greenlight)
Individual Creative Process

- **Preparation** - becoming immersed in problematic issues that are interesting and arouse curiosity.
- **Incubation** - ideas churn around below the threshold of consciousness.
- **Insight** - the “Aha!” moment when the puzzle starts to fall together.
- **Evaluation** - deciding if the insight is valuable and worth pursuing.
- **Elaboration** - translating the insight into its final work.
Implications

- You are all capable of generating big C creative game ideas

- Requires sufficient knowledge to:
  - Avoid trap of accidental little c creativity (don’t end up looking naïve)
  - Understand what kinds of design moves will be viewed positively by experts in the field

- Reinforces importance of:
  - External critiques by experts in field
  - Putting ideas out for people to see and critique
  - Engaging venues such as Indiecade, IGF, etc. where there is an open playing field for novel ideas to be evaluated