

Lecture5 Mechanics of Game Feel

1. Mechanics: Game Feel Atoms

Game Mechanic: one complete loop of interaction through the game's programmed response and back to the player over and over again

- Different mechanics are active at the same time and often overlap and combine
- Mechanics can also change over the course of a game

Examples:

- Pressing the A-button to jump in Super Mario Brothers
- Steering Mario left and right using the D-Pad in Super Mario Brothers
- Strumming a note in Guitar Hero
- Using the mouse to steer left and right in flow
- Boosting forward by clicking the mouse in flow
- Drag-selecting a group of units in Starcraft
- Clicking to send a group of selected units to a new location
- Pressing a button at the right moment to advance to the next sequence in Dragon's Lair
- Clicking on a button to select the next technology to research in Civilization 4

2. Applying the Criteria

Street Fighter II

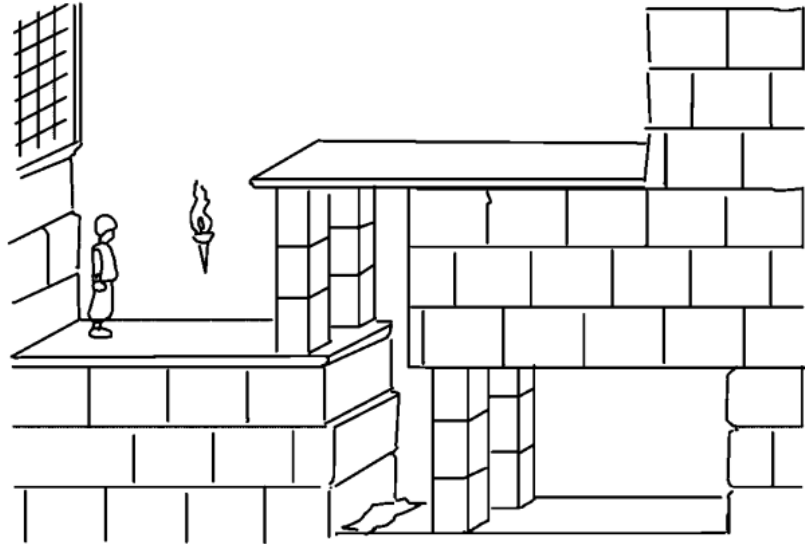
Mechanics

- **walking**
 - responds 100ms, correction cycle, real-time control
- **attacking**
 - heavy attack has interrupted continuity
 - light attack has correction cycle
- **jumping**
 - player can attack while jumping
 - break the correction cycle of movement mechanic

Analysis

- the whole system. combining the movement, jumping and attack mechanics, has real-time control

Prince of Persia



Mechanics

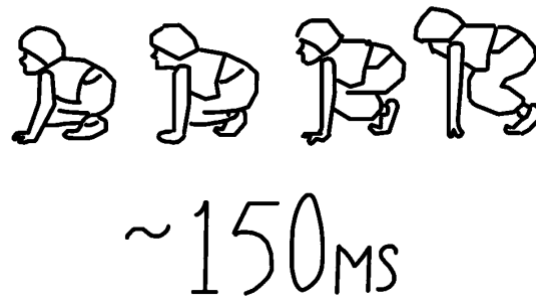
- run
- jump vertically
- jump horizontally
- change direction
- lower (down a ledge)
- draw sword
- shuffle
- parry
- thrust
- crouch
- crouch-hop
- walk
- grab ledge
- crouch-slide

Analysis

- The player presses a single button, and a single animation is played back within 100ms, but further input is locked out until the animation is over, which often breaks continuity

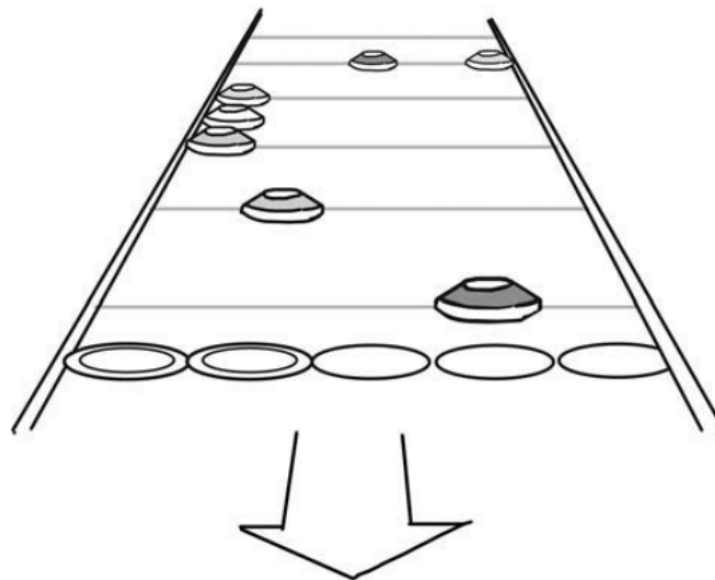


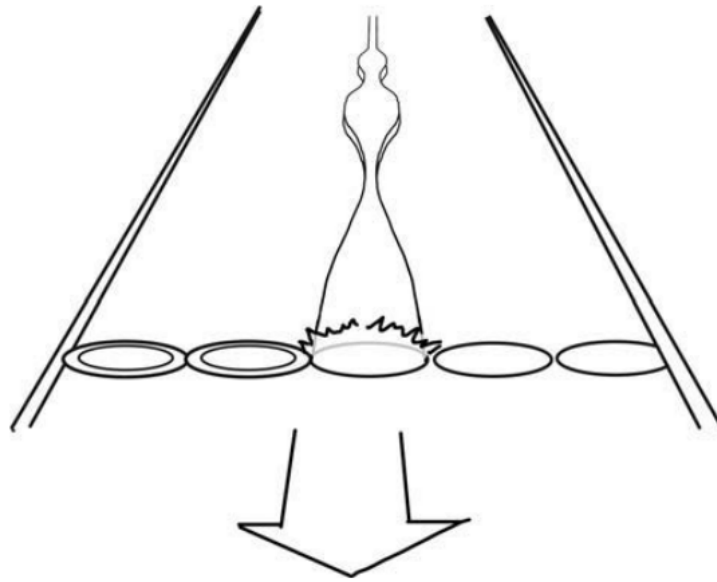
- It takes almost 900ms for the prince to go from standing still to a full speed run. In between, new input from the player is meaningless



- crouching mechanic, comprised of the fewest number frames, has real-time control, because user is locked out for a very short amount of time
- Out of all the mechanics of Prince of Persia, only one passes our threshold tests for real-time control. But the animation is fluid and appealing and covers up the lack of control to some degree

Guitar Hero





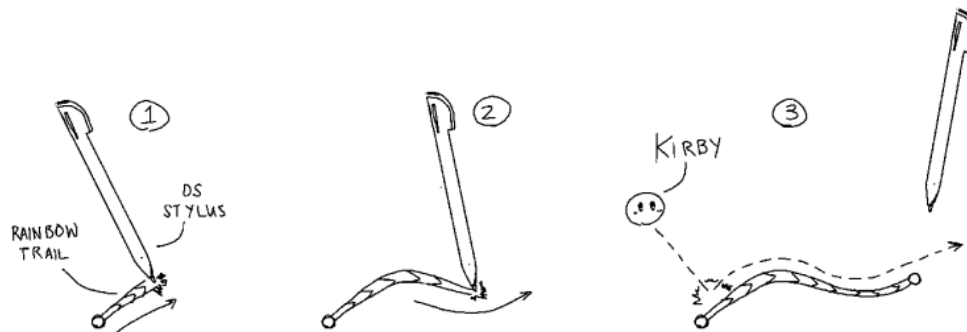
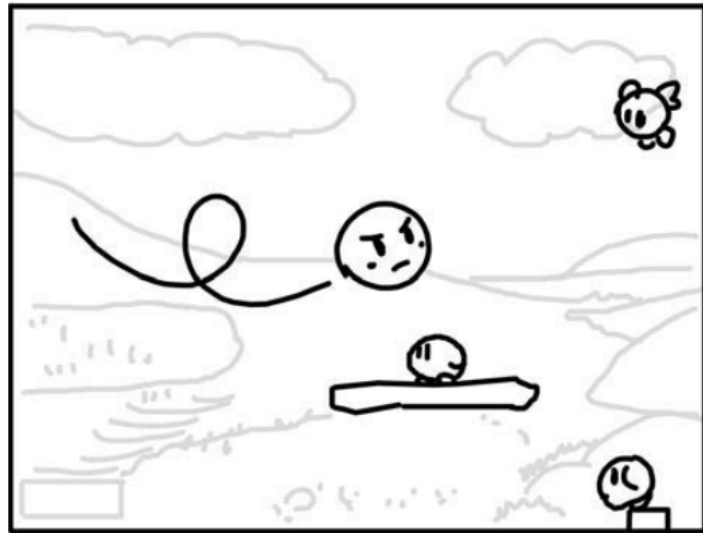
Mechanics

- Strum
- Whammy
- Hammer On
- Hammer Off
- Tilt

Analysis

- the notes seem to move down the screen, from top to bottom, and individual frames are fused into an impression of moving objects
- the whole loop of input and response happens in less than 100ms, but once it's done it's done. There is no continuous flow of input and response, no correction cycle
- the whammy bar mechanic, however, allows a constant stream of both input and response
- there is the impression of motion, instantaneous response, but there no sustained correction cycle and no spatial simulation

Kirby: Canvas Curse



Mechanics

- Drawing (paintbrush)
 - you draw lines on the screen, represented by flowing rainbows
 - if Kirby comes into contact with these lines he will follow their path in the direction they were drawn
- Tapping (on the avatar)
 - player can tap Kirby directly with the stylus. This results in a state change and a speed boost
- Holding (enemies)

Analysis

- From the moment the player starts drawing the line, they're running a correction cycle to get the line drawn in the shape and direction they want
- The response is instantaneous, but this is not real-time control per our definition
- The player is correcting the movement of his or her own hand in space rather than a virtual object in virtual space
- For tapping, the response is instantaneous, but, as with Guitar Hero, the input is not sustained

- The world of Canvas is its own unique physical world. But the player does not experience the simulated space directly, perceiving it actively via Kirby's "body" in virtual space

3. Summary

- Breaking down game feel into its component mechanics on a game-by-game basis enables us to better understand which games have game feel and which don't, and why
- Our definition is now complete: even games that are on the edge can be classified according to real-time control, simulated space and polish
- Games that have these three properties have game feel