UNIVERSITY MAP TOUR

Florina MANCIU[1], Alexandru Cristian BIHOLAR[1], Florin Cristian BARLIBA[2]

Scientific Coordinator: Assoc. Prof. PhD Eng. Mihai Valentin HERBEI[1]

[1]Banat University of Agricultural Sciences and Veterinary Medicine, "King Michael I of Romania", Timisoara, Calea Aradului 119, 300645, Timişoara, Romania, Phone:+40256 277280, Fax:+40256 200296, Email: mihai_herbei@yahoo.com
[2]Polytechnic University of Timisoara

Corresponding author email: floriina.manciu@yahoo.com

Abstract

The paper aimed to present a GIS map with photos, text or links to the objectives of the BUASVM Timisoara campus stored in the Story Maps web application. This map can be viewed in real-time on a desktop, tablet, and even on a mobile smartphone by anyone.

Key words: ArcGIS Online, Story Maps, University Campus, Web Map.

INTRODUCTION

Esri Story Maps represents a simple way, but with a strong character of informing people of any story we want to share, which implicates the use of maps, locations and geographic coordinates. Esri Story Maps are web applications that allow developers to combine maps with text, stunning images and multimedia content, including video. Applications are designed to be attractive and usable by anyone, which makes them excellent for education and mobilization, or to the general public or a specific audience.

The most popular and common stories maps are the following (https://storymaps.arcgis.com/en/):

➢ Story Map Tour: represents a sequence of photos or videos that users can follow in order;

➢ Story Map Cascade: creates a full-screen scrolling experience;

➢ Story Map Journal: Create a detailed narrative, organized in sections with one or more maps, text and images.

➢ Story Map Series – Tabbed: shows a series of maps trough a set of tabs.

➢ Story Map application uses intuitive geographic information as means of organization and presentation of events.

MATERIALS AND METHODS

Geographic information systems are computer systems capable of holding and using data describing places on the Earth's surface (Herbei, 2015).

In this work it was used ESRI platform, which includes the ArcGIS desktop solution and the ArcGIS Online cloud solution, based on existing account at BUASVM TM. ArcGIS Online is a complete cloud-based mapping platform (http://www.esri.com/software/arcgis/arcgisonline). The story map can be only make with ArcGIS Online, a scalable and secure software service hosted by Esri (Figure 1).

Figure 1. Description of the ArcGIS Online platform

When shooting geocoded maps applied in the story maps was used a drone DJI Phantom 4 (Herbei et. al., 2017) and a mobile phone operatingiOS system.

RESULTS AND DISCUSSIONS

The Story Map application templates are hosted in ArcGIS, so there's nothing to download or install when you create a story map. You simply launch the interactive builder for the app you want to use as an author and publish your story.

For the mobile application (Barliba et. al., 2017) which create story campus map were made geocoded photos,to every objective within the campus, following the route showed in the Figure 2.

To achieve story map application we proceed through the steps shown in the following diagram (Figure 3).

Figure 2. Area of the campus marked on the map through a dotted line
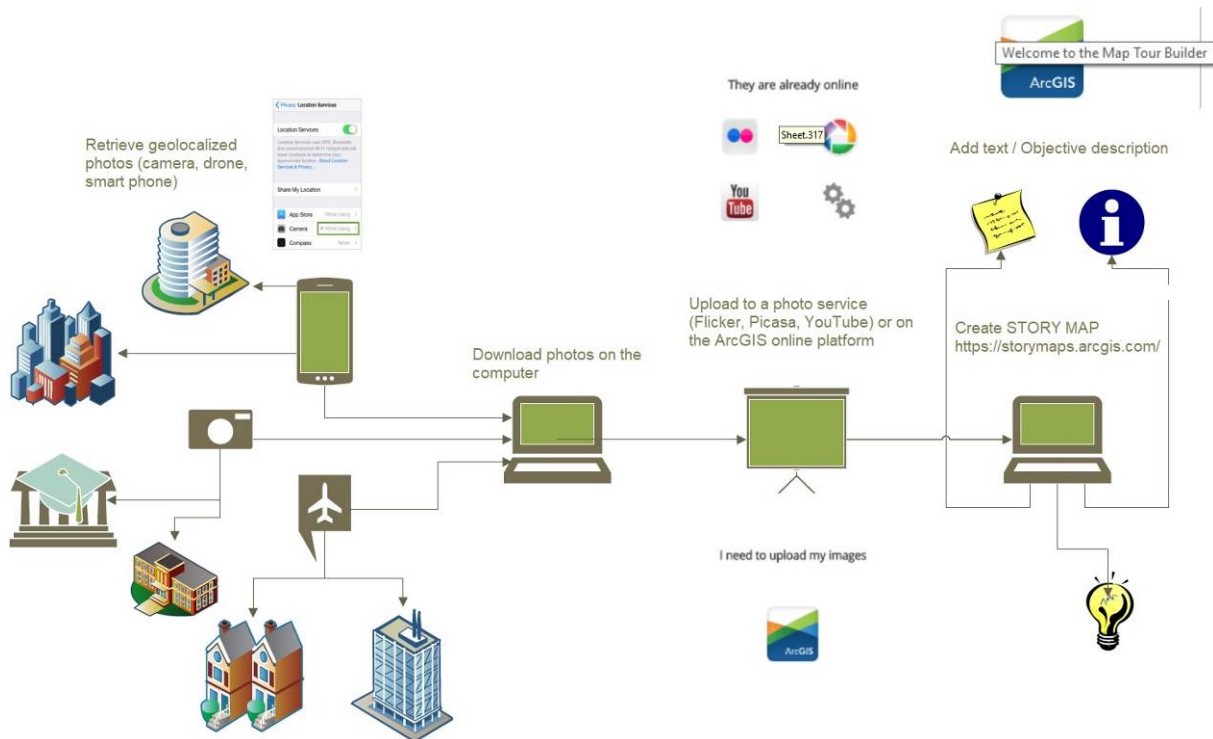
Figure 3. Workflow for making a Story Map

The following steps detail how we geotag the images we upload from the camera or smartphone and how to reorganize the marked photos to make a story using the features available on ArcGIS Online.

The examples of these steps are presented below:

♣ Step 1. Acquisition of geocoded images. I've enabled location services on my mobile phone. On Iphone, this is done in the Settings>Privacy> Location Services> Camera (Figure 4).
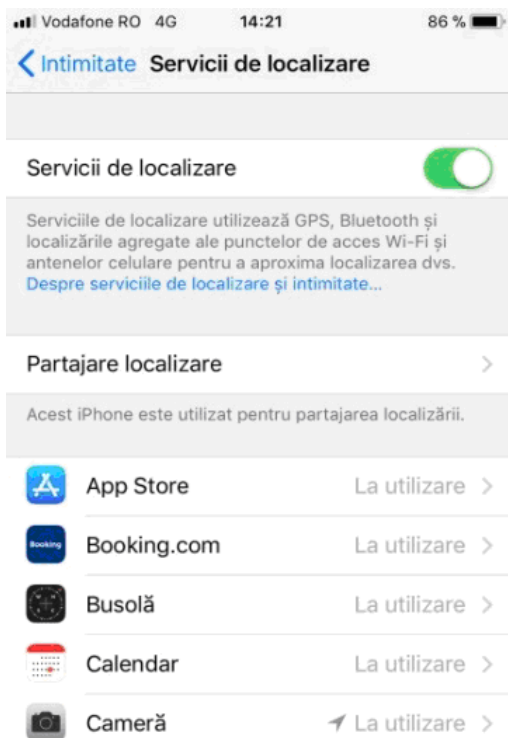
Figure 4. Set up location settings on your mobile phone

They were taken 20 photos, which along with links and / or textual information about the point of interest were uploaded into the story map application.I mademy images sizes appropriate for how they will be used in my story map. So using a 5MB photo in a web appor an especially poor quality one used as a thumbnailis never a good idea.

♣ Step 2. Creating the story map application in ArcGIS online.

First of all I logged into ArcGIS Online (AGOL) and added any layers to the base-map that I wish to be present in Story Map (Figure 5).
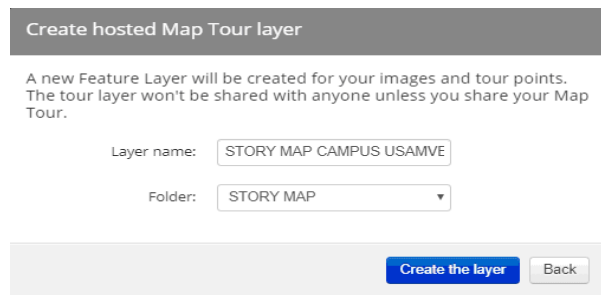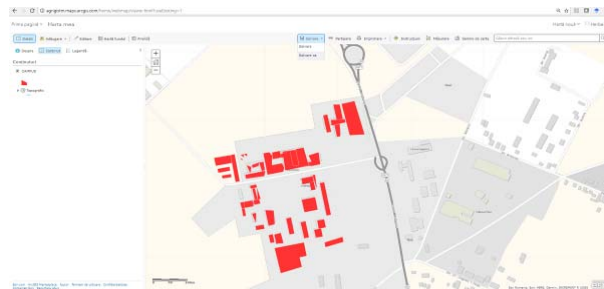
Figure 5. Create hosted Map Tour layer

Figure 6. Map application

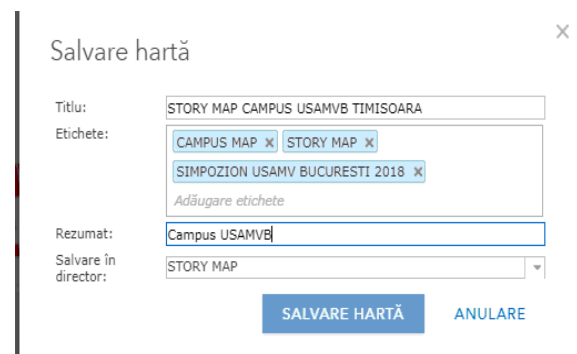♣ Step 3. Saving map created AOL (ArcGIS Online) and share them to other users (Figure 7).

Figure 7. Save map – Including title, tags and summary

After we saved the map, we shared it and choose who can see it (group or everyone) and then press the button create web application (Figure 8).

Figure 8. Sharing the Web Map

101

✦ Step 4. Create web application

Of the many applications that this platform provides us we've used Story Map Tour (Figure 9).

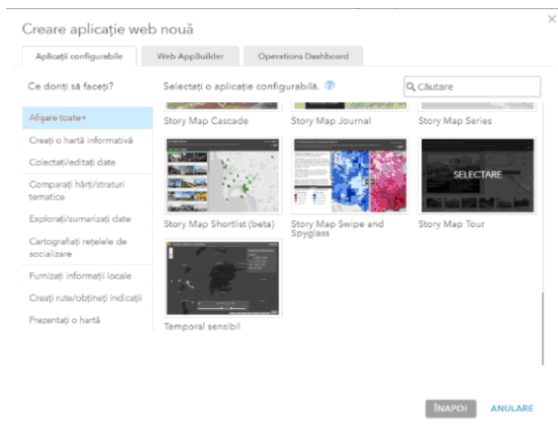Figure 9. Make a web application- Story Map Tour
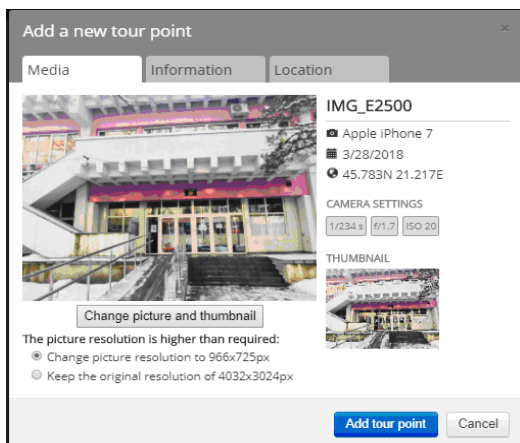
✦ Step 5. Upload individual photos

Figure 10. Uploading photo

After loading a photo (Figure 10), some parameters can be edited, for example: Title of the picture, objective description in the picture (Figure 11), manually setting the location of the picture, in the case of a non-geocoded photograph (Figure 12).
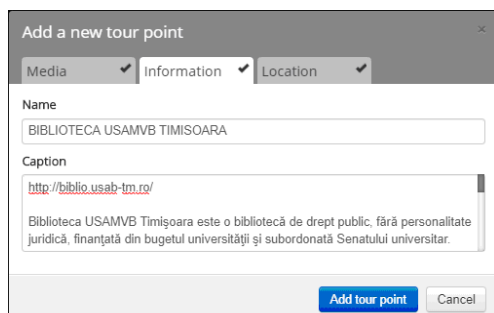

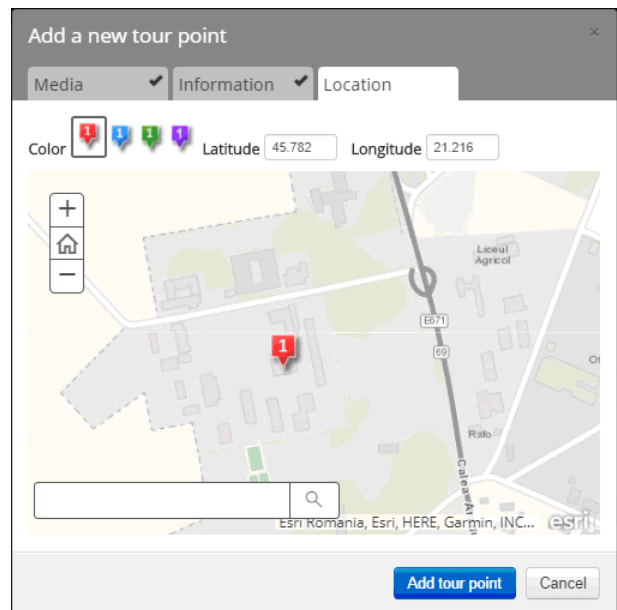Figure 11. Adding informative text

Figure 12. Photo location and manual setting for non-geotagged photos

For each point of interestwould be loaded 2 photos. One picture will be set as a thumbnail and the other one in the caption section. In order to attach some links to the objective as title (Figure 13) I have used the following syntax:

BibliotecaCentralaBUASVM Timisoara.
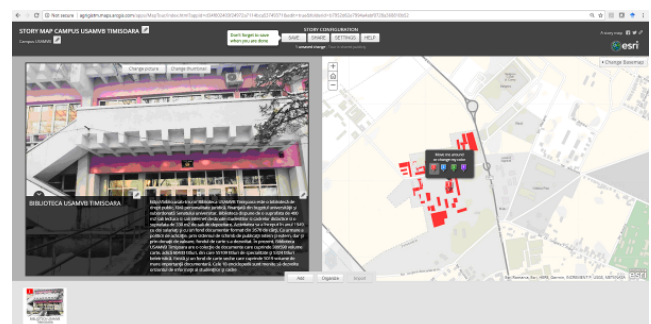

Figure 13.The title of the photo and the informative text for each photo

The same processwas use for the other objectives of university campus. In Figure 14 and Figure 15 is presented the general map of the campus with all the objectives displayed and represents the final result of the Story Map.

Figure 14. Main BuildingBUASVM

Figure 15. BUASVM Campus

CONCLUSIONS

This application is useful to all students, teachers or campus visitors of BUASVM Timisoara because it includes everything is necessary for them to discover the campus starting with photos for an easy orientation and ending with the description of each point of interest. All of this makes this application an advance and updated GIS solution of story map tour.The link for this Story Map is: http://agrigistm.maps.arcgis.com/apps/MapTour/index.html?appid=d34f802403f24972a7114bca53749371

It's a real-time application, can be used on any mobile device, phone, tablet or PDA which has an internet connection.

It can also be upgraded at any time but only by the administrator or by the people who have been granted access to the application editing.

In the following pictures is presented the entire campus with all 6 Faculties from our University (Figures 16-21) and the Orthodox Church (Figure 22).
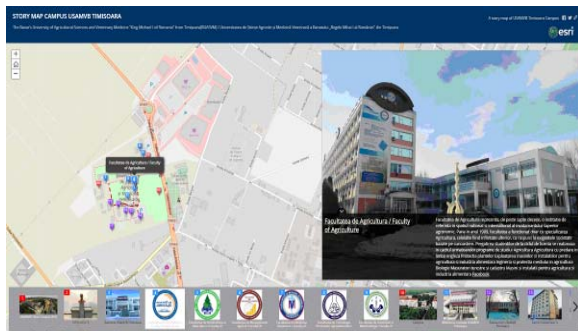

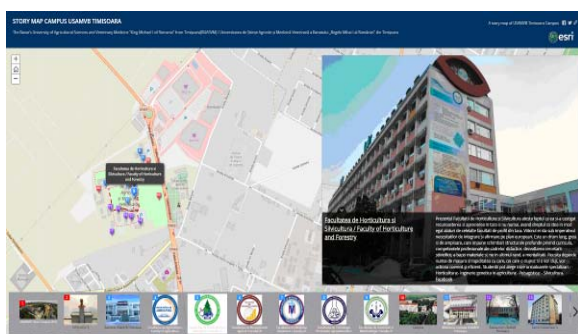Figure 16. Faculty of Agriculture
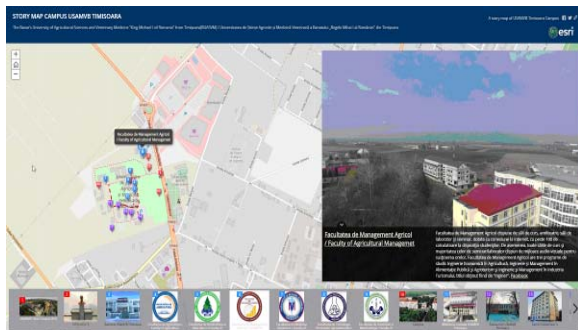

Figure 17. Faculty of Horticulture

Figure 18. Faculty of Agricultural Management

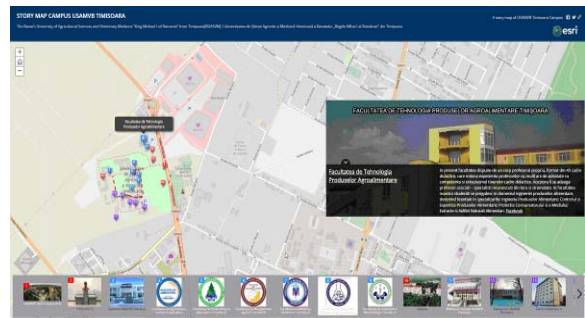Figure 19. Faculty of Veterinary Medicine

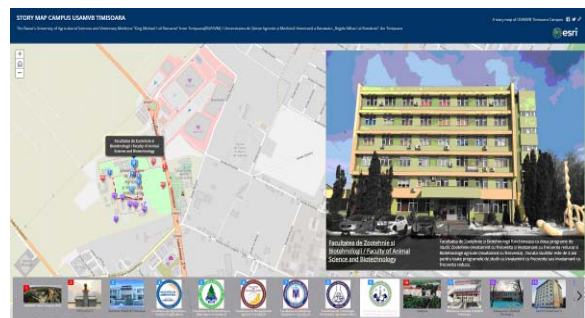

Figure 20. Faculty of Food Processing Technology

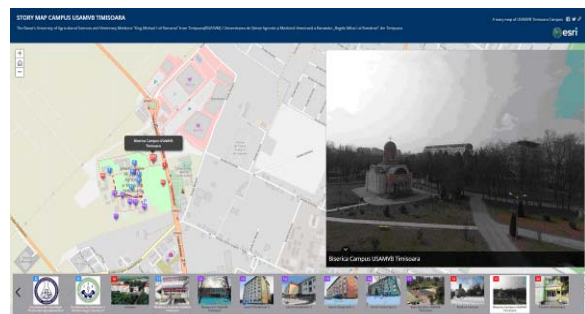Figure 21. Faculty of Animal Science and Biotechnologies

Figure 22. The Church from the Campus

REFERENCES

Bârliba, F., Gheorghescu, I., Moscovici, A. M., 2017. The advantages of using mobile GIS technology. Research Journal of Agricultural Science, 49(4), p. 20-28.

Herbei M., Popescu G., Smuleac A., Popescu C.A., 2017. Acquiring and processing of field information based on UAV, GNSS and GIS technologies, RevCad Journal of Geodesy and Cadastre, Vol. 23, p. 101-108.

Herbei, M.V., 2015. GIS si Modelare cartografica, Universitas,Petroşani, p.202-210.

http://www.esri.com/software/arcgis/arcgisonline

http://www.esri.com/arcgis/about-arcgis

https://storymaps.arcgis.com/en/

http://storymaps.esri.com/downloads/building%20story%20maps.pdf

www.usab-tm.ro