**Types of Digital Games**

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<th>Hardcore</th>
<th>Casual</th>
<th>Pervasive</th>
<th>Serious</th>
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<td>Simulation</td>
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<td>On-line</td>
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<td>Social</td>
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<td>Mobile</td>
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<td>Location-based</td>
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adapted from [1]

**Genres of Digital Games**

[Jarvinen, 2008; in (1)]: **Rapid analysis method (RAM): 40 types of game mechanics:**

- accelerating / decelerating, aiming & shooting, allocating, arranging, attacking / defending, bidding, browsing, building, buying / selling, catching, choosing, composing, conquering, contracting, controlling, conversing, discarding, enclosing, expressing, herding, information-seeking, jumping, maneuvering, motion, moving, operating, performing, placing, point-to-point movement, powering, sequencing, sprinting / slowing, story-telling, submitting, substituting, taking, trading, transforming, up-grading / down-grading, voting

**Socio-Psychological Domain: Players**

- most players develop into socializers over time [Radoff, 2011; in (1)]

- [Yee, 2006 (various); in (1)]: statistics based: **three motivational components** for MMOG player type definition:
  - **Achievement**: desire for advancement, mastery of game mechanics, love of competition
  - **Social**: socializing, building relationship, teamwork.
  - **Immersion**: urge for discovery, love of role-playing, need for customization, motive of escapism.
Socio-Psychological Domain: Motivation

**Motivation: types**

- [Reiss, 2004; in (1)]: 16 motives: power, curiosity, independence, status, social contact, vengeance, honor, idealism, physical exercise, romance, family, order, eating, acceptance, tranquility, saving
- [Radoff, 2011; in (1)]: social → more powerful motivators: acceptance or status

![Diagram showing intrinsic and extrinsic motivation with quadrants for immersion, cooperation, achievement, and competition.]

Radoff’s Player Motivations. [Radoff, 2011; in (1)]

**Motivation: rewards**

- also important rewards: [Wang & Sun, 2011; in (1)]: “provide social meaning within and outside of games”

- forms of rewards:
  - score systems,
  - experience point reward systems,
  - item granting system rewards,
  - resources, achievement systems,
  - feedback messages,
  - plot animations and pictures,
  - unlocking mechanisms.”

Socio-Psychological Domain: Emotions

**Emotions**

- ↔ Affective Computing [Picard, 1995; in (1)], Social Signal Processing [Vinciarelli 2011], Emotion Synthesis (Robotics)

- Ekman’s six key emotions [Ekman, 1972; in (1)]: frustration (anger), fear, surprise, sadness, amusement (happiness)

- Plutchik’s wheel of emotions [Plutchik, 2011; in (1)]: eight basic emotions: joy, trust, fear, surprise, sadness, disgust, anger, anticipation
Plutchik's Wheel of Emotion. Source: [Plutchik, 2012; in (1)]

Forms of Engagement: Flow

- **characteristics of Flow** [Nakamura and Csikszentmihalyi, 2002; in (1)]:
  - Intense and focused concentration
  - merging of action and awareness.
  - loss of reflective self-consciousness
  - sense of total control of one's actions
  - distortion of temporal experience
  - experience of the activity as intrinsically rewarding

- **conditions for Flow** [Nakamura and Csikszentmihalyi, 2002; in (1)]:
  - sense of engaging challenges at appropriate level (neither overmatching nor underutilizing) to skills & capacities.
  - clear proximal goals
  - immediate feedback
Different Models of Flow: (a) Original Three Channel Flow Model, (b) Four Channel Flow Model and (c) Eight Channel Flow Model. Sources: a) and c) [Nakamura and Csikszentmihalyi, 2002], b) [Novak et al., 1997]. (all in (1))
Socio-Psychological Domain: Fun

Fun

[LeBlanc, 1999; in (1)]: **eight kinds of fun** (→ part of MDA framework ('Aesthetics') [Hunicke et al., 2004; in (1)]):

- **Sensation**: game as sense-pleasure
- **Fantasy**: game as make-believe
- **Narrative**: game as drama
- **Challenge**: game as obstacle course
- **Fellowship**: game as social framework
- **Discovery**: game as uncharted territory
- **Expression**: game as self-discovery
- **Submission**: game as pastime

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Socio-Psychological Domain: Social Play

Social Play

**key elements** of social play [Ilsbister, 2009; in (1)]:

- **Emotional contagion**: [Hatfield et al., 1994; in (1)]: tendency to automatically **mimic and synchronize expressions**, vocalizations, postures, and movements with those of another person’s and, consequently, to **converge emotionally**. Also applicable to HCI and NPCs [Reeves and Nass, 1996 in (1)], [Nass et al, 1996 in (1)]

- **Performance**: humans **perform better when they are watched** by other humans [Cottrell, 1972; in (1)]. Also applicable in HCI [Rickenberg and Reeves, 2000; in (1)].

↔ **Hawthorne effect** [Landsberger, 1958; in (1)]: change in human behavior just by the fact that the people **know** that they are being observed.
Studies of Communities and Social Networks in Digital Games

- Long history of Virtual Community research (see e.g. [Klastrup, 2003; in (1)]
- Example in games: MMO(RP)G (WoW etc.): cooperation in game may be necessary; models of emotion expression etc.
- Social Media, Social Games: → large datasets to study human social behavior
- In-game vs out-game social relations → related [Jakobsson and Taylor, 2003; in (1)]

Studies of Communities and Social Networks in Digital Games: research methods

[Warmelink and Siitonen, 2011; in (1)]: MMORPG research: four groups of methods:

- Ethnography / participant observation: direct or indirect interviews, gathering of field data (e.g. chat logs), use of external sources such as manuals or player forums, video taping, focus groups (qualitative research)
- Surveys in and outside of the virtual worlds; → qualitative or quantitative results.
- Data analytics: data collection (crawling) and quantitative analysis (data mining, machine learning)
- Social network analysis → later in lecture in detail; example gold farming detection [Keegan et al., 2010].

Social Play as Descriptive Aspect of Digital Games

Social play: three characterizing properties

Spatio-temporal context

- Space: Extended space
- Time: Persistent
- Reality-virtuality continuum

Interaction

- Interaction paradigm: Player — other players
- Interaction form: Passive, Synchronous
- Motivation: Intrinsically

Game play

- Number of human players: Massively multiplayer, Single-user
- Communication mode: Text
- Supporting Technology

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Figure from [1]