A Thin Light Blue Line - Towards Balancing Educational and Recreational Values of Serious Games

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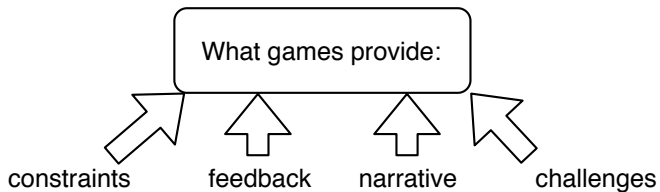
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Serious games

- **"...[serious games] have an explicit and carefully thought-out educational purpose and are not intended to be played primarily for amusement."** (Abt, 1970)
- applications: education, training, therapy, simulation, etc.

Serious games

Yes, educational **AND** entertaining!

From boring education...

...to entertaining learning through video games

Reviews:

- The effectiveness of games for educational purposes: A review of recent research (Randel, Morris, Wetzel and Whitehill, 1992)
- Educational games-are they worth the effort? A literature survey of the effectiveness of serious games (Backlund and Hendrix, 2013)

Repurposed games

Problem:

- high amount of irrelevant content and functionalities
- ⇒ solution:
- **RETAIN** model: **R**elevance, **E**mbedding, **T**ransfer, **A**daptation, **I**mmersion and **N**aturalization
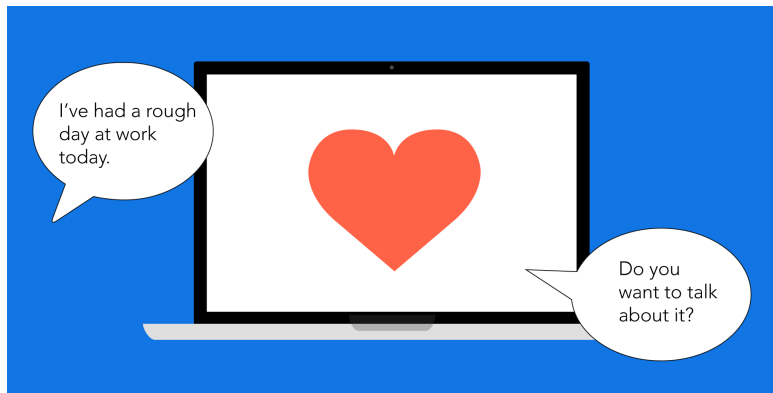
Mobile games for *games generation*

Games generation:

- prefers graphics over text
- has a 'random and informal' approach to information
- treats learning as a social activity
- expects an immediate pay-off of their academic efforts
- conceives knowledge as a consumable item, which is retrieved and used when needed

Affective, and thus effective

Games can provide
emotions for learning with:

- mechanics
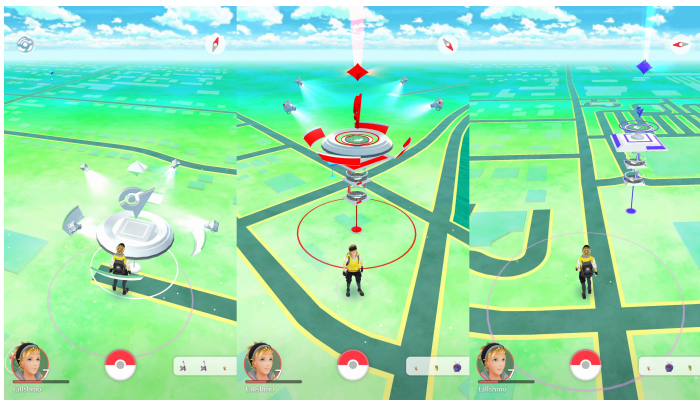- **game design patterns**

Context-oriented games

Figure: Pokemon GO - moving through the city to fight other players.

Meet Cracow

A game that is:

1. Mobile
2. Serious
3. Educational
4. Historical
5. Affective
6. Context-based

Places

Name	Distance	
St. Mary's Basilica	964m	Follow
Kraków Cloth Hall	841m	Follow
Botanic Garden of the UJ	2095m	Follow
Wawel Castle	1305m	Follow

Show regular places | Show curiosities | Show legends

Go back

Distance to activate game

125

Reset data

Go back

Nearest attraction: Kraków Cloth Hall

Distance: 841m

Go back

Choose attraction to follow

Reset attraction to nearest

Quiz learning

Saint Mary's Basilica (Polish: Kościół Mariacki) is a Brick Gothic church adjacent to the Main Market Square in Kraków, Poland. Built in the 14th century, its foundations date back to the early 13th century and serve as one of the best examples of Polish Gothic architecture. Standing 80 m (262 ft) tall, it is particularly famous for its wooden altarpiece carved by Veit Stoss (Wit Stwosz). In 1978 it became a UNESCO World Heritage Site alongside the Historic Centre of Kraków. On every hour, a trumpet signal - called the Hejnał mariacki - is played from the top of the taller of Saint Mary's two towers. The

Exit Quiz   Start Quiz

Progress 0/40   Kraków Cloth Hall   Efficiency ---

Leave   Restart   Help

1 Score

2 High score list
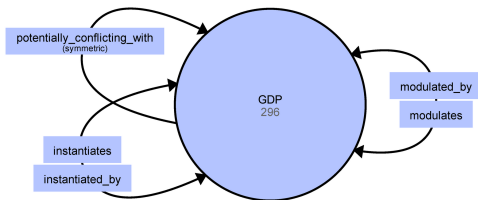
3 Rewards

4 Penalties

Figure: Game design patterns, proposed by Bjork and Holopainen.

Preliminary evaluation

Research questions:

1. Does the game improve the effectiveness of learning of cultural heritage of Cracow?
2. Does the game provide good enough usability to the users?
3. Do the affective mechanics enhance the user experience?
4. Does contextual part of the game improve immersion of it?

Looking forward

Future ideas:

1. Conduct proper evaluation
2. Include a user-friendlier GUI
3. Allow for synchronous play between different players
4. Represent commercial quality in terms of development
5. Fine-tune the design so that it will better fit the model's requirements with regard to the RETAIN model

Thank you for your attention.