Comp 388/488 - Game Design and Development

Spring Semester 2018 - Slides - week 10

Dr Nick Hayward

Games and dramatic elements

intro

- may consider *dramatic elements* as we continue to design and develop our games
- already considered many underlying elements and concepts that create a game we recognise
- also need to consider those elements that create...
  - *a sense of emotion,*
  - *engagement*
  - *and challenge for our players*
- aspects of our game that encourage an emotional connection
  - *simple desire to invest time and effort in gameplay*
- **dramatic elements** help create a sense of context to a player's experience with our game
- **dramatic elements** provide a backdrop/overlay for our game
  - *combines many disparate formal elements of our game logic and development*
  - *creates a conceptually meaningful experience for the player*
- may start with universal concepts for such dramatic elements
  - *including challenge and play*
- then branch out into more complicated considerations of elements, e.g.
  - *characters, premise, story...*
  - *used by most games we design, develop, and play*
- used to form core for explaining many of more abstract elements of a game's formal system
- help create a deeper sense of connection between the game and its player

Games and dramatic elements

gaming challenge

- *challenge* and an associated sense of accomplishment
  - *fundamental definition of gaming for many players*
  - *perception of worthwhile gaming experience*
- challenge alone is often no different from work, daily issues...
- designers need to find a happy balance to challenge and reward
- need to consider tasks that are satisfying to complete and provide a balance between work and fun
- designers are inherently limited by the abilities and skills of an individual player
- challenge may also become an individual perception and characteristic of a player
  - *consider difference between age groups, skill levels, experience...*
- challenge may also be considered *dynamic*
  - *a player's ability will adapt and improve*
  - *hopefully as they learn and progress through a game*
- a challenging early task may become considerably easier
  - *i.e. as a player progresses to subsequent levels and areas within a game*
- as a player learns these new skills
  - *enjoys opportunity to test and demonstrate these skills elsewhere in the game*
- incremental modifications and updates to earlier, completed challenges
  - *provides a quick and easy option for the player to balance challenge with reward*
- designers and developers need to consider challenge carefully
  - *challenge that is not necessarily defined by individual experience*

Games and dramatic elements

a sense of flow

- carefully consider how to design our games to effectively consider *challenge*
  - *as defined and restricted by individual experience, &c.*
- each experience can, therefore, take advantage of an appropriate level of challenge
- a well-known example of this was developed by the psychologist **Mihaly Csikszentmihalyi**
- he wanted to identify concepts and elements that might help define enjoyment for a given task
  - *he studied experiences and similarities of various tasks for different people*
  - *trying to discern similarities of experience for these tasks, players...*
- his research noted a distinct lack of traditionally perceived bias
  - *for what we consider fun and meaningful tasks*
  - *lack of bias in results for age, social standing, gender...*
- people simply described their perception of enjoyable activities in a similar manner
- regardless of the activity itself
  - *often included disparate pursuits such as music, painting, and playing games...*
  - *the words and concepts people used to articulate this sense of fun was largely the same*
- for each of these tasks
  - *certain conditions became recurrent and popular for describing pleasurable activities*
  - *each user and player was entering into a state of **flow***
  - *allowed for this heightened sense of achievement, and associated fun*

perceptions of flow

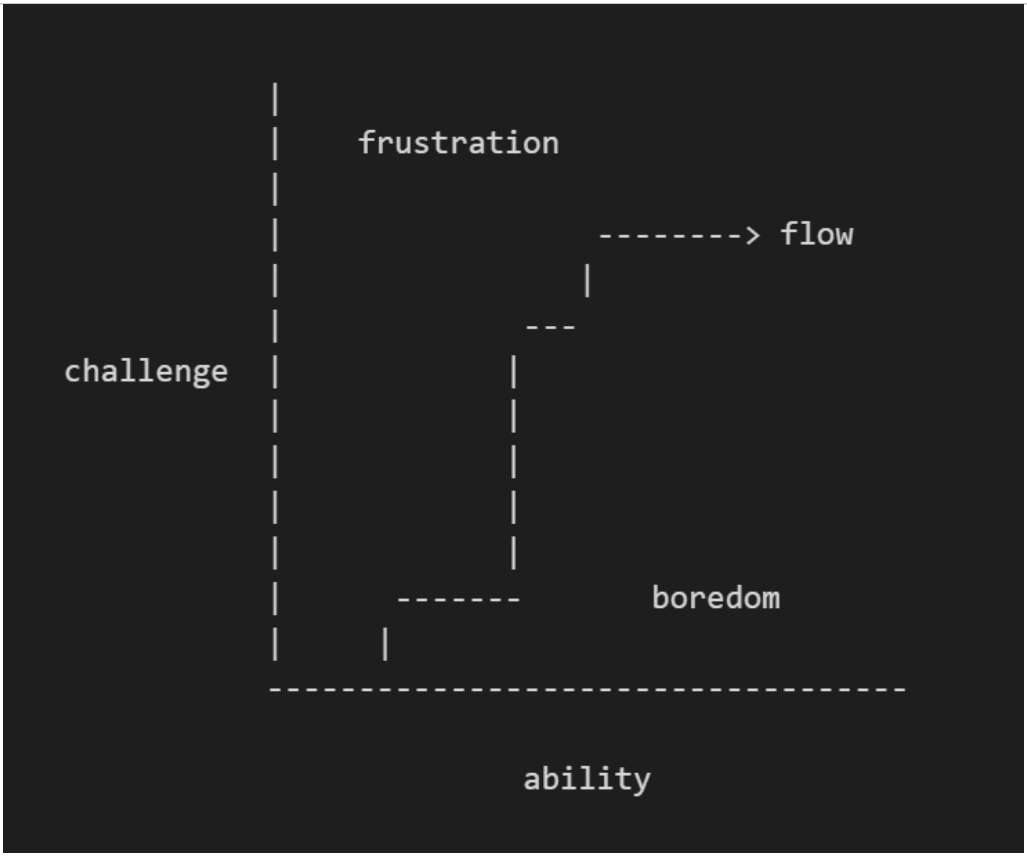
Flow by **Mihaly Csikszentmihalyi**

- player's creativity, ability, and general awareness are high
  - *performance of activity occurs naturally and unconsciously*
- player experiences deep concentration and immersion in their current activity
  - *player is effectively both alert and relatively relaxed*
- living in the moment
  - *a sensation of being so engrossed in an activity a player is unaware of the passage of time*
- balancing interest and challenge
- player is confident and exhibits a sense of control over their current situation
- player is working progressively towards achieving a specific goal, e.g.
  - *getting to the next level in a game*
  - *completing a mini-challenge*
  - *or mastering a particular mechanic for their current character*
  - *Luigi's Mansion and the vacuum cleaner...*

TED 2004 - Flow, the secret to happiness

Image - Games and dramatic elements

a state of flow



A state of flow

Video - Colin McRae Rally

Source - Colin McRae Rally, YouTube

Games and dramatic elements

consider skills

- start introducing challenges and associated activities into our games that require definable skills
- may be a mixture of assumed or learnt skills, applicable to the current game
- for *flow*, **Csikszentmihalyi** describes it relative to activities that are considered,

> *goal-directed and bounded by rules...*

- Csikszentmihalyi, M. *Flow: The Psychology of Optimal Experience*. Harper & Row. New York. 1990. P.49.
- such activities not customarily achieved or completed without proper requisite skills
- skills may include various examples, including
  - *standard motor skills for controls and interaction*
  - *problem solving*
  - *social interaction with other players...*
- challenges, and the development of skills, need not necessarily be limited
  - *e.g. by simple clicking of buttons, and the resultant moving of pixels...*
- a common trick to manipulate such skills is the introduction of doubt or variance
- imagine a challenge or task where the ending is not known or guaranteed
  - *e.g. a player's character walking along a ledge*
  - *may be wet underfoot*
  - *perception of wind blowing from any direction*
  - *random mob objects falling*
  - *varying time due to health status...*
- underlying motor skills, for example, are the same for the player's character
  - *but the end result has now been challenged and thrown into doubt*

game music and sound effects - intro

- most of these sound effects will use a *WAV* format
  - *may also use other file formats such as OGG*
- add these files for our sound effects to the game assets directory, e.g.

```
|-- shootemup
    |-- assets
        |-- images
            |__ ship.png
        |-- sounds
            |__ laser-beam-med.wav
            |__ explosion-med.wav
```

Python and Pygame - Game Example 1

game music and sound effects - import sounds and effects

- we need to add support for Pygame's `mixer`
  - *add the following call after we initialise Pygame itself, e.g.*

```
# add sound mixer to game
pygame.mixer.init()
```

- to use these sounds and effects in our game window
  - *need to add the directory location, e.g.*

```
# relative path to music and sound effects dir
snd_dir = os.path.join(assets_dir, "sounds")
```

- then start to add our required music and sound effects, e.g.

```
# load music and sound effects for use in game window
# laser beam firing sound effect
laser_effect = pygame.mixer.Sound(os.path.join(snd_dir, 'laser-beam-med.wav'))
# explosion sound effect
explosion_effect = pygame.mixer.Sound(os.path.join(snd_dir, 'explosion-med.wav'))
```

- add these lines of code right after we've loaded our images
  - *just before we start the game loop itself*

Python and Pygame - Game Example 1

game music and sound effects - use sound effects

- after importing and loading our sound effects
  - *we may then choose where we need to play these sound effects in our game*
  - *e.g. player fires a laser beam to destroy falling mob objects*

```
# fire projectile from top of player sprite object
def fire(self):
    ...
    # play laser beam sound effect
    laser_effect.play()
```

- also add sound effects for each mob object explosion

```
# play laser beam sound effect
laser_effect.play()
```

Python and Pygame - Game Example 1

game music and sound effects - use music in a game

- as we add sound effects, we may also load music to play in the game
  - *we may add background music for the game window, e.g.*

```
# load music for background playback in game window
pygame.mixer.music.load(os.path.join(snd_dir, 'space-music-bg.ogg'))
```

- also set a relative volume for this background music
  - *creates ambience and does not overwhelm the player experience, e.g.*

```
# set music volume - half standard volume
pygame.mixer.music.set_volume(0.5)
```

resources

- notes = music-intro.pdf
- code
- basicmusic1.py
- basicmusic2.py

game example

- shooter0.9.py
- add music and sound effects to the game window
  - *add pygame mixer*
  - *load sounds directory in assets*
  - *load required sounds and sound effects*
  - *call `play()` for each required sound effect and game music...*

Video - Shooter 0.9

add music and sound effects

Games and dramatic elements

a story and premise

- a **premise** becomes a wrapper or container for our game
  - *we may use to create a sense of context for such challenges, skills, and fun*
  - *a sense of story...*
- each game we design and develop will include such a *premise*
  - *might be a single concept or a detailed dramatic backdrop*
- our games will often leverage a few well-known dramatic elements
  - *help create a player's connection and interest in a game's formal elements*
- use *premise* to help identify the game's formal elements within a setting or a metaphor
- without a sense of context and setting
  - *we may abstract mechanics, gameplay, and skills too far*
  - *reducing sense of fun for our player*
- consider difference between an outline of initial game logic and the wrapper a *premise* provides

quick exercise

Consider the following metaphors,

> *The skies of his future began to darken*

> *Her voice is music to his ears*

> *The ballerina was a swan, gliding across the stage*

> *A heart of stone*

Choose two of the above metaphors, and consider the following:

- how might your chosen metaphors shape the premise and story of a game?
- how might the premise of this game influence mechanics and skills for characters?
- how may you use such skills to create challenges in the game?
- how do your chosen metaphors, and the inferred premise, wrap this game's formal elements?

Demos

- pygame music and sound effects
- basicmusic1.py
- basicmusic2.py

Games

- Colin McRae Rally

Game notes

- Pygame
- music-intro.pdf

References

- Csikszentmihalyi, M. *Flow: The Psychology of Optimal Experience*. Harper & Row. New York. 1990.
- Various
- BFXR
- Homo Ludens
- Open Game Art
- SFXR

Videos

- Colin McRae Rally - YouTube
- TED 2004 - Flow, the secret to happiness