GERMANY & LUXEMBURG

Implementing cooperation projects

Location
Multiple

Programming period
2014 – 2020

Priority
P6 – Social inclusion and economic development

Measure
M19 – Support for LEADER local development (CLLD)

Funding (EUR)
Total budget 1 219 775
EAFRD 914 831
National/regional 304 944

Project duration
2016 – 2019

Project promoter
Lead partner: LAG Hunsrück

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Website
www.lag-hunsrueck.de/projekte/aktuell/d-antike-realitaet-mobil-erleben-1204594242

Vsualizing how today's archeological sites and antique remains looked in ancient times using a smartphone application.

Summary

In order to visualize how today's archeological sites and antique remains looked like during Roman and Celtic times, a new smartphone application will offer visitors an new type of experience to connect with the past. More than 105 archeological sites - predominantly in Rhineland-Palatinate but also in Luxembourg - are to be registered in the app by 2019. Thanks to the Augmented Reality technique, the visually reconstructed sites are integrated into the actual landscape and surroundings.

The ARmob cooperation project involves six Rhineland-Palatinate LAGs and three Luxembourg LAGs and is carried out with the technical support of the Department of Archaeology from the University of Trier.
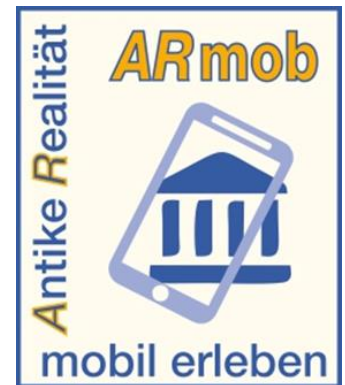
Results

The application creates immersive Augmented Reality experiences of the ancient world and provides a contemporary touch to the discovery of archaeological sites.

This enormous cooperation project is pooling knowledge from 90 municipalities and numerous local tourism operators from 9 LEADER areas, around the scientific expertise of the University of Trier.

The economic model is relatively simple and seems to have reached sufficient a critical mass in order to become a major innovative tool for the promotion of cultural heritage, with more than a hundred archaeological sites to be visualised with the AR technique, in 3D.

Lessons & Recommendations

❑ Pooling resources and sharing a common vision is a key parameter for implementing cooperation projects on such scale.

Context

This project is building upon a former major cooperation project called 'Roads of the Romans' (Straβen der Römer) developed since 2009 with the support of the EAFRD (LEADER) and the German Länders of Rhineland-Palatinate, Saarland, North Rhine-Westphalia and the Grand Duchy of Luxembourg.

In the current programming period (2014-2020), similar strategies on cultural tourism are in place in several LEADER areas from Rhineland Palatinate and in Luxembourg, seeking to develop creative and cost effective offers, not only in terms of entertainment but also for educational purposes. Among the variety of innovative tourism marketing tools, local stakeholders identified the Augmented Reality technique as a new tool.

'Augmented Reality' (AR) is a visualization technique using high-performance software and hardware. It is massively developed worldwide and integrated into numerous press and media services. AR offers the possibility to reconcile reality and computer graphics into a new, homogenous and realistic picture. The physical real-world environment is recorded in the ARmob device by a digital camera, then instantly superimposing computer-generated images, thus enhancing one's current perception of reality. The 360-degree display opens insights from all directions from the viewer's perspective.

Objectives

The overall objective is to increase tourism attractiveness of the region. The specific goal of the project is to develop a digital application that can be downloaded for free on smartphones, called 'Antique Reality Mobile Experience' (ARmob).

Activities

The region around Trier with its UNESCO World Heritage sites is world famous for its magnificent Roman and Celtic remains. The ARmob project introduces the Augmented Reality techniques to help visitors to visualise the antique construction on site of Roman ruins. The cooperation involves 6 Rhineland-Palatinate LAGs and 3 Luxembourg LAGs, under the scientific coordination of the University of Trier. The LAG Hunsrück is responsible for the German LAGs, while the LAG Miselerland is responsible for Luxembourg.

ARmob offers the essential advantage that the app is free to visitors with smartphones. A QR Code - a two-dimensional barcode that is readable by smartphones – and a teaser to download the 'App' is designed as part of the ARmob package. The information is provided to the visitor in four languages: German, English, French, Dutch.

The selection of places and archaeological sites – hereafter called 'objects' - mainly relies upon the existing "Roads of the Romans", a quality tourism offer distinguished by UNESCO, currently managed and operated by a network of local tourism boards.

The University of Trier is responsible for the technical implementation of the project on both the German and Luxembourg sides.

At the time of the project application (June 2016), 105 individual objects are identified in the nine LEADER areas, corresponding to 81 properties in Rhineland-Palatinate and 24 properties in Luxembourg. The plan is to register these 105 objects in the app by 2019.

To be transformed with the augmented reality technique, each archaeological object has a cost. This cost is determined by two distinct aspects:

• The degree of scientific research attached to archaeological findings for each property. Categories of properties to be transformed into AR objects range from a simplified representation of a typical building (category A) to a fully documented reconstruction (category C). The financial estimate of each category is determined as follows: A = €2 000, B = €3 000 and C = €4 000;

• The willingness or capacity of each municipality to financially contribute to the cost. The economic model adopted here relies upon a common understanding whereby the average share of the participating municipalities corresponds to € 9 000.

Another challenge is the intellectual property, as Augmented Reality (AR) has the ability to blur the lines between reality and computer-generated data. Regarding property belonging to the national and regional institutions, an agreement is to be reached on the computer-generated information, including audiovisual components and source codes. Similar contracts are to be signed between the ARmob developing team (the University of Trier) and each municipality willing to engage in the project with smaller properties.

In addition to referencing of these 105 objects, two modules are developed from existing databases: a 'route planner' and an 'outdoor' device, providing fully-fledged traveling guidance in the region whether being on foot, on bike or by car.

Main Results

The application creates immersive Augmented Reality experiences of the ancient world and provides a contemporary touch to the discovery of archaeological sites.

This enormous cooperation project is pooling knowledge from 90 municipalities and numerous local tourism operators from 9 LEADER areas, around the scientific expertise of the University of Trier.

The economic model is relatively simple and seems to have reached sufficient a critical mass in order to become a major innovative tool for the promotion of cultural heritage, with more than a hundred archaeological sites to be visualised with the AR technique, in 3D.

Further developments are already under discussion, opening up to new didactic and educational offers, such as 'everyday life of a Roman family', 'crafting activities in Roam times', etc.

Key lessons

Pooling resources and sharing a common vision is a key parameter for implementing projects on such scale. Evidence to such an approach and commitment include:

- The total costs by number of objects are divided between the nine LAGs involved in Germany and Luxembourg.

- The participating regions and municipalities, the scientific community, the university and the tourism operators joined forces around ARmob's in order to make it nationally and internationally visible and to increase the region's attractiveness.

"ARmob has a great potential because there is a very special romantic fascination for ruins, and this technology boosts our imagination by providing an overview of the complete structure."

Prof. Dr. Michael Jäckel