Players of Digital Games

Players: Game Researcher’s Perspective

- **Juul** [Juul 2010; in (1)]:
  - hardcore player
  - casual player

- **Salen and Zimmerman** [Salen and Zimmerman, 2004 in (1)]: different lusory attitudes:
  - Standard Player: follows rules
  - Dedicated Player: follows rules but unusual strategies
  - Unsportsmanlike Player: follows rules but violates spirit of lusory attitude
  - Cheating Player: violates rules to win
  - Spoil-Sport Player: violates rules, doesn’t care at all

Players: Game Designer’s Perspective

- game researchers: *ex post* / empirical perspective ↔
  - game designers: *ex-ante* perspective

- Jesse Schell [Schell 2010; in (1)]: important: age, gender:
  - Infant\ Toddlers (0-3),
  - Preschooler (4-6),
  - Kids (7-9),
  - Preteen or “Tween” (10-13),
  - Teen (13-18),
  - Young Adult (18-24),
  - Twenties and Thirties (25-35),
  - Thirties and Forties (35-50),
  - Fifties and Up (50+),

  distinguished by mental development

  distinguished by family status
Players: Game Designer’s Perspective

- Chapman [Chapman et al, 2008 in (1)]:
  - ‘Personas’:

- Radoff [Radoff 2011; in (1)]:
  - ‘Player Personas’: fictional representants of equivalence classes of players in terms of personality, attitudes, attributes

Players: Statistics

- studies: Entertainment Software Association [ESA, 2011; in (1)], [Dobson, 2006 in (1)]:
  - 72% of US households play digital games
  - average: 37
  - 42% female, females: 71% of casual players
  - preferences:
    - casual games (47%),
    - action, sports, strategy, role-playing (21%)
    - massive multi-player games (11%)
  - > 50% of players play on mobile devices
  - 65% play together with other gamers in person
  - adult gamers have spent 12 years of playing video games

Components: Game Researcher’s Perspective

- Salen and Zimmerman [Salen and Zimmerman, 2004 in (1)]:
  - general characteristics of game rules:
    - Rules limit player actions
    - Rules are explicit and unambiguous
    - Rules are shared by all players
    - Rules are fixed
    - Rules are binding
    - Rules are repeatable
  - three types of rules:
    - Constitutive Rules: core logic; in code; handle internal events
    - Operational Rules: external events (e.g. user i/o: audio, video)
    - Implicit Rules: also depend on external context (e.g. platform)
Components: Game Researcher’s Perspective

**Juul** [Juul, 2005 in (1)]: **rules**: chain of **dependencies**:
- "rules specify limitations and affordances"
- rules map: player’s actions $A \rightarrow$ game states $S$ : state machine
- state machine: graph or tree: ‘game tree’, ‘game graph’
- utility function on states $\rightarrow$ player challenges $\rightarrow$ skills
  $\rightarrow$ enjoyable experience

**Hunicke** [Hunicke et al. 2004 in (1)]: games: “systems that build behavior via interaction”

- **MDA framework (mechanics, dynamics, aesthetics)**:
  - **Mechanics** “are the various actions, behaviors and control mechanisms afforded to the player within a game context. Together with the game’s content (levels, assets, and so on) the mechanics support overall gameplay dynamics.”
  - **Dynamics** “run-time behavior of the mechanics acting on player inputs and each others’ outputs over time.”
  - **Aesthetics** facilitate “the desirable emotional responses evoked in the play, when she [the player] interacts with the game system.”

Components: Game Researcher’s Perspective

**Järvinen** [Järvinen, 2007 in (1)]: **nine game elements**:
- **Systemic** elements:
  - Components: resources for play
  - Environment: space for play
- **Compound** elements:
  - ruleset (including utility function, goal-set)
  - game mechanics: player’s action patterns toward goals
  - theme: subject matter of game
  - interface: e.g. UI
  - information: players need to know, coupled with game states
- **Behavioral** elements:
  - players
  - ‘outside’ contexts: e.g. spatiotemporal environment of game-playing
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Järvinen [Järvinen, 2008 in (1)]:

- **Social interaction** of players:
  - inside game: vsocial context accessible
  - outside (‘off-’)game: social context inaccessible

- game elements: **ownership attribute**:
  - Element-of-self
  - Element-of-other
  - Element-of-system

Components: Game Researcher’s Perspective

Sicard [Sicard, 2008; in (1)]: **game mechanics:** types:

- **Core Mechanics:** “the game mechanics (repeatedly) used by agents to achieve a systematically reward end-game state.”
  - Primary Mechanics: “core mechanics that can be directly applied to solving challenges that lead to the desired end state.”
  - Secondary Mechanics: “core mechanics that ease the player’s interaction with the game towards the end state.”

- **Compound Mechanics:** “set of related game mechanics that function together within one delimited agent interaction mode.”

- **Context Mechanics:** “mechanics triggered depending on the context of the player presence in the game world.” (⇒ different notion of context!)
Components: Game Researcher’s Perspective

Dormans [Dormans, 2012; in (1)]:

- **Game play**: “emergent property of the game as defined by its rules”
- **Game components**:
  - **Game mechanics**:
    - “a set of [specific] rules governing the behavior of a single game element”
    - Umbrella term covering:
      - **Internal economy**: “is constituted by the production, flow and consumption of game resources”, e.g., points, items
      - **Game physics**: “implementation of the physical laws that govern motion and force within the game”
  - **Core mechanics**: “the essential play activity players perform again and again in a game” (originally by [Salen and Zimmerman, 2004; in (1)])

Components: Game Designer’s Perspective

- **Schell** [Schell, 2010; in (1)]: “**Elemental tetrad**”
  - Mechanics,
  - Story,
  - Aesthetics,
  - Technology

- [Schell, 2010; in (1)]: **Mechanics**:
  - Space: “places [...] in a game, and how these places are related to one another”
  - Objects (tokens, ’props’, etc.), attributes, and states
  - Player’s Actions: operative actions, resultant (more abstract) actions (strategies)
  - Rules
  - Skill: physical, mental, and social skills; difference btw. real skills and virtual skills that only exist in the game.
  - Chance

Components: Game Designer’s Perspective

- **Dormans** [Dormans, 2012; in (1)]:
  - **Game components** (cont’d.):
    - Level: “particular spatial and/or logistical structure […] dictates what challenges players encounter. Typically, a level contains a set of positioned game elements and/or scripts to control special events and players’ progress through the game”
  - Dormans: **Mechinations** framework (formal language for game mechanics, very very roughly comparable to UML)

- **Parlett** [Parlett, 2005; in (1)] in [Schell, 2010; in (1)]: **Typology of rules** (cp. also Salen and Zimmermann (S&Z)):
  - **Operational Rules**: explicit rules of the game; “a set of operational procedures you apply to the gaming equipment in order to play the game”; more descriptions than prescriptions
  - **Foundational Rules**: implicit rules; describe the underlying formal (mathematical) structure; synonymous with S&Z’s constitutive rules.
  - **Behavioural Rules**: higher order implicit rules; a subset of S&Z’s implicit rules; example ‘good sportsmanship’.
  - **Written Rules**: often absent; rather taught via e.g. an interactive tutorial.
Components: Game Designer’s Perspective

- Parlett [Parlett, 2005; in (1)] in [Schell, 2010; in (1)]: typology of rules (cp. also Salen and Zimmermann (S&Z)): (std.)
  - Laws: for serious play: “explicit rules of behavior” only for “serious, competitive settings”; include e.g. sanctions
  - Official rules: for serious play; == laws + written rules
  - Advisory rules: “rules of strategy”; opt. shared btw. players (e.g. in MMOG)
  - Feedback i.e. alterations to the operational rules by individual players; ~ “house rules” (e.g. w.r.t. difficulty levels)

Components: Game Designer’s Perspective

- Important component: game spaces (e.g. Pacman maze, stages, levels, places in WOW, Second Life etc.) (== “virtual worlds”, “game worlds”)
- blurring of boundaries (→ magic circle): real ↔ imaginary world: negotiated by players, determined by context → adds social dimension

Components: Game Researcher’s Perspective

- Klastrup [Klastrup, 2003; in (1)]:
  - **virtual worlds**: two dimensions:
    - Genre: “gaming worlds, social worlds, educational worlds, commercial (or chat and entertainment) worlds, and art worlds”, not strictly separated
    - Classification: axes: size (small, medium, large), common sense (e.g. setting, interaction possibilities, degree of realism), or other general evaluation criteria
  - **virtual worlds**: functions:
    - Interpretative framework: → social meaning, meaning for game mechanics
    - Representation: props → atmosphere, paideia.
    - Simulation: → ludus; → action sequences in game space
    - Lived story in a social space: covers the “experience of time, history and community developed within the world”
Components: Game Designer’s Perspective

- **Schell** [Schell, 2010; in (1)]: three attributes of game spaces / virtual worlds / game worlds:
  - discrete or continuous
  - certain number of dimensions, incl. 0 (e.g., guessing game)
  - boundaries
- [Schell, 2010; in (1)]: Transmedia worlds: fantasy worlds that can be entered through many different media

Meta-Types and Types of Digital Games

- Meta-types of games:
  - Simulation
  - Social games
  - On-line games
  - Mobile games
    - Location-based games
- these are
  - overlapping
  - probably not complete

Simulation

- generally: “to simulate is to model a (source) system” (possibly non-real) “through a different system which maintains to somebody some of the behaviors of the original system” [Frasca, 2003b; in (1)].
  - closely related to game mechanics, game physics

Social Games

- requires social interaction (cooperative vs. competitive)
- social interaction: inside / outside of game
- generates / uses social context
Types of Digital Games

- **Types of games:**
  - Hardcore
  - Casual
  - Pervasive
  - Serious

- these are
  - not totally exclusive
  - probably not complete

- **Meta-types of games:**
  - Simulation
  - Social games
  - On-line games
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  - overlapping
  - probably not complete

Hardcore Games

- **meta types:** simulation (primarily), on-line, social
- intensive player immersion

- sub-types:
  - ego-shooters,
  - MMOGs, MMORPGs, MUDs... (see [Klastrup, 2003, p. 57-91; in (1)])
  - vintage classic games
  - ...

- **often:**
  - realistic physics,
  - high end (often 3D) graphics,
  - detailed game worlds
  - ....
Casual Games

- **Juul [Juul, 2010; in (1)]: characteristics:**
  - Instant play, easy to learn
  - Quick play, do not require much time to play to get pleasure
  - Common play, address a vast majority of player types

- **meta-types:** online (primary), social (primary), mobile

- **constant development** e.g. via user feedback possible and good practice

**five design principles:**

- Fiction: almost all: “fictions with positive valence”.
- Usability: are easy to use, friendly interfaces, “presuppose little knowledge of game conventions”
- Interruptibility: allow players to “play in short bursts”
- Difficulty and punishment: “often become very difficult during the playing of a game” but typically only have “lenient punishments for failing”.
- Juiciness: “excessive positive feedback for every successful action”

Casual Games: varieties:

- browser games
  - Web applications
  - example: games by Zynga

- social network games:
  - played on social networking platforms
  - example: Farmville

- downloadable casual games:
  - specific distribution channel, often assoc. with brands
  - example: Moorhuhn

- mimetic games:
  - “exergames”, take game-play out of virtual game space to the player’s ‘real world’ space, mostly via ‘physical’ Uls
  - examples: Wii Sports, Guitar Hero, Kinect games

Pervasive Games

- [Montola et al, 2009; in (1)]: “game that has one or more salient features that expand the contractual magic circle of play spatially, temporally, or socially”

- [Montola et al., 2009, in (1)]. other terms:
  “adaptronic games, alternate reality games, ambient games, appropriative games, augmented reality games, big games, brink games, context aware games, crossmedia games, geogames, hybrid games, immersive games, invasive games, location-based games, locative games, massive games, mixed reality games, mobile games, pervasive games, reality games, supergames, total games, transreality games etc.”
Types of Digital Games

Pervasive Games

- [Kampmann Walther, 2005; in (1)]: “[...] augmented and/or embedded game worlds [...] on the threshold between tangible and immaterial space”

- [Kampmann Walther, 2005; in (1)]: “may further include adaptronic, wearable, mobile, or embedded software/hardware in order to facilitate a ‘natural’ environment for gameplay that ensures the explicitness of computational procedures in a post-screen setting

- related: pervasive + ubiquitous computing

- meta-types: mobile + location-based (primary), social (secondary)

Pervasive Games: sub-types: [Magerkurth et al, 2005; in (1)]:

- Smart toys:
  - e.g. Ravensburger tiptoi

- Affective gaming:
  - integrate a player’s emotional state, measured via sensors

- Augmented tabletop games:
  - e.g. via tangible pawns

- Location-aware games:
  - e.g. Geocaching

- Augmented reality games:
  - e.g. via head-mounted displays, projected images on real-world surfaces, or hand-held devices.

Types of Digital Games

Serious Games

- games with ‘useful’ side effects: [Susi et al., 2007; in (1)]:
  - education: e-learning, edutainment, game-based learning, digital game-based learning (related, overlapping)
  - training: e.g. military or financial simulations
  - information: political games, corporate games, and healthcare games (inform, create awareness)

- „Games with a Purpose“ (GWAP):
  - more strictly oriented towards specific goal
  - closely related but not necessarily with game orientation: „human-based computation“, „crowdsourcing”
  - examples: Artigo (soft ontology / folksonomy generation), Captcha-solving

- meta types: social, simulation

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