



GAME DEVELOPMENT FRAMEWORK

COMPREHENSIVE REPORT DESCRIBING THE INTRODUCTION OF GAMIFICATION IN TOURISM DESTINATIONS IN ITALY, JORDAN, LEBANON, SPAIN

PURPOSE OF THIS REPORT

The MED GAIMS project is implemented between 2019-2022, with financial support from the ENI CBC MED programme, and aims to capitalize on the trend of experiential tourism by demonstrating the use of gamification techniques for experience creation in the tourism sector. The project develops a number of pilot initiatives (games and gamified experiences at tourism sites) in 4 Mediterranean countries to raise awareness, demonstrate, promote, and build capacity for the multiplication of such initiatives. The present report aims to support these goals by presenting the steps undertaken by MED GAIMS project partners in the choice of tourism destinations and sites to be enhanced and valorized. The report will further illustrate the decision-making process in choosing types of games developed by project partners internally and those developed externally through the award of subgrants. It will consider how these can be linked to countries' tourism development strategies and illustrate how and which type of local stakeholders, both public and private, have been informed and involved in the awareness-raising actions in this first project phase.

The final result of this path is the Game Development Framework: the set of choices and considerations, the methodology used, and challenges that MED GAIMS partners have faced in the preliminary phase of game development. The GDF is part of a larger set of resources issued by the project - the gamification toolkit - which aims to support multiplication of these types of initiatives, for external stakeholders to use as a case study and methodology guide.





CONTEXT

EXPERIENTIAL TOURISM

Experiential Tourism is recognized as a growing niche market which can be described as a consequence of a global movement toward **experiential learning, whereby people create meaning through direct experience**. Within this niche, recently, games and gamification are a frequently used instrument for building tourism experiences, interpreting identity and values in an innovative way, using interaction to involve visitors and citizens. Games, and technologies used to support game visualization, can in fact offer them an amplified experience thanks to, for example, the use of augmented reality capable of changing the current skyline with the buildings that existed in the past, making the visitor interact with new itineraries, making them the protagonists of a virtual treasure hunt, revitalizing the monuments, immersing them in a 3D world of their construction, the history and much more.

Before diving into the technicalities of gamification, the project initiated with a set of activities dedicated to experiential tourism. Project partners attended a number of lectures by gamification and experience design experts, including various examples of games specifically designed for tourism and games that take place, virtually or in reality, in a variety of cultural heritage and contemporary tourism locations. This preceded the actions of design and development of the project's own games, both those developed as a pilot initiatives by each partner, and those entrusted to the winners of a call for sub-grants published by the Project.

While gaining a better understanding of the tourism sector and its general, current needs through the meetings with local stakeholders that marked the first phase of the project, the discussions were meant to focus in particular on Experiential Tourism. Partner tried to include all relevant stakeholders in a participatory decision-making and a simultaneous ideation and awareness-raising approach, to inform and to make informed decisions, including both tourism site owners and operators (generally public authorities) and game designers (generally private professionals and companies).





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In the first year of the Project, partners solidified knowledge and awareness on this tourism niche working simultaneously on game design and in organizing awareness meetings with both public and private stakeholders with the aim of:

- choosing destinations and cultural sites to which to apply gamification techniques;
- ideating, confirming and/or modifying proposed game ideas in relation to the chosen sites;
- conceiving the strategic framework for the call for subgrants published within the Project for the funding of a further 20 game ideas, aiming for complementarity with internally developed games as well as creativity and diversity;
- promoting dissemination and awareness on the use of gamification as a tool for the enhancement of heritage and tourism
- informing a large number of public and private stakeholders interested in the topic, with whom to interact with the aim of promoting new policies and support tools for the game industry.

This process, in 4 partner countries, has seen the organization of informative and consultation sessions which involved over 1000 stakeholders, including public and private actors, whose feedback directly or indirectly contributed to the improvement, confirmation or modification of the games proposed for the various sites.

The result of these actions is summarized and consolidated in the Game Development Framework, as a series of choices and considerations that were developed in the various contexts of the various countries, each comparing, considering and identifying coherent gamification solutions.





GAME DEVELOPMENT FOR TOURISM SITES – Elements and steps to consider

Each country, on the basis of the various actions taken, has developed its own strategic framework to support the development of the games.

This section, divided into main steps, illustrates the path taken by MED GAIMS partnership in design their game development framework and highlight similarities and differences between them in relation to their choices, the presence or absence of a general strategy behind the 10 games per country, as useful tool for those stakeholders which wish to apply the same logic experimented within the project

MED GAIMS hopes to establish an example of good practice for innovation in tourism and cooperation across different sectors such as heritage management, tourism services and game sector. This path can be summarized in the following steps and methodology:

1. THE LOCATIONS

The choice of destinations and sites to be gamified is the first step in the game design process. The partners were asked to identify destinations and sites of interest on which to apply gamification techniques to support tourism experience.

A **tourist destination** could be considered a city, town, or other type of geographical area that is dependent to a significant extent on revenues from tourism, or a country, state, region, city, or town which is marketed or markets itself as a place for tourists to visit. It may contain one or more tourist sites.

A **tourist site** is a place of interest where tourists visit, typically for its inherent or exhibited natural or cultural value, historical significance, natural or built beauty, offering leisure and amusement (e.g., a museum, a typical building, a culturally valuable street, an archaeological site).

Public and technical partners of each country have approached the choice of destinations and sites subject to gamification using different evaluation parameters and taking into account the general objectives of the project mentioned below:

- Increase the attractiveness of the chosen tourism destination and site
- Increase the diversification of the tourism offer at the chosen tourism destination and site, through the promotion of local and territorial assets, especially in the off-season periods
- Encourage a longer duration of stay of the visitor in the destination



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In Lebanon and Jordan, destinations and sites have been decided within those managed by the Department of Antiquities – Ministry of culture of each country, both partners in the project. The presence of these partners is crucial in terms of “ownership” and management of the tourism sites involved. In Italy and Spain, partners have involved the respective municipalities in the process, as in the case of Fondazione Alghero, they manage the Cultural Museum System but they are not the owners, in Spain both I2cat and Neapolis do not manage directly the cultural heritage of Vilanova i La geltrù, therefore an involvement of municipalities and potential site owners was necessary to identify potential sites.

Destination and sites selected are then the result of a decision process which involve partners itself and other public and private stakeholders.

MED GAIMS destinations and sites selected are listed in the table below.

COUNTRY	DESTINATIONS	SITE
LEBANON	North-Lebanon	Msaylha Castle
	Mount Lebanon	Fidar Tower
	South-Lebanon	Saida Castle
JORDAN	Ajlun - Ajlun Governorate	Tower of Aybak - Meeting hall and mosque Ajloun Castle Museum
	Um Qais- Irbid Governorate	Um Quais West Theatre
		Triconchos, Basilica and Church terrace
	ITALY	Coral Museum
		Archeological Museum
		Ancient Fortifications
		Alghero Park Reserve
SPAIN	Vilanova City Centre	Site 1.1: The Museum Víctor Balaguer
		Site 1.2: Casa Papiol
		Site 1.3: Plaça de la Vila
		Site 1.4: Railway Museum
		Site 1.5: The Old quarter
		Site 1.6: The Market
	Vilanova i la Geltrú Sea Front	Site 2.1: Espai Far
		Site 2.2: Passeig del Carme
		Site 2.3: Bunkers





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The selection of sites in each country was carried out taking into consideration the following common variables:

- the geographic location of sites, meaning the valuable position in relation to tourism attractiveness
- the level of preservation and accessibility of the sites, relevant for tourists to easily access the site and potentially play the game
- their tourist visibility in relation to the number of visitors, thus the need to enhance sites less known
- the presence or absence of other tourism services at the sites, relevant aspect in terms of collaboration/involvement of tourism stakeholders in games development
- the historical and cultural aspects which can be used as storytelling thread for games
- type of visitors and their relevance for the type of game to choose

The first difference that can be noted relates to the geographical scope of the destinations and sites: in Jordan and Lebanon, the choice was focused at a country level, identifying specific country areas to be enhanced. In Spain and Italy the destinations have been identified at local level, within a circumscribed territory corresponding to a specific urban reality, Alghero and Vilanova i La Geltrù. This difference is linked to the type of partners involved: in Lebanon and Jordan, public and technical partners have an evidently national range of action, while in Spain and Italy the partners work at a local level.

All partners focused on aspects such as the level of preservation and accessibility of the sites: these aspects are obviously relevant if the games are played at site, tourist should easily access, but also when the game, if digital, has the aim to bring people to the sites. In this respect, other interesting sites having problems of accessibility have been discarded in Lebanon and in Alghero. All sites selected could be considered as less-known sites: partners, in their choices, have discarded popular sites such as the Neptune's cave in Alghero which can be considered as a mass tourism sites or other sites, like in Jordan, which are already highlighted in other project. The aim of the MED GAIMS project is to improve reputation of less-known sites.

Other relevant aspect are the historic and cultural features connected with sites selected: partners such as Lebanon, Spain and Italy have selected sites with the aim of connecting them with a common storytelling which can be traced in their own history. These are the castle and defence theme in Lebanon, secrets and historical curiosity in Spain and the whole history of Alghero, from its foundation to the present day, represented by each sites selected.





2. GAME IDEATION AND DESIGN



The ideation phase for a gamified tourism experience should not be underestimated and can take many different approaches, either starting within a tourism site organisation, specialized game design or other related organisation, with more or less experienced staff. Two approaches were experimented by the MEDGAIMS project.

INTERNAL GAME IDEATION PHASE

Following the choice of destinations and sites, partners tackled the game design phase for 5 pilot initiatives: What kind of game? Analog or digital or both? What story do we tell? What kind of interaction is generated by the game and what information is linked to the interaction between the tourist and the site? How is the game useful in prolonging the visitor's stay in the area or helping them remember the destination even after they leave? How can the game be linked to other tourist experiences? Which type of visitor do we wish to attract? These are just some



of the questions on which the various partners have questioned themselves both through partnership meetings and through specific meetings organized with the involvement of managers of the sites selected, operators in the tourism sector, informed about the Project and involved in the brainstorming process, students and teachers in Lebanon and Jordan, historians.





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Factors that have been considered the most in game choice are the cost of development of the game and its operation and maintenance costs for the future.

Spain and Italy have focused the choice on the necessity to enhance the before – during – post experience value, meaning that games should not be played only at sites, but there could be games related to the sites that can be played at home or digitally without being into the destination with the aim of create expectations or memory of the destination.

Another interesting factor taken in account, is the opportunity to connect games with the tourism activities present around sites. This is a valuable factor with reference to the sustainability needs and the involvement of community and local activities in game flows.

In support of partners, game designers and game developers have also been involved, as internal or external expert within the project: the role of the game designer is a crucial one, as he/she has the task of reconciling the various creative instances proposed by partners in an effective logical game framework , evaluating the effectiveness and sustainability of the action in relation to the objectives to be achieved, the targets, the technology to be used, cost of the game and future operational and maintenance costs, the business model to financially sustain game operation after the end of the project.

The result of this process is the first version of the Game Design Document , a work document which provide a detailed breakdown of all the main aspects of the game. The GDD is updated each time there is an additional component or development reached.

EXTERNAL GAMES AWARDED THROUGH SUBGRANTS

External games are those developed by external professionals who have been involved into the project through a call for subgrants worth 240.000 euro.

The drafting of the call for sub-grants has involved all partners in order to guide potential applicants to present ideas consistent and coherent with the objectives of the project and the specific objectives of each destination.

The call was promoted through communication actions addressed to companies/start-ups in the sector, game designers/developers, cultural associations, citizens, etc..

In addition, each country has organized specific information seminars for those interested in participating in the call.

20 games (5 per each country) were selected by a jury of experts which included representants of each contracting authority.





3. GAME STRATEGY

As a tourism destination, or even as a site within a destination, or as a game designer you may wish to consider how an individual game can be part of a general game strategy, tourism strategy and/or theme. How does this reinforce the effectiveness of the games and their positive impact on the local economy?

In the MEDGAIMS project different strategies are applied in Italy, Spain, Jordan and Lebanon.





GAME DEVELOPMENT FRAMEWORK - ACTIVITY 3.2.2 WP3

ITALY

1. Description of Destinations and Sites

Background information

With its 44,000 inhabitants, Alghero is the 5th largest city of Sardinia. It is the island's main harbour town, home to Fertilia airport and one of its best-loved cities for the popular walkway along the port's bastions and the gorgeous natural bay that flows into the emerald sea. The shoreline is some 90 km long and known as the Coral Riviera, home to a major colony of the finest coral. Red coral is more than just a valuable local product for Alghero: it is an expression of the culture and tradition of the town, as reflected in the name. Craftsmanship and high-value business is tied to this extraordinary product. Crossroads of cultures and landing point of many populations over the centuries, in addition to the beautiful beaches, crystal clear sea and unspoiled nature preserved as Regional Park of Porto Conte, Alghero preserves an ancient history, protected by the imposing walls that still today, despite their partial demolition, embrace the city. Numerous populations and civilizations have taken turns at inhabiting this corner of land facing the Mediterranean Sea. After the great and clever Nuragic population, others such as Phoenicians, Byzantines, Romans, Pisans and Genovese have landed on these same coasts seeking new trade routes and leaving important signs of their passage in the numerous archaeological sites in the area.

Fondazione Alghero act as a main player in the cultural and touristic development of the city of Alghero. On behalf of the City Council, Fondazione manages the cultural heritage and museum system in Alghero, working closely with tourism stakeholders in order to promote an integrated cultural and touristic offer of the territory.

Thanks to MED GAIMS, Fondazione has had the opportunity to experiment new actions/products in order to tackle several structural problems which still affects a balanced development of touristic economy such as seasonality issues, audience development, increasing tourism flow in low-season.

Among the cultural sites managed by Fondazione, five of them have been selected in two destinations to be enhanced through games applications. Destinations in Alghero refers to two different parts of its territory: the urban area, represented by the historic city centre, and the natural/environmental area located in the north west area of the city, towards the end of the gulf which embraces the town. The two destinations offer different experiences of Alghero territory:

- a historic centre full of charm and history, characterised by the clear imprint of Catalan domination on the historic architecture, a centre of services, entertainment and shopping





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- the nature and marine reserve, characterised by the presence of the Porto Conte Regional Park, an area offering breathtaking natural and marine scenery, including archeological sites, beaches, trails and outdoor activities

Destinations

- 1. City Centre:** The centre of Alghero is made up of two parts: a historical part, characterised by predominantly Catalan architecture, and a modern part. The part generally considered most interesting by visitors is the historical one, characterised by narrow cobbled streets, the Catalan architecture of several religious buildings, such as the Duomo, and the presence of the main museums (the Archeological Museum and the Coral Museum) and ancient coral workshops, symbol of the city and its economy linked to the sea. The historical centre is surrounded by an imposing fortification, which has remained practically intact and which characterises a pleasant seafront walk. A sturdy and safe shelter in northern Sardinia, the fortress of Alghero represented for the Catalan/Aragonese Crown the key to communication between the Island of Sardinia and Catalonia. The entrance into the historic centre took places through two doors: Portal Reial (current Porto Terra) and Porta a Mare (current Porto Salve). Even today, in spite of partial demolitions, the walls continue to be a strong place of identity.
- 2. Natural/Marine reserve:** the area located outside the city centre is characterized by a great variety of environments of high naturalistic and historical interest. It encompasses two parks, the Porto Conte Regional Park and the Capo Caccia-Isola Piana Protected Marine Area distinguished by their great variety of settings and for their profusion of floral and faunal species which are of particular scientific interest. Inside it includes the state forest "Le Prigionette", a part of the Geo-mining Park of Sardinia, the SCI (Site of Community Importance) Capo Caccia and Punta Giglio. Here the blue of the sea and the green of the landscape draw unexpected paths between the signs of ancient and large civilization. An infinity of paths where archeology and history coexist in enchanting and uncontaminated landscapes: Domus de Janas art the Necropolis of Anghelu Ruju, Nuragic culture in the Archeological Village of Palmavera, phoenix traces, Roman villas emerge from the Mediterranean scrub.

Sites

Five sites have been selected in the 2 destinations described above and they are part of the cultural system directly managed by Fondazione Alghero. Together with the Neptune's cave (the most visited site in Sardinia), the five sites are the main 'must-see' sites in the city's cultural offerings.

Through their collections and their identity value, sites represent the whole history of Alghero, from its foundation to the present day. Both this feature and geographical location of sites contribute to foster a whole experience of the territory from the city centre to the outside area.





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City Fortification: Alghero is one of the few Italian cities that have preserved their walls and towers intact. Today its bastions, dedicated to great explorers – Columbus, Pigafetta, Magellan and Marco Polo, have become a fascinating and pleasant walk in front of the sea. Alghero was built between 1102 and 1112 by the Doria family, and its first fortifications were raised a few decades later. By late 13th century, it was increased, while during the Aragonese domination no substantial modification was made to the city, and it preserved its Genovese plant with 26 towers. Fortification is composed by seaward walls and eight 16th-century city towers plus 11 along the coast. The Porta Terra tower was the Porta Rejal, the entrance to the city when you arrive from outside. The San Giovanni tower was the “middle tower”, while the Sulis is famous for the gruesome night battle that took place between 5 and 6 May 1412: a few Alghero inhabitants opposed the troops of William III of Narbonne. It is named after a Cagliari tribune, Vincenzo Sulis, who stirred up public upheaval in the late 18th century, condemned and then sent to prison for over twenty years. The urban perimeter also includes the towers of San Giacomo, of Polveriera (the armory) and of Sant’Elmo, named after Erasmus (Elm, in Catalan), the sailor saint. Among the 11 along coast, worth to mention the Torra Nuova which today hosts the museum of the writer / pilot Antoine De Saint Exupéry and his main character, The Little Prince

City Archeological Museum: the Museum houses the oldest evidence of human habitation in the area, from the protohistoric period to the Nuragic era and Phoenician and Roman times. The exhibition focuses on three themes that are of particularly significance for Alghero and the surrounding area: the sea, local lifestyle, religion. The museum is located on Via Carlo Alberto, in the heart of the old city. It is housed in a building that was recently restored, having once been the site of a monastery complex connected to the Church of San Michele.

Coral Museum: the Museum is housed in an Art Nouveau villa in the centre of the city. It tells about this precious living organism through a fascinating journey into the marine ecosystem, analyzing the scientific aspects that characterize it and telling the story of its use which is deeply related to economic development of coral fishing and artistic craftsmanship.

Archeological Park: Crossroads of cultures and landing point of many populations over the centuries, in addition to the beautiful beaches, crystal clear sea and unspoiled nature, Alghero preserves an ancient history, which tells about numerous populations and civilizations have taken turns at inhabiting this corner of land facing the Mediterranean Sea. After the great and clever Nuragic population, others such as Phoenicians, Byzantines, Romans, Pisans and Genovese have landed on these same coasts seeking new trade routes. The archeological park located in the nature/environment area outside the city center is the evidence of such history and it is made up of the following sites: Neptune's Grotto, Roman Villa of Sant’Imbenia, Nuragic site of Sant’Imbenia, Nuragic village of Palmavera and Necropolis of Anghelu Ruju.





2. Reasons for Selecting the Destinations & Sites

There are several reasons behind the choice of the two destinations and sites and related game experiences in Alghero:

- the need to **strengthen** and **consolidate** the concept of a **single cultural and environmental system between the historic centre and the area outside it**, which in fact represent two sides of the tourist's experience: that of urban exploration and experiencing the historic and commercial city, and the open-air experience in nature. In fact, this represents a strategic objective in the tourist promotion and enhancement actions carried out by the Foundation, which recently took concrete form with the creation of the pass *Alghero ticket*, a tool that offers the possibility of visiting 12 cultural sites located in the historic centre and the park area and that brings together several key partners in the area. In this direction, the games should reinforce and constitute an additional product that enriches the experience offered by the single ticket;
- Most of the selected sites, especially the museums, despite their great historical and cultural value, **do not reflect a satisfactory and sustainable flow of presences compared to the touristic flow in Alghero**. The need to innovate the offer and combine new products capable of bringing together different audiences is evident: in this sense, the games represent a unique opportunity to experiment new actions for audience development
- **seasonality**: Alghero, like most maritime destinations, suffers from the seasonality of flows. The need to strengthen tourism in the low season is closely related to the destination's ability to plan and offer multiple experiences for different targets. The 10 game system implemented thanks to MED GAIMS constitutes a formidable opportunity to promote the territory outside the months of mass tourism (July-August), promoting a slow experience that sees the tourist as a spectator-actor of the game dynamics, able to acquire knowledge of the territory visited through unique experiences;
- **young generations and citizens**: another aspect taken into account is the need to bring young people and citizens themselves closer to cultural heritage. The former represent a strategic audience to build on school tourism and for bridging on the digital gap that characterises most cultural sites in Sardinia. Bringing them closer to the heritage through a language they are familiar with, that of games, represents a unique opportunity. As far as citizens are concerned, although the project targets tourists, we believe that it represents an opportunity to bring permanent tourists (citizens) closer to their heritage and make them frontline ambassadors with particular regards to domestic/regional tourism.





3. Game Development

Challenge

Following the choice of destinations and sites, Fondazione, like the rest of the partners, worked on the main challenge of the project related to the design and development of the 10 games. What kind of games? Analog or digital or both? What story do we tell? What kind of interaction is generated by the game and what information is linked to the interaction between the tourist and the site? How can the game be linked to other tourist experiences? Which type of visitor we wish to attract?

How will the 10 game experiences coexist and how will they be accessed by tourists?

What values, meanings, image of Alghero do we want to convey through the games?

How is the game useful in prolonging the visitor's stay in the area or helping them remember the destination even after they leave?

These are just some of the main points on which we have questioned and challenged ourselves both through partnership meetings and through specific meetings organized with the involvement of operators in the tourism and cultural sector, informed about the Project and involved in the brainstorming process, historians, game designers.

Sites and Games – Play Alghero

The design phase was certainly one of the most challenging and definitely the most important phase of the whole process.

In the case of Alghero, first of all, it required an important consideration on a **general strategy** to be implemented in the medium-long term, seizing the opportunity of MED GAIMS as a starting point of a process of innovation and digitisation of the cultural and touristic offer, aimed to evolve. Considerations which have become increasingly necessary in view of the radical change in our way of life over the last two years due the Covid-19 pandemic.

The result of this process is the aim to turn **Alghero into a Playable city** where the act of play becomes a key resource for the social, cultural and touristic growth of the city, capable of conveying, through gamified experiences at the selected sites selected, key urban values such as its history, identity, traditions and to enhance the welcoming soul of Alghero.

Therefore, games developed internally and externally (thanks to a financial contribution made available in the framework of the MED GAIMS project) have been designed to answer to these specific objectives:

- to promote new connections, physical and/or digital, between the cultural heritage and the urban space of reference



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- to create a network between cultural sites by proposing playable experiences before, during and after the visit to the city
- to innovate ways of connecting and interacting between heritage, permanent and temporary citizens.

This is how the ***Play Alghero strategy*** has been conceived: it represents the creative framework and the communicative backbone of the implemented game system. The city itself becomes the core of the storytelling behind each game experience.

Within this strategy, the main factor considered in the development of the games was to ensure a variety of experiences combining analogue and digital elements, using different platforms (video games, digital graphic novels, interactive installations and AR techniques) and active urban exploration tools such as gamebooks or role-playing modality initiatives.

In the same way, particular attention has been paid to the target audience, especially families, which is particularly strategic for Alghero, and to young people, a target that is currently far from Alghero's heritage and that we intend to approach through games.

Finally, a third factor taken in account is the economic sustainability of the games and the possibility of linking them to other products/experiences available such as the Alghero ticket card ¹promoted by Fondazione. Games will be part of the cultural offer promoted and conveyed by Alghero ticket. A pay for games option will be also considered.

Methodology

The design process has seen the involvement of several professionals in the field of game design/development and experts in the field of history and culture. The role of the game designer is a crucial one, as he/she has the task of reconciling the various creative instances proposed by Fondazione in an effective logical game framework, evaluating the effectiveness and sustainability of the action in relation to the objectives to be achieved, the targets, the technology to be used, cost of the game and future operational and maintenance costs, the business model to financially sustain game operation after the end of the project.

Main stakeholder involved is the Municipality of Alghero, and in particular the Tourism and Culture Department, which has taken part in the design process and in the final choice of the games. Several stakeholders from local cultural and tourism sector have been involved in a consultation phase.

In the development phase, some games have been developed with the participation of the group of citizens of the Municipality project "Cittadinanza attiva"² directly involved in the building process of an analogic game, the Playful itinerary. This project foreseen the installation of urban games in several spot

¹ <https://www.algheroexperience.it/en/alghero-ticket.html>

² The project, born in 2016 and promoted by the Alghero's city council, encourages volunteering and collaboration of citizens in respect of public assets and provides for a discount of 50% of municipal taxes.



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located in the city centre and other touristic sites in Alghero. Urban games recall traditional games of Alghero, traditional games in general such as hopscotch using colours, symbols and shapes connected with Alghero's culture and identity. During project implementation, the group of Active citizenship (Cittadinanza Attiva) has been directly involved as part of the

Games developed externally have been chosen following the phase of public events such as Hackathons and Creative labs in October and November 2020. Winning games have been chosen at the end of a 2-day event that incorporated one-on-one mentoring sessions with the participating teams, as well as included training sessions on diverse topics to help participants hone their ideas. At the end of the second day, teams got the opportunity to pitch their ideas in front of a pre-selected jury that evaluated the games based on pre-set evaluation criteria. The jury was composed by experts in the field of Game design and business plus representative of cultural and tourism sector in Alghero. Before the events, several meetings were held with private sector actors such as game designers and developers at regional level to explain the subgrant scheme and strategy behind Alghero Playable City.

During the development phase, subgrantees have been continuously supported during the design process in order to ensure that games were consistent with the overall strategy, avoid overlapping themes/dynamics between internal and external games and among external games themselves, and ensure a balanced distribution of experiences across the various sites involved.

Game testing sessions have been conducted during the project through open days initiatives dedicated to tourists and citizens. Input generated by this phase was crucial to polish and refine games before the final release.

Solution

The main challenge we face is to bring games to life, to communicate them, to bring the user closer to these new experiences and to assess their sustainability in the long term.

Under the Play Alghero strategy, in order to face these challenges we are providing these solutions/tools:

- **Play Alghero communication system:**
 - o an immediately identifiable dedicated visual identity designed to accompany the entire playful experience on the territory, starting from the airport
 - o a dedicated website in which potential users can find information on the game system and each game experience
 - o dedicated merchandising and digital tools to be used in social networks
- **Playful itinerary:** this is one of the 10 game experiences conceived as an itinerary of playful urban installations where history, local culture, health and STEAM get mixed connecting the city and its tangible and intangible heritage. The itinerary has two dimensions: a mainly tangible





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one, set in the city through the game stations. A second one, intangible recalling elements of memory (the traditional games) and symbols of local culture.

The itinerary also has a dual function: on the one hand, it is purely recreational as part of the ten game experiences available, and on the other it constitutes a communicative backbone, immediately tangible, that communicates the entire system and the message that you can experience Alghero and play with the city. Located in different spots around the city, it connects the different cultural sites selected into the project with other special touristic places of the city, increasing the overall impact of the initiative.





GAME DEVELOPMENT FRAMEWORK - ACTIVITY 3.2.2 WP3

SPAIN

1. Description of Destinations and Sites

Three sites in two different destinations were selected for the development of new interactive experiences that would be offered to tourists and locals alike using analog and digital games.

The destinations and sites are as such:

Destinations

In Spain the destinations are understood as two different aspects of the same city: Vilanova i la Geltrú. Vilanova i la Geltrú is a city 40 km, south of Barcelona, and very close to a tourist highlight destination as Sitges that takes the main tourist flows of the area. That's why Vilanova is a secondary tourist destination, mainly living from the proximity of Barcelona, and some local services.

The same city has two very clear areas that can be defined as different tourist destinations.

- 1. City Center:** The city center consists of all the streets surrounding the main square and the Geltrú quarter, the original foundation of the city. Experienced its growth during the last of the XVIIIth Century with the commercial routes with America; the traders were known as "indianos". The "Indians" of Vilanova in the 18th century not only built squares, they also provided the city with the money needed to board the industrial train, and never better said: Vilanova was a pioneering city in the railway industry, and large and important factories were later built by the sea. But above all, this economic boom meant a great investment in culture, building museums such as the beautiful Víctor Balaguer Museum Library, and theaters and recreation rooms such as the Teatre Principal, the Sala, the Cinema Bosc or the Center Artesà, large houses of culture. Renaissance style such as Casa Papiol, Casa Renard or Can Pahissa, public buildings such as the Municipal Market or the Joan Oliva library, stately farmhouses such as the Masia d'En Cabanyes, and much more.

Many of these buildings are located on the Rambla Principal, the longest straight boulevard in Catalonia.

Tourists in this area are not widely represented and its more a local area.

- 2. Sea Front:** The Sea Front is highly different from the City Center, there we can mainly find, the beaches, the fishing harbour and restaurants that live mainly during summer time. The sea district is popularly known as Baix-a-mar. King Peter III granted loading and unloading privileges





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to the beaches of Vilanova in 1366, but the transformation came in the s. XVIII with the authorization of Charles III to establish trade routes with America. The beginning of Havana Xica. In the village of Adarró we find the remains of an Iberian village of the Cossetan ethnic group and also of a Roman village located within the territory of Tarragonense. The sculpture Pasífae, the work of the Vilanova sculptor Òscar Estruga, recreates the Hellenic myth of the minotaur. In the residential district of Ribes Roges, with a series of modernist houses, the Blue Tower, a 19th century defense tower that the artist Josep Guinovart converted into a space of homage to the people of the sea. The Passeig del Carme, one of the city's leisure centers with terraces and restaurants, the Ribes Roges Park and the marina. At the east, we find the most marine sector of the town, with the Casa del Mar, the old Pòsit de Pescadors, now the Civic Center of the Sea, and Cal Mè de la Fassina, a typical fisherman's house with a large roofed porch. The fishing pier where you can see the arrival of the boats around 8 in the morning and 3 in the afternoon. The Espai Far, located in the Sant Cristòfol Lighthouse, is a museum that shows the rich maritime heritage of Vilanova i la Geltrú.

The main tourists that visit Vilanova are in this area but for sun and beach purposes.

Sites

The three selected sites are the highlights of each of the destinations, so the need of the project in Spain was to make tourists visit the whole city instead of focusing only in one of the sites. If the whole city, understood as a big destination, has the benefit of incoming tourists, the whole economy of the local businesses will be increased.

Museu Víctor Balaguer:

The Víctor Balaguer Museum Library, founded in 1884 by the writer and politician Víctor Balaguer, is one of the oldest and most unique museums in Catalonia, built specifically for this purpose. In its rooms we find works by painters such as Santiago Rusiñol, Ramon Casas, Joaquim Mir, Xavier Nogués and Ramón Martí Alsina, among others, who offer an exceptional journey through Catalan art, from Romanticism to Noucentisme. Also noteworthy is the important legacy of painting and sculpture of the 20th century, which has the largest collection of informal art in Catalonia. The painting section is completed with the permanent exhibition of twenty Spanish and European Baroque oils from the historical deposit of the Museo del Prado, which contains paintings by EL Greco, Ribera, Goya, Rubens and Murillo. Last but not least, the ethnographic collections include pieces from the Philippines, Egypt, China and Japan, as well as a sample of pre-Columbian art. Of particular note is the Egyptian collection, the first to be formed in Catalonia, in which there is a child mummy, one of the only 5 that are currently preserved in Catalan museums. Also noteworthy is its library, one of the most important in the 19th century. In 2019 it was declared a Museum of National Interest by the Generalitat de Catalunya.





Casa Papiol:

Can Papiol, located in the historic center of the city, is a house-museum that evokes the daily life of a wealthy family of the nineteenth century through the atmosphere of their rooms, decorated with furniture and ornaments of the time. Francesc de Papiol i Padró, lawyer and landowner, and deputy for Catalonia in the Cortes de Cádiz in 1812, had it built at the end of the 18th century. When he died without issue, the house became the property of the Torrents family. It opened as a museum in 1961. The house retains its original structure, layout and decoration. The exterior follows the austere canon of the time, with a neoclassical facade with painted architectural elements. The most sumptuous part of the house is the main floor where the music room, the billiard room and the large ballroom stand out, as well as the bedrooms or the chapel. The visit also allows you to get to know the life of the service, with spaces such as the kitchen, the pantry or the cellar. Lastly, we must mention the splendid garden, with a fully romantic design, where the carriages and bicycles of the time are currently located.

Espai Far

The Espai Far is a museum facility dedicated to conserving and publicizing the valuable maritime heritage of Vilanova i la Geltrú. A museum where you can get excited about the stories of seafarers, discover seafaring curiosities, recover old images of the Vilanova beach, and where you can also enjoy the views of the Mediterranean Sea from the gardens.

Located in the lighthouse of Sant Cristòfol, it hosts three permanent exhibition spaces:

- Vilanova i la Geltrú Sea Museum- Installed in the old lighthouse keeper's house. It shows us objects related to the world of fishing and the maritime tradition of Vilanova.
- Víctor Rojas space - This space is home to the centenary lifeboat Víctor Rojas, built in 1916.
- Museum of Maritime Curiosities Roig Toqués- Shows the collection of objects related to the sea that Francesc Roig Toqués (1921-2008) treasured throughout his life: ship's ingenuity, sands from all over the world, fish, naval models among other curiosities. He was the one who trained the famous Juanita Tent, a small tent in which he taught to drink in a jug and eat a teaspoon.

2. Reasons for Selecting the Destinations & Sites

The two destinations in the same city were selected because each of them had a very singular personality and because of this the attraction that held in locals and tourists was different. As in the city center is where the main life of the day to day is going on, the sea front is more currently visited only in summer so it gives a high seasonality, one of the endemic problems of the mediterranean tourist destinations.





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The territorial connection of Neapolis with the city council, the heritage sites, and the tourist information was an opportunity to create a highly real impact intervention in the territory. Also the need of providing synergies between two different destinations but with the same common groundplay was the reason for choosing.

The good connection with Barcelona, the airport and the rest of land network connections provides Vilanova i la Geltrú with the chance to receive visitors, national and international. But also the fact that an European capital like Barcelona is 40 km away, and Sitges, one of the most important tourist destinations in Spain, was the perfect testing ground for the gamification project. The shadows are big around Vilanova i la Geltrú.

3. Game Development

Challenge

The challenge we are facing is how to effectively implement 10 gamified experiences in a tourist destination.

Looking at it a little more closely and even from a global perspective, it can be divided into two:

Coexistence of experiences: We are facing a case in which 10 gamified experiences will be implemented effectively in the same physical environment. How are they going to live among them? What can each of them contribute individually and as a whole? Can a relationship between experiences be proposed in such a way that a single experience divided into 10 is generated?

User journey: This challenge is derived from the previous challenge. In the event that we consider generating a single global experience integrated by the rest of the experiences... How is the user going to experience it? How will the user understand the global concept, interact with it and be able to enjoy it?

Methodology - Agency of Secrets

Diverse stakeholders from Vilanova i la Geltrú City Council were involved in the very first moment, creating a “first ring” of stake-holders, that worked as decision-makers for the in-house games and also as communication bridges with other statements of the city council.

Other stakeholders included owners of tourism sites, managers/operators of tourism sites, technical game developers, creative game developers, and historical experts.

The 3 stages previous to start the ideation process where:



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- Objectives: determine the objectives of the project in the destinations.
- Target: define the target users creating a “buyer persona” profile.
- Resource analysis: Check the availability of resources in terms of locations and site management

Conducting tests with real users to know its preferences at the time of interacting with the sites and using the Situated Play Design, also sharing the results with stakeholders to confirm the availability of the experiences and adjusting them.

As for the subgrant games, two Hackathons and Creative Labs were planned and executed to select 5 gamified experiences to be developed in Lebanon. The Hackathons and Creative Labs targeted game designers and had them propose innovative, original, and creative ideas, under the theme of discovery and gamified experiences. The Hackathons were a 2-day event that incorporated one-on-one mentoring sessions with the participating teams, as well as included training sessions on diverse topics to help participants hone their ideas. At the end of the second day, teams got the opportunity to pitch their ideas in front of a pre-selected jury that evaluated the games based on pre-set evaluation criteria. The jury was composed of individuals from different backgrounds and experiences so as to have diverse opinions brought to the table.

After the sub-grantees selection and for assuring the consistency of the overall experience some sessions with the teams to confirm the right direction of contents, mechanics, art and platforms usage. For conducting these sessions the Creative Lab methodology was used.

Solution

To deal with the above challenges, just as we have two connected challenges, in this case we have three solutions. On the one hand a strategic solution and on the other an effective solution for user interaction with the overall experience; this second is divided into a transmedia campaign and a mobile application. Both solutions are presented below, which, like the case of the challenges, are connected.

Game Ecosystem: The Game Ecosystem is a theoretical concept created expressly for the execution of this project and which consists of the analysis and design of each one of the experiences depending on its function within the global collective experience.

The Agency of Secrets: The Agency of Secrets is a transmedia campaign that generates a powerful global storytelling that allows all experiences to be brought together under the same narrative umbrella.

Agency of Secrets App: One of the games, and the practical solution with which the user will interact. A mobile application that will serve as manager of all the experiences at the same time that will allow the user to move around the destination, unlock content and have constant feedback on its evolution throughout the global.





GAME DEVELOPMENT FRAMEWORK - ACTIVITY 3.2.2 WP3

Jordan

1. Description of Destinations and Sites

1- Umm Qais

Umm Qais situated 110 km north of Amman occupying an area of 1554 km² at the strategic location of Gadara. The Yarmouk river is located at its northern side comprising the borders with neighbouring Syria, while the forested hills of Ajloun stretches at its southern borders. At its eastern side lies the Horan plateau with Irbid city in its middle, and lastly to the west it overlooks the evergreen Jordan valley. Umm-Qais is distinguished by various relieving and fascinating natural scenes with a beautiful weather, which combines perfect elements of environmental, historical, religious, and therapeutic tourism experience. These set of elements gives the site an opportunity for new types of tourism such as Eco-tourism, Hiking, Biking, and sightseeing. On top of that, it is qualified for receiving and hosting the increasing number of tourists.

Today's site of Umm-Qais not only represents the integration of natural and human forces, but also a combination of stratigraphy of different number of historic periods; Roman, Byzantine, Islamic and Ottoman. The Greeks were the first to marvel at breath-taking view and established their acropolis, later Roman Byzantine, and ottomans would follow, leaving their own marks on this site. Therefore, it should not be surprising that contemporary visible features generally comprise the most recent layer. The modern town of Umm-Qais is the site of ancient Greco-Roman town of Gadara one of the cities of the Decapolis. In such a dynamic system, there is a continuing element of growth, modification, and development. While any historic destination derives its primary significance from a particular historic period, alterations or additions may have achieved a significance of their own.

The Greco-Roman remains are of great importance in the city, from the fact that the remaining parts of this period are so interesting and show the main features of an integrated Roman city in terms of city planning, monuments, and artistic works, as well as, its distinctive type of basalt stone. The Byzantine part of the city is also dominant from the octagonal church at the side of the Cardo Street which is astonishing in its style and the dark basalt stone.





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Sites:**a. Roman Theatres**

Umm Qais has two roman theatres. A large portion of the western roman theatre has vaulted passageway supporting its rows of seats. These seats were built of hard basalt stones with a row of elaborately carved seats for dignitaries stand near the orchestra. At the centre was a large white marble statue of Tyche, Goddess of fortune and of the city, which is now displayed at local museum.

b. The Basilica

The Basilica Terrace (the Octagonal church and its Atrium): The Five Aisled church: The basilica terrace is composed of two coherent parts, the basilica octagonal church to the south, and its rectangular atrium to the north. The early sixth century octagonal church was formed by re-used basalt columns and capitals; the atrium was also formed by re-used limestone columns and capitals.

c. Roman Street

The Roman Street System in Umm- Qais consists in Colonnaded Decumanus Maximus: Cardo Street and its front vaulted shops: The Decumanus Maximus is the paved and colonnaded long street in ancient Umm-Qais; it is the main thoroughfare, which divided Gadara into two areas, small northern part, and big southern part. The Decumanus Maximus is oriented into east- west direction with 1,7 km length, and was colonnaded from both sides by limestone columns, and paved with basalt slabs.

d. Ottoman village

The Ottoman village is the most interesting part of the city. Umm-Qais, on the road from Damascus to Tiberias and hence to the Palestinian seaports, overlooking Lake Tiberias and the Golan Heights, attracted the people during the Ottoman period to construct the village.

2- Ajloun Castle

Sites:

Ajloun area displays a rich diversity of natural, cultural, historical and archaeological resources all of which represent heritage assets of the area. However, almost all of the arranged tours to Ajloun are a few hours to one-day duration at most; mainly to visit the most famous historical and natural sites. Thus, the local community does not get the proper benefits of touristic revenue. Moreover, tourists spend less than a day in the region despite the richness of cultural, natural and historical heritage sites of Ajloun and they may find themselves forced to visit places might not be interesting to them.





a. Castle

Ajloun Castle is a 12th Century fortress that was built under the rule of the Sultan and military leader Saladin. The castle is set on top of Mount 'Auf and provides visitors with astonishing views of the Jordan Valley and surrounding areas. Over the years the castle has undergone many rebuilds and although much of the original features no longer exist, there are many chambers, carvings, and towers to keep both adults and children interested. Ajloun Castle is approximately 50 kilometers away from the city of Amman which takes around one and a half hours drive by car. The city of Jerash is just a 40 minute journey away via a picturesque route of olive groves and woodland. The castle was constructed between 1184 and 1188 by the nephew of the Muslim military leader Saladin. Saladin fought against the Christian military during the Crusades in the 12th Century. The strategic location of the castle enabled Saladin's army to look out across the Jordan Valley for possible invasions.

b. Museum

a small museum which contains historical information about the castle and a number of artefacts. The museum contains a collection of mosaics and interesting medieval weaponry.

c. Tower of Aybak - Meeting hall and mosque

The L-shaped Tower 7 or Tower of Aybak (left from the entrance) was added to the building at its southeast corner for extra fortification. It is named after the governor of the castle, as stated in an Arabic inscription on one of the tower stone blocks: "In the name of God. This blessed tower was built by Aybak Ibn Abdullah, Master of the Greatest House, in the month of the Hijri year 611" (1214-15 AD). Each of the three levels of the tower had a different function.

2. Reasons for Selecting the Destinations & Sites

With the availability of several historical layers and buildings, tourists need an experience different from a standard sightseeing or museum-going itinerary. Such experience should provide better understanding of the relation among historical layers, time synchronization, the origin of things, people, and civilizations. Revelation of such complicated relations requires deep involvement and full engagement of tourists with the site and its particulars. In both Umm Qais and Ajloun, there is a need for the creation of authentic experiences for the tourists by deploying innovative technologies supporting a feeling of connection to a place rather than a simple visible image.

Technologies and creativity can come together in gamification product that would support historical sites with lower popularity with an educational, enjoyable, and ever lasting memory for its tourists. Gamification in tourism would encourage tourists to explore even more places in a given tourist destination. Moreover, it encourages longer visits, revisits, with higher tendency to communicate the unique experience. Tourists would have interesting experience that they would love to share with family and friends and even to communities on social media. Features of the developed games should have





features that facilitates the communication of tourists' memories. Gamification help to revolutionize the cultural and historic site experience, by gamifying it with both physical and virtual applications in Umm Qais and Ajloun.

2. Game Development

Methodology

a. Stakeholders

Stakeholders from JUST, public authorities (DOA – Department of Antiquities), and private sector were working together to develop internal and external games. Both analogue and digital games were developed through the joint collaboration among all stakeholders by having many meeting and brainstorming sessions to produce a variety of creative ideas.

b. Awareness

Awareness campaigns in both destinations, Umm Qais and Ajloun, were conducted to increase public awareness and to market the idea of gamification in historical sites. Many lectures and public events were implemented and brochures designed for promoting the idea and encourage of the involvement of more parties to join the effort. We targeted managers of historical sites, tour operators, students, gamers, and technical game developers.

c. Hackatons and Creative labs

Two main hackathons were conducted in the months of October and November 2020. The objective was to invite more stakeholders, game developers and companies to participate in creating more gamification ideas in historical sites. The process included training sessions, team work, pitching, judging and evaluation and finally announcement of winners of sub grants

d. Sub grants

Five Sub grantees groups were selected to develop three digital games and two analogues. The winners had direct and continuous technical and financial support from JUST team. Monitoring tools for both technical and financial issues were developed including reporting, presentation, GDD, PoC, videos and development stages to ensure that games were developed in consistence with the overall strategy of MED GAIMS.

e. Game Testing

Game testing and monitoring days have been conducted during the project for both internal and external games. Firstly, open days for local community and tourist to ensure development of games that are based on users' feedback and to avoid any technical or usage issues. Secondly, open days for MED GAIMS partners in order to exchange the ideas among all partners and to ensure that all games are consistent





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with MED GAISM objectives and strategy. The testing survey and questionnaire results from both events were analyzed and the feedback was used to improve the final versions of the games.

Strategy

The gamification strategy for historical sites in Jordan was based on two main aspects. The first aspect is to enhance the understanding of archaeological sites through experiential and entertaining process. The second aspect is the deployment of the idea of gamification to enhance the tourism in less known destinations.





GAME DEVELOPMENT FRAMEWORK - ACTIVITY 3.2.2 WP3

LEBANON

1. Description of Destinations and Sites

Three sites in three different destinations were selected for the development of new interactive experiences that would be offered to tourists and locals alike using analog and digital games.

The destinations and sites are as such:

1. Mseilha Castle, North Lebanon:

Located at the bottom of the newly built dam in Batroun, the Castle of Mseilha controls the valley where the river of Nahr Al Jozz flows. The building thus made it possible to monitor this strategic place between North Lebanon and the city of Tripoli and Batroun then Byblos and Beirut and to block access to it with a reduced garrison. The first structures must have existed since Antiquity, but they have disappeared with the exception of certain blocks of stone that have been reused. However, during Antiquity, its importance was minor as crossing points made it possible to bypass it via Ras el Chékaa. However, the collapse of part of the cliff during the famous 551 Earthquake after JC interrupted this axis. The first mention of the castle of Mseilha occurred in 1106. This first construction is attributed to the constable of Tripoli, Guillaume de Farabel. In the 13th century, the Mamelukes regained control of the Castle of Mseilha, then it was the Ottomans in the 16th century, just like they did for Smar Jbeil Castle. However, its current structure is more recent: The current building was refurbished by Emir Fakhr-al-Din II, around 1624 during his revolt against the Sublime Porte. The Castle of Mseilha, however, retains architectural elements typical of the Crusaders period, such as shooting slots.

2. Fidar Tower, Mount Lebanon:

Watchtower located on the coast near Nahr el Fidar and therefore Byblos, from which it takes its name, also called Burj Mouheish, Burj el Fidar is a remarkably preserved construction of a set of towers built in the time of the Crusaders distributed along the coasts from the South of Lebanon to North Lebanon. Located on the side of a cliff about ten meters from sea level, this tower was recently restored by the Directorate General of Antiquities (DGA). The masons at the origin of this defensive structure would have been probably the same as those of the crossed castle or the cathedral St Jean-Marc de Byblos. As proof, some architectural features, resembling those of the baptistery of the religious building and sharing many characteristics, date from the 12th century. According to other sources, the tower dates from the 14th century and is part of a group set up by the Mamelukes and not by the Crusaders. The interior consists of 2 levels with characteristics of local architecture from the 12th century. It opens on its eastern facade via





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a low door formed by a single block of stone. On its sides, some loop-holes remind us that the building was built for defensive purposes, and not a place of life. Finally, from its rooftop, one can have a panoramic view from Beirut in the south to Aamchit in the north, which was ideal for the guards who used to communicate from a distance, particularly by using lights in the event of an alert.

3. Saida Sea Castle, South Lebanon

In the 13th century (specifically between the years 1227 and 1228), the Crusaders came and built a castle on a small island dominating the sea. It is said that this island was formerly the site of a Phoenician temple. Intending to defend Sidon's harbor, the sea castle (also known as the sea fortress) is one of the most prominent archaeological sites in the city. It is connected to the mainland by a narrow but fortified 80 m long causeway built on nine arches, that was later added by the Arabs to provide access to it. To protect against the swelling of the sea, the Sidonians built walls along the natural rocky reef. The typical architecture of the Crusaders, however, was mostly represented by the Roman columns that were used in the outer walls to reinforce horizontally. Primarily, the sea castle consists of two chambers, one of those chambers in the West tower, which is best preserved today. Sadly, the East tower is not very well preserved. It was constructed in two phases where the lower part was built by the Crusaders and the upper one by the Mamluks. The two towers are connected by a wall. To the right of the porch lies a small domed mosque whose origin is probably Ottoman. Known as "Masjid Qalaat el Bahr," the mosque is a simple cubic form topped by a central dome. However, the most important element of the dome is the cantilevered part that indicates the correct direction of prayer. Finally, a staircase connects up to the roof, which offers, in turn, great vistas of the fishing harbor and the old part of the city. Unfortunately, the sea fortress was destroyed by the Mamluks in 1291, when they took over the city from the Crusaders and was later on renovated by Prince Fakhreddine in the 17th century. When the water is calm, one can detect the remains of the rose-granite columns, recovered from Roman buildings, sinking in the shallow seafloor. Additionally, around the fortress, statues, cisterns, and structures of walls, columns, and stairways buried under the sea show evidence of the Old Phoenician city.

2. Reasons for Selecting the Destinations & Sites

Three destinations were selected: North Lebanon, Mount Lebanon, and South Lebanon. The various destinations were selected based on geographic diversity, proximity, and accessibility. When it comes to geographic diversity, the goal was to have the gamification initiative not centralized in one location, but instead have a greater reach. As for proximity, all three of the destinations are more or less close to Lebanon's capital, Beirut. If an individual is transporting from Beirut, it would take a maximum of 1 hour to reach the furthest destination. Lastly, accessibility; all destinations are accessible using public and private transportation.

After multiple discussions with the DGA, the three sites- Mseilha Castle, Fidar Tower, and Saida Sea Castle- were chosen for gamification. The selection of the sites was based on popularity, the number of visitors,





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history, and the state of the sites. When it comes to touristic sites in Lebanon, some sites are widely popular among locals as well as tourists. Thus, when selecting sites for gamification, those chosen were made sure to be not as popular as some of the mainstream ones. Moreover, data provided by the DGA regarding the number of visitors per year helped in selecting sites that had low influx of visitors and needed exposure. Also, even though the selected tourist sites were visited throughout the year, the history and information about them are not widely known. Furthermore, these sites do not have tour guides available on the premise, thus visitors do not usually get rich and in-depth knowledge about the history and architecture. Finally, the selected sites had to be restored, preserved, and in good condition so that visitors can walk safely around the castle and its surrounding areas.

It is worth noting that AUB and the DGA discussed other tourist sites which ended up being discarded. These include Beaufort Castle in Nabatieh located in the Far South of Lebanon, Umayyad Ruins in Anjar in Bekaa, and Crusader Castle in Menjez in the Far North of Lebanon. These sites were later on abandoned because they are located too far away from the capital and coast. Moreover, the sites were difficult to reach using public transportation, making them not as accessible to the public as they should be.

3. Game Development

Sites and Games

When it comes to the conceptualization and the development of the gamified ideas, multiple factors were taken into consideration. Key factors were chosen to help narrow down the ideas and create a compass for the brainstorming of the gamified experiences. Important factors included: physical characteristics of the sites, type of visitors, visitor's nationality, cost of game development, cost of operation and maintenance, and linking the games to local businesses.

Physical site characteristics encompassed whether the site was indoors/outdoors, the infrastructure of the touristic site, access to wifi, security of the site, etc. When it comes to the Mseilha Castle, the characteristics included the architecture of the site, the surrounding outdoor fields, the river nearby, and the mill located behind the castle. As for the Fidar tower, the size of the building along with its interior design and wall structure were taken into consideration. Lastly, for Sidon Sea Castle, the castle's fortification characteristic, and its unique location near the sea were the main factors to consider when developing gamified experience.

A specific audience was pre-defined when brainstorming for games. The gamified experiences were agreed to be targeted towards families, young adults, and groups. As for the nationality of the visitors, Lebanon has always been famous for the widespread use of three languages among its people (Arabic, English, and French). Thus, the developed games would have those languages incorporated making them suitable for diverse nationalities.





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When choosing game ideas, it was important to take into consideration the costs that would mount up to have them achievable. Three types of costs were considered, 1) cost of game development which included the cost of equipment and human resources, 2) cost to maintain hardware, software, costumes, and other physical components, and 3) cost to operate the games, including human resources (if any).

The last factor considered when choosing games was the ability to link them to local businesses in the future. This would widen the spread of gamification and have a bigger impact. This was mainly aimed for the games in Sidon Sea Castle as the site location makes it possible to expand gamified experiences to incorporate the local market nearby.

Methodology

Diverse stakeholders from AUB and DGA were involved in the decision-making for the in-house games. Stakeholders included owners of tourism sites, managers/operators of tourism sites, technical game developers, creative game developers, and historical experts. Conducting group brainstorming sessions and having diversity in stakeholders (age, gender, the background of expertise, etc.) among members, helped in having a variety of ideas, allowed the piggyback of ideas, and boosted creativity.

Multiple ideation sessions were conducted which resulted in a wide list of ideas for gamification experiences. The ideas were ranked based on favorability and those that ranked the highest were later on further discussed, developed, and expanded upon.

As for the subgrant games, two Hackathons and Creative Labs were planned and executed to select 5 gamified experiences to be developed in Lebanon. The Hackathons and Creative Labs targeted game designers and had them propose innovative, original, and creative ideas, under the theme of discovery and gamified experiences. The Hackathons were a 2-day event that incorporated one-on-one mentoring sessions with the participating teams, as well as included training sessions on diverse topics to help participants hone their ideas. At the end of the second day, teams got the opportunity to pitch their ideas in front of a pre-selected jury that evaluated the games based on pre-set evaluation criteria. The jury was composed of individuals from different backgrounds and experiences so as to have diverse opinions brought to the table.

Strategy

The strategy for gamification in Lebanon was centered around mixing history with gamification and targeting historical castles. All sites were castles or towers and had historical significance. For the actual development of the games, the plan of action was to encourage individualized development of games without a unified theme. The overall aim was to create diverse experiences and not be restricted with limiting themes or scenarios. The strategy was applied across both, in-house and sub-grant games.

