

PM GAME



Leadership Coaching & Assessment in the Digital Age

Digital games conquer entertainment markets. However, what is less known is that they have a potential for learning & assessment purposes.

At the Chair of Educational Engineering at Zurich University, we use game-based learning in our Project Management course: Students learn to lead a small team both in real-life role-playing as well as in our digital PM Game. Experts from Informatics, Leadership, Psychology and Didactics work together to make this game useful for many organizations and institutions of higher education.



The game

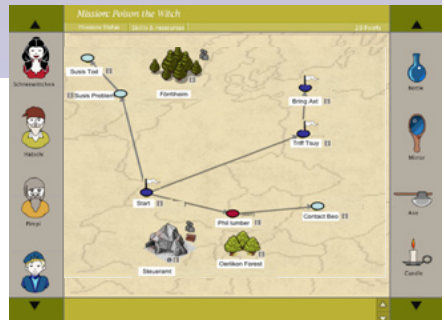
The player is a project manager interacting with team members, customers, bosses and other stakeholders. They are so-called non-player characters (NPC), i.e. persons simulated by the computer.

The interaction with them happens by dialogues. They show emotions with facial expressions and remember whether they had positive or negative feelings after previous dialogues. Based on state-of-the-art psychological theories, NPC confront the player with a broad spectrum of different personalities.

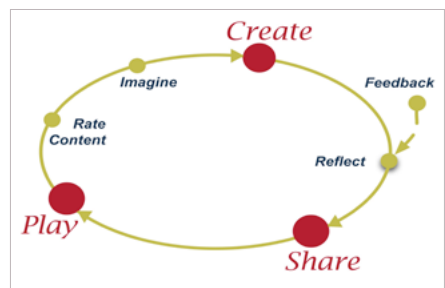
Interdisciplinary innovations

Both playing and contributing to the game happens over the internet. The game will implement Web 2.0 concepts, such as user contributed content, data gathering and web service interfaces. Considering the whole usage process, it will correspond to Mitchell Resnick's Lifelong Kindergarten approach. This implies learning by trying out and thereby building up one's own knowledge for sharing it with others.

The novel user interaction concept is based on speech act theory from linguistics. It is neither free text (which would be difficult to understand for computers of today) nor just a set of predefined commands.

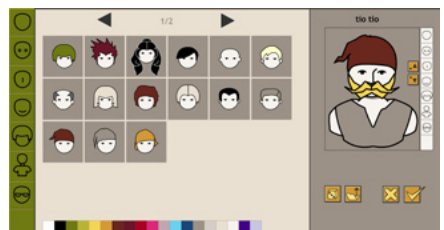


The game interface

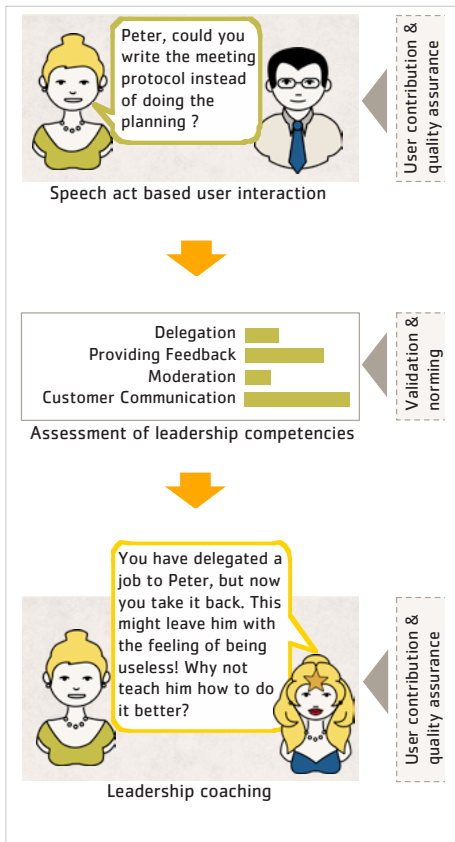


Evolutionary learning game cycle

Model based on Mitchell Resnick (MIT) and Alex Evans (Sony)



Character configurator



It is a solution in-between, allowing both formalized computer understanding as well as relatively free choice of what to express.

Steering of the NPCs utilizes the idea of the subsumption architecture from robotics (Rodney Brooks, MIT). Today they interact with the player only. In future development phases they will interact with each other and finally even have their own views and opinions of the game reality.

The game can be parametrized to adapt to different company and regional cultures. In addition, virtual worlds of well-known fairy tales, popular movies or party people will address users from a variety of target groups. Business settings are important for learning or assessment of business-specific leadership behaviour. Configurators and editors for creating further virtual worlds motivate advanced users to contribute and act as co-authors.

Why Leadership?

Never in history have so many people assumed leadership roles as today. Some of them call themselves managers, others prefer to be called chief physicians, professors or art directors, but all they lead other people, at least part-time. This is a job, for which there is almost no education.



Tsuyoshi Ito is researcher in the field of game based learning. He has been working as software engineer and game designer since 2001. He is heading the team responsible for implementation of the game software



Robert Stoyan is researcher in e-coaching and e-assessment of leadership, with seven years of industrial project management experience. He is heading the team on operationalization of leadership in the game.

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Reaching beyond what is possible today

- Recent research results have shown that the e-coaching method »constraint based modelling« is as effective as individual human coaching. Thus far, this has been achieved for hard skills such as learning software programming. On the long run, this research intends to approach this as closely as possible for leadership.
- The PM Game has the potential to make a new and unique contribution among today's skill assessment methods: In game the storyline depends on the actions taken by the player. Thus, due to the time-lapse effect of games and the dynamic situation standardization in the PM Game, leadership behaviour in long term processes as e.g. team development becomes assessable.
- Once implemented, the software will open a variety of further application fields, such as teaching roles in the courtroom or motivating school children to learn programming by contributing to a soft skills game for teenagers.