



Universidade de Vigo

Using Gamification to Improve Participation in Social Learning Environments



Escola de Engenharia de Telecomunicação

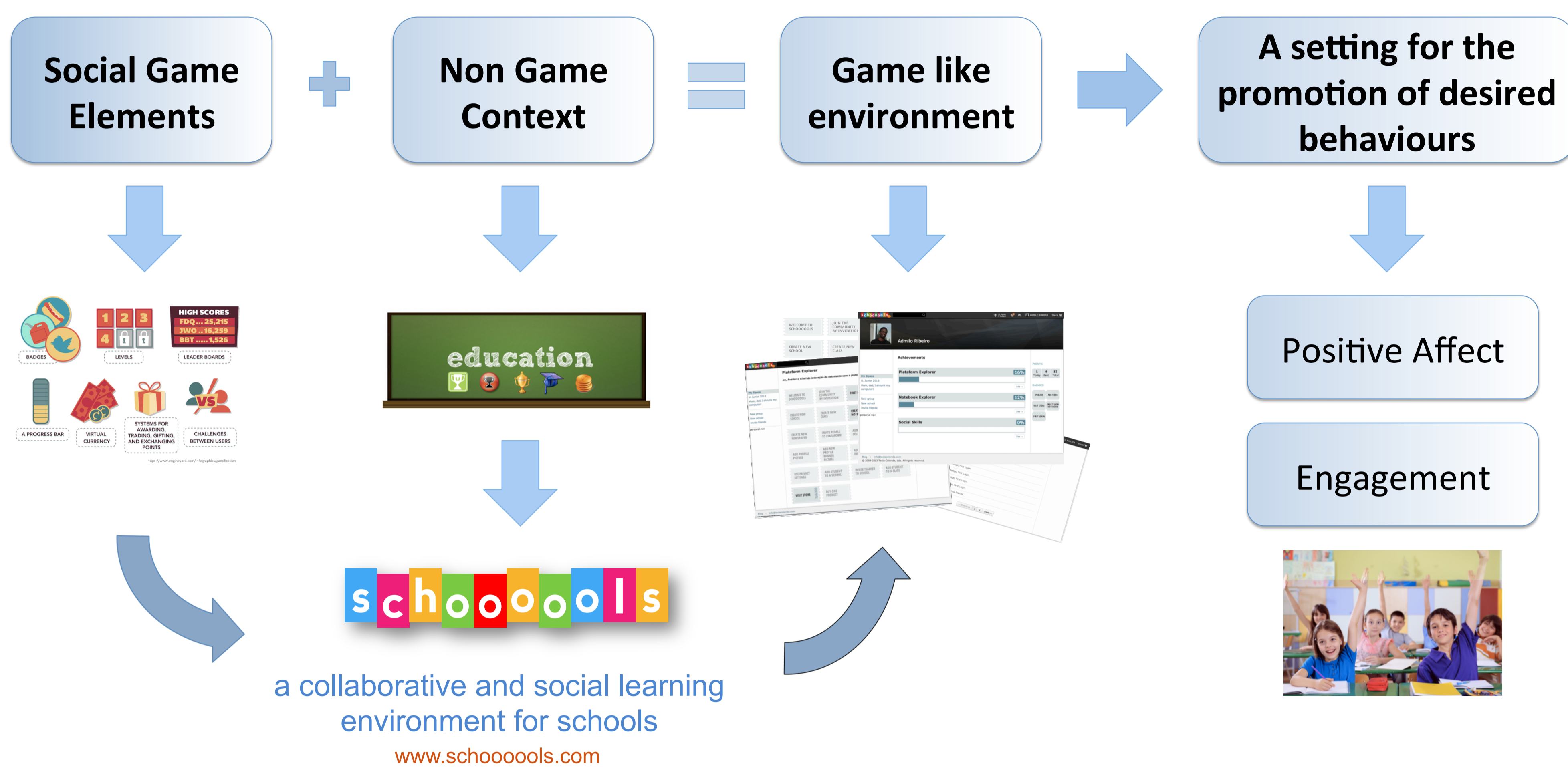


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Gamification: The use of game design elements in non-game contexts, to drive game like engagement in order to promote desired behaviors.

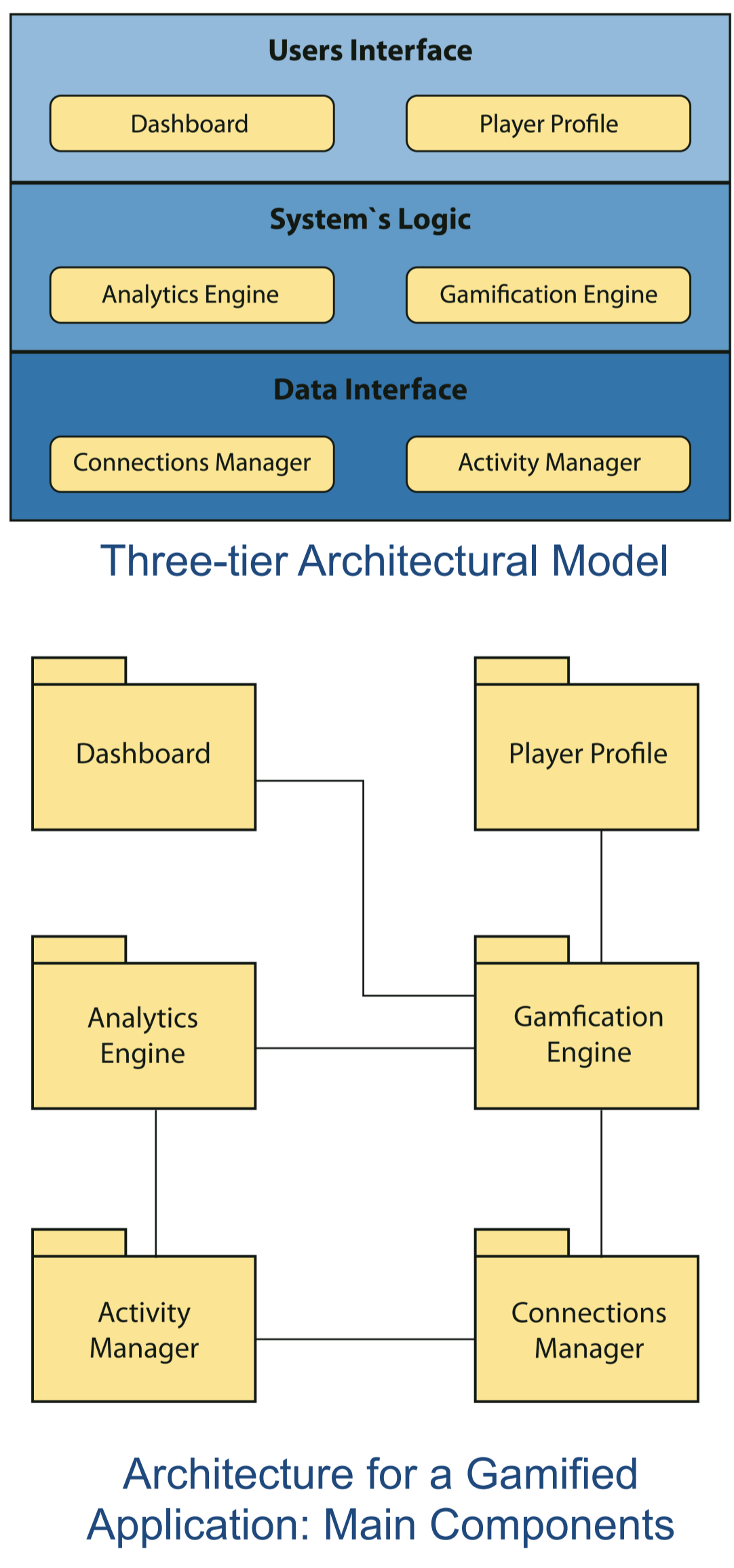
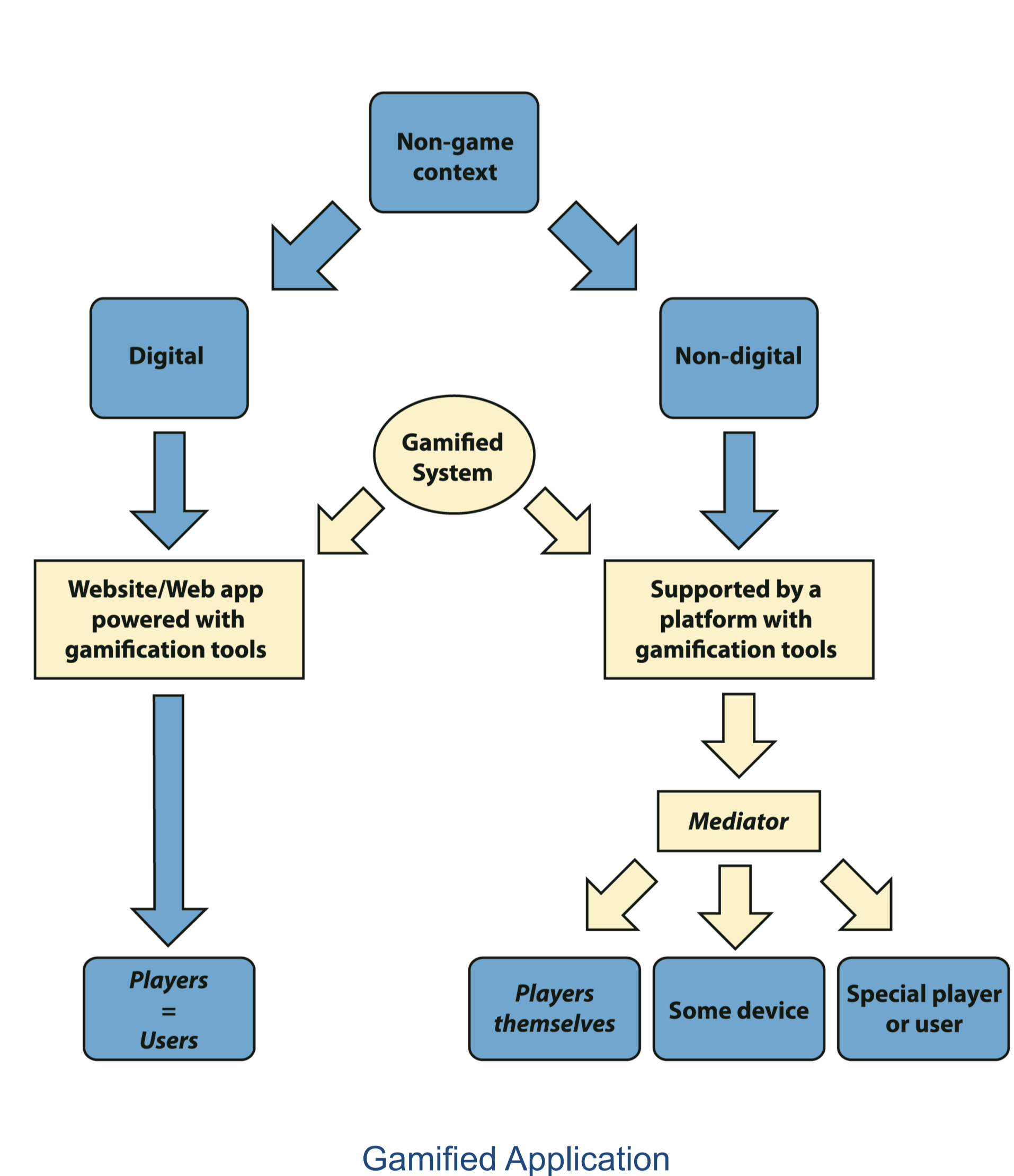


Research Questions:

- Q1: How can social gamification help educators and schools to motivate students?
- Q2: How effective is the use of social gamification in education?

Thesis Contribution:

- A proposal for a framework to develop gamified systems in educational settings;
- The framework includes a reference architecture for gamified systems and a guide to apply game elements;
- Integration of the framework in an existing social learning environment – schoooooools.com;
- Field tests to evaluate the effectiveness of the proposed framework.



	Core Concepts	Game Elements
Fun & Flow	Feedback & Rewards	Points, progress bars, badges, trophies, single player and high performing peers leaderboards
	Friends	Sharing, inviting friends, give/trade/ask for virtual goods, near performing peers leaderboards
	Gameplay	Levels, intermediate goals, clear objectives, rules, virtual economy, rewards schedule

Step	Reference Guide to Apply Gamification
1. Non-game context characterization	1.1. Context's nature: digital or non-digital 1.2. Identify target activities 1.3. Identify target behaviors 1.4. Players' profiles characterization
2. Set the system's objectives	2.1. Define the goals in relation to the target behaviors 2.2. Quantify the goals (KPIs)
3. Select game elements	3.1. Feedback and rewards 3.2. Social interaction (friends) 3.3. Gameplay 3.4. Flow and fun
4. Select meaningful data	4.1. Define the process to monitor and collect data 4.2. Define the actions to be monitored 4.3. Define the rules 4.4. Data analysis regarding systems' objectives (2.2) 4.5. Select game elements for feedback
5. Evaluate results	5.1. Compare results with the objectives 5.2. Optimize rules if needed

PhD Timeline:

- PhD Programme – Engenharia Telemática.
- Started October 2008.
- 1st year courses: "Metodologias para el Desarrollo de Servicios en la Web", "Aplicaciones Telemáticas Avanzadas", "Redes Sociales y Web 2.0", "Búsqueda de Información en Internet y Web Semántica", "Servicios Multimedia Personalizados"
- 2nd year: Supervised Research – "El E-learning en el Contexto de la Web 2.0: Estado del Arte" (supervisor: Rebeca Díaz Redondo).
- "Diploma de Estudios Avanzados" – September, 9, 2010.
- Thesis research started in September, 2010.
- Conclusion (estimated): mid 2014.

Publications:

1. Simões, J., Redondo, R., Vilas, A., Aguiar, A. (2013). Proposta de Modelo de Referência para Aplicação de Gamification em Ambientes de Aprendizagem Social. In: VIII Conferência Internacional de TIC na Educação, 2013. Braga. Atas da VIII Conferência Internacional de TIC na Educação. Braga: Centro de Competência TIC do Instituto de Educação da Universidade do Minho.
2. Simões, J., Redondo, R., Vilas, A., Aguiar, A. (2013). Using Gamification to Improve Participation in a Social Learning Environment. In: The PLE Conference 2013 Proceedings.
3. Simões, J., Aguiar, A., Redondo, R., Vilas, A. (2012). Aplicação de Elementos de Jogos numa Plataforma de Aprendizagem Social, Atas do II Congresso Internacional TIC e Educação, Instituto de Educação da Universidade de Lisboa, ISBN: 978-989-69999-8-4
4. Simões, J., Redondo, R., Vilas, A. (2012). A Social Gamification Framework for a K-6 Learning Platform, Computers in Human Behavior, ISSN 0747-5632, 10.1016/j.chb.2012.06.007.
5. Simões, J., Redondo, R., Vilas, A. (2012). A Social Gamification Framework for a K-6 Social Network, 3rd International Conference on Technology Enhanced Learning, Quality of Teaching and Education Reform, Barcelona.
6. Simões, J., Aguiar, A. (2011). Schoooooools.com: A Social and Collaborative Learning Environment for K-6, EDULEARN11 - International Conference on Education and New Learning Technologies, Barcelona.