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The City as a Learning Gamified Platform

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Introduction

- **Mobile City Guides** boom

    - Smartphones

    - Tourism experiences are changing

- The City as a place for Learning

- Include **Mobile Learning** to repurpose them in the education field

- Include **Gamification** to increase engagement

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Introduction

- A new learning approach arises from the combination of **Mobile City Guides**, **Mobile Learning** and **Gamification**

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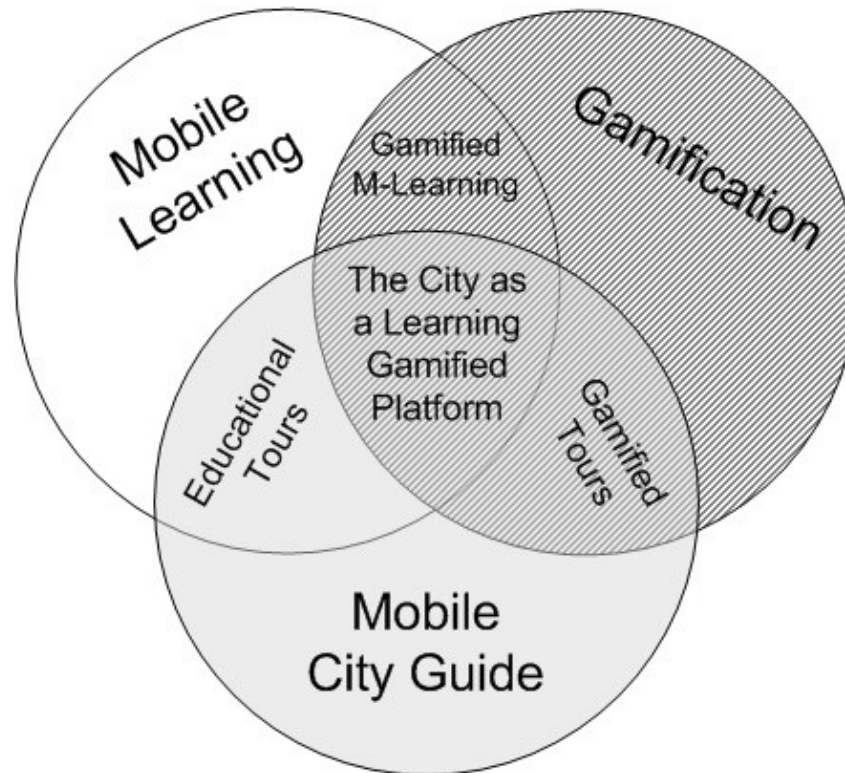
Model

- An **educational tour model** is proposed to define the new learning approach

- The model is based on the use of the city as a **Learning Gamified Platform**

- Three dimensions are considered:
    - **Tourism**, **Learning** and **Gamification**
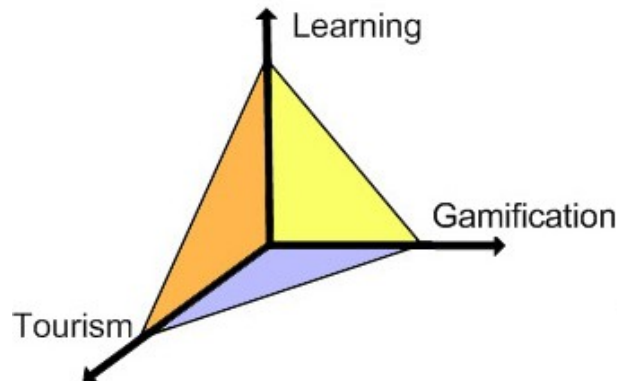
Scenario

- Grounded on the **city** as a learning environment

- Potential to provide novel learning experiences

- All learning experiences share a **mobility** component

- Activities are undertaken **outdoors**

- Use cases

    - **Formal** outdoor learning

    - **Informal** outdoor learning

Use case: Formal Outdoor Learning

- **Teachers** create **educational tours** for their **students**

    - Select **POIs** (Points of Interest)

    - Add and create learning materials and activities: *quizzes*, *videos*, *puzzle games*, *riddles*, etc.

- Students use their own smartphones and have to achieve a set of **goals**

- The achievements of the goals are based on **POIs discovery** and the **realization of learning activities**

- Learning activities are triggered when students arrive to their associated locations

- Events after accomplish an activity (e.g. reveal a new goal)

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Use case: Informal Outdoor Learning

- **Anyone** can create an **educational tour** and offer it to the community

- Same principles: goals based on POIs discovery and activities

- Each participant/player can assume the role of a **character**

- Each player has its own **mission** composed by a set of goals

- **Virtual Objects** (VOs) are scattered around the city and players can find them in selected POIs

- Collaborative goals and trade

- **Leaderboards** and **badges**

Educational Tour Model

- Based on the **requirements** derived from the use cases analysis

- An Educational Tour can be represented by three components:

  - **Tourism**, **Learning** and **Gamification**

- Components magnitude depends on:

  - Learning activities, POIs and VOs

  - Academic load

  - Game mechanics

Use Case 1:
Formal Outdoor Learning

Use Case 2:
Informal Outdoor Learning
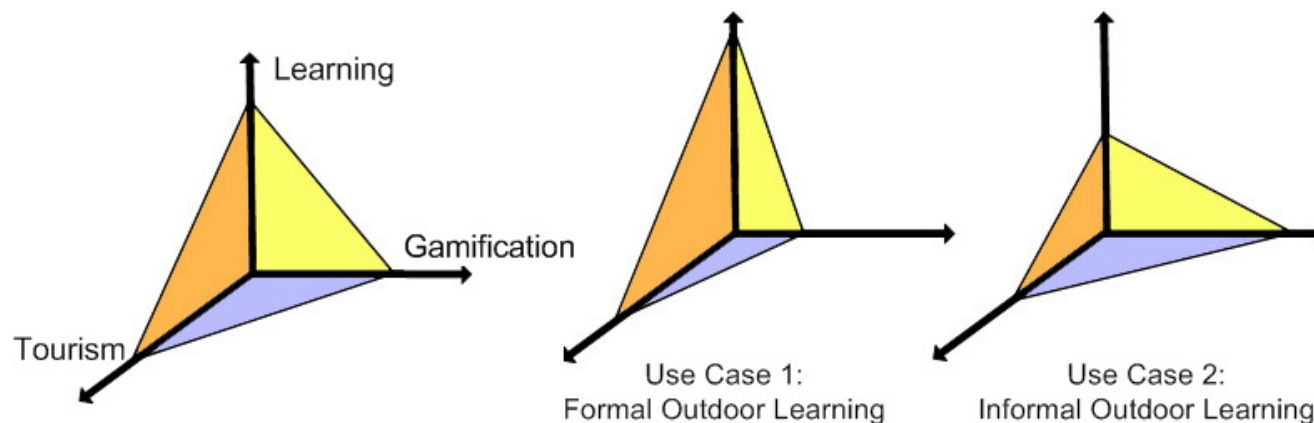
Educational Tour Model

- Educational Tour Features

  - Defined by a **standardized structure**

  - It can be created using an e-Learning Authoring Tool

  - Provided as a **web** content compliant to e-Learning standards (e.g. SCORM) and accessible from mobile devices

  - Learning activities are provided as **Learning Objects (LOs)**

  - New concept: **LPOI (Learning Point of Interest)** to associate LOs with POIs

- The **model** defines the structure of the tours

  - Descriptions, properties and relations of the components

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Educational Tour Structure
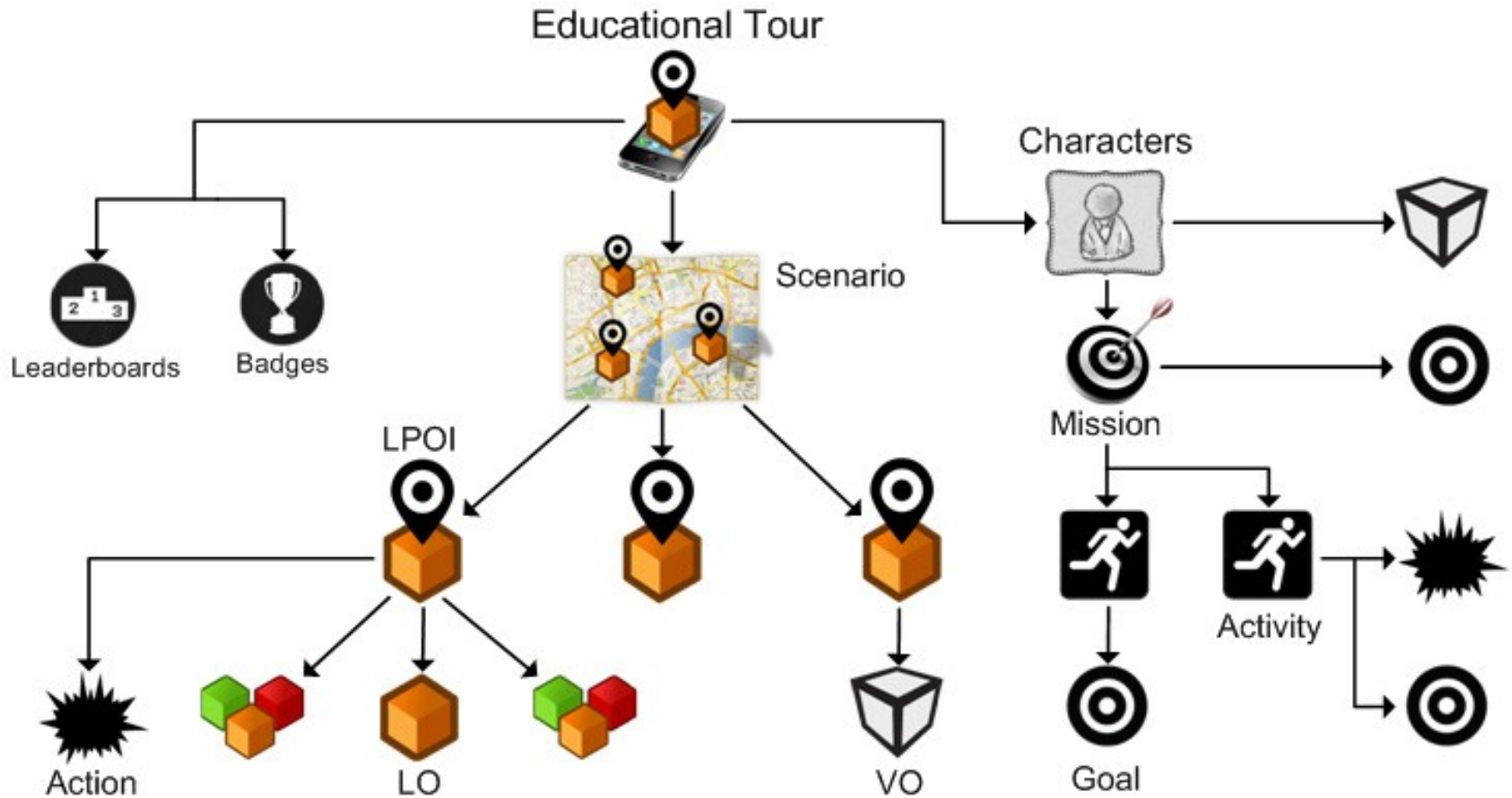
Prototype

- **Mobile application** developed as a proof of concept

- Use cloud services provided by the **FI-WARE** platform

- Provides a **set of educational tours** of the city of Barcelona

- Each tour is grounded on an historical character who will guide the user around the city, explaining different stories and curiosities

- Characters also suggest activities to accomplish

- The application meets the two use cases since it provides educational tours tailored for each of them

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Prototype screenshots

Conclusions and Future Work

- **Model** to create **educational tours** covering the main use cases of a scenario grounded on **the city as a learning gamified platform**

- The new scenario arises from the linkage of **Mobile City Guides**, **Mobile Learning** and **Gamification**

- Working **prototype** to test the theoretical model

- **Future Work**

  - Evaluate the new learning approach in the real world

  - Refining the prototype into a final product

  - Authoring tool to create educational tours

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Thank you for your attention!

Any Questions?

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