Predicting Player Type in Social Network Games

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Long-term goal: Leverage Player Type to improve user engagement by designing personalized social/mobile games. E.g., personalized game search, in-game adaptations, multi-channel messaging.

Challenges: Detecting Player Type, designing/evaluating relevant adaptations.

In this poster: Research conducted with a Free-to-play (F2P) Facebook Game Farming Sim: i) Measure player type; ii) Establish possible data sources for predicting player type; iii) Report preliminary results.

Previous work in this area has typically looked at personality (Big-5) [REF: 1,2,3], however unlike personality, player type characterizes users based on the games they prefer, as well as their individual playing styles, which can directly inform the design of tailored adaptive strategies.

BrainHex – Player Type[4]

Achievers are often satisfied by completing tasks or collecting things (e.g., badges). They are goal-oriented and motivated by the reward of achieving long-term goals.

Conquerors enjoy struggling and the defeat of difficult opponents before achieving victory. They show forceful behavior, and channel their anger to face and overcome difficult challenges.

Daredevils are excited by the thrill of taking risks and enjoy playing on the edge. The enjoyment of game activities such as navigating dizzying platforms, rushing around at high speeds while still in control characterizes the Daredevil.

Masterminds enjoy solving puzzles, devising strategies to overcome difficult puzzles, and making efficient decisions.

Seekers enjoy exploring things and discovering their surroundings. They are curious, have sustained interest, and love sense stimulating activities.

Socialisers enjoy interacting with others. For instance, they like talking, helping, and hanging around with people they trust.

Survivors love the experience associated with terrifying scenes and the thrill of escaping from scary situations.

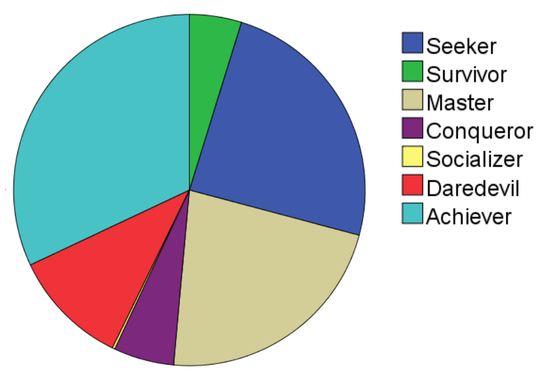
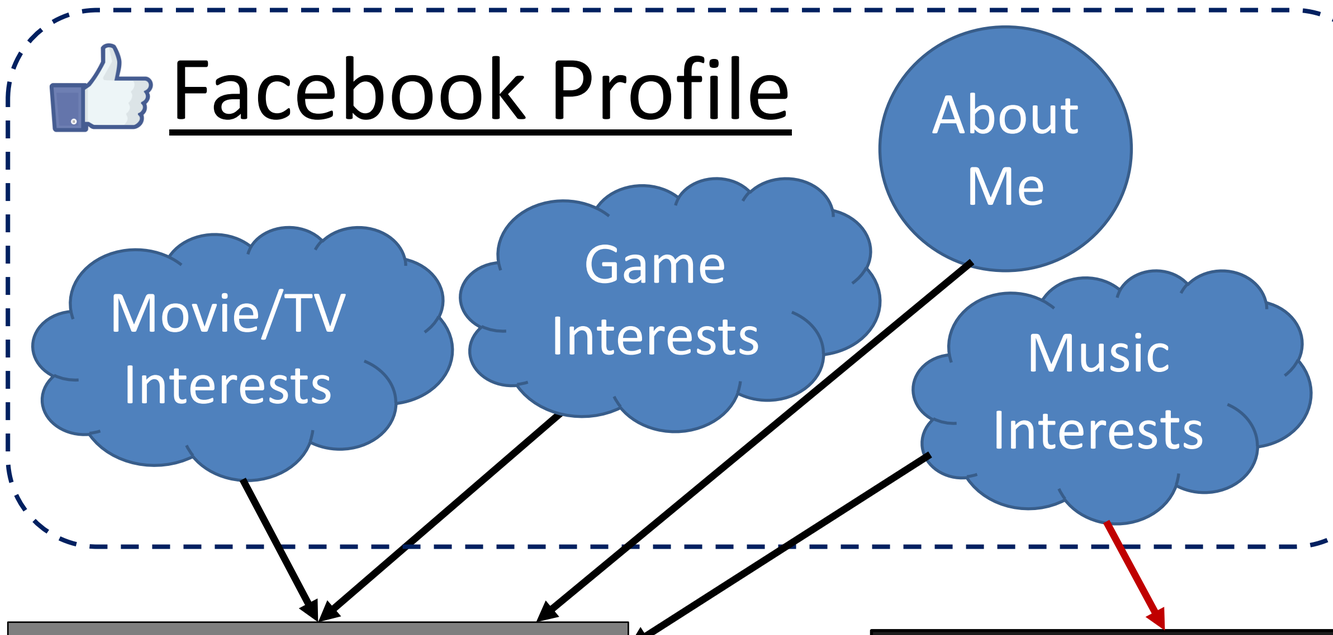


Figure 1. Player Type distribution of surveyed users, n = 2009

Data Sources Collected for Predicting Player Type

Facebook Profile



Game Telemetry

Player actions logged within the game.
E.g.,
- Coins earned
- Quests completed
- Games Logins
- Crops planted/harvested
- Etc.

Future Work:
- Generate similar feature-sets described in [5] that were shown to successfully predict personality. E.g., linguistic features

Future Work:
- Apply additional step of music genre clustering described in Do Re Mi [6]

Label music by Mood & Genre

Future Work:
- Perform similar analysis as [2], which aims to predict personality using telemetry data collected from World of Warcraft

Table 1. R values for player type prediction results.

	Seeker	Survivor	Mastermind	Conqueror	Socialiser	Daredevil	Achiever
Linear Regression	0.12	0.07	-0.05	0.11	-0.13	0.01	0.01
Decision Table	0.16	0.07	-0.02	0.04	-0.11	0.04	0.11

References:

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[4] Nacke, L.E., Bateman, C., Regan, M.L. BrainHex: A neurobiological gamer typology survey. Entertainment Computing. (2013).
[5] Golbeck, J., Robles, C., & Turner, K. Predicting personality with social media. *CHI '11, (2011).*
[6] Rentfrow, P.J., Gosling, S.D. The do re mi's of everyday life: the structure and personality correlates of music preferences. Journal of Personality and Social Psych, (2003).