

Comparison of Different Virtual Tour Creators



PennState

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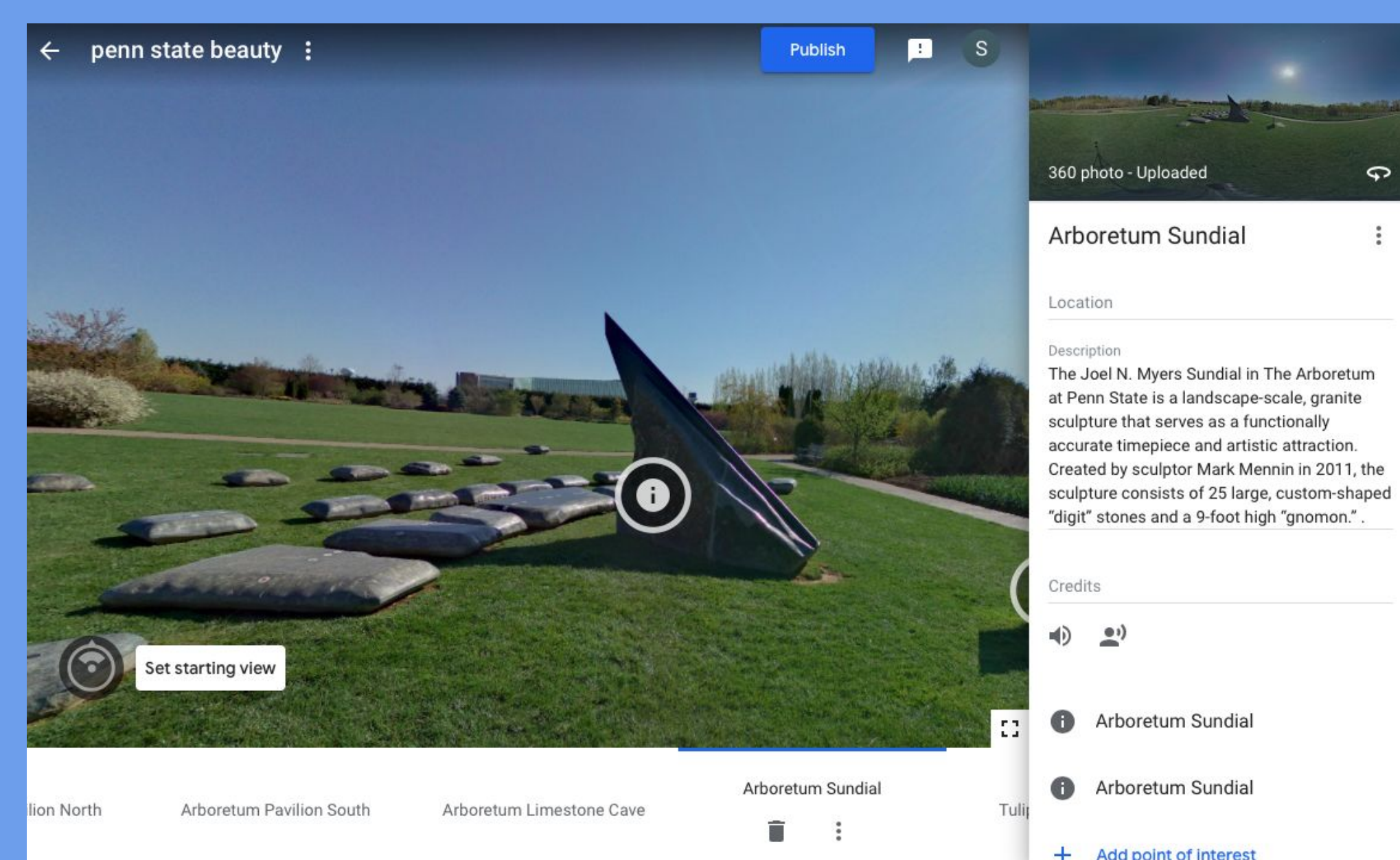
Abstract

The use of Virtual Environments (VEs) has become increasingly popular in place-based education. It allows students to access remote locations when seated in classroom. Traditionally, VEs are created by 3D modeling, leaving high barriers of entry for general educators. With the advent of advanced consumer-grade 360-degree cameras (e.g., Panono 360 camera 16K), educators are in the position to easily create low-cost but realistic VEs composed by 360-degree images for place-based teaching and learning. Leveraging 360 imagery, various virtual tours creating products are developed. Here, we make a systematic comparison among four 360 Tour Creator Platforms: Roundme, Thinglink, Ocurus, Google Tour Creator. We aim to build a metric that compares and evaluates an array of system features that are most relevant to the quality of place-based experiences. We are in the progress of creating the same virtual tour for experiencing Public arts at Penn State University using the above four platforms. We hope this research could serve as a guideline for general educators who are interested in using 360-based VEs for place-based teaching to create their own content.

Method

The four products will be assessed in the following aspects: the size of photos can be applied, the points of interest to be added in photo and the special features of each platform. Then a chart will be presented to provide more details. We measure the following aspects:

- Cover Photo
- Allowed File Types
- Max Image Size
- Image Projection
- Tour Location on Map
- Image Location on Map
- Point of Interest
- Audio
- Autorotation
- Project Sharing
- VR Mode



Source: Google Tool Creator <https://poly.google.com/creator/tours/>

In the following Section, the discussion will be divided into two parts. The first will be discussing mainly two features: photos and interest points. The second section will be mainly presented in charts and illustrate the aspects such as cover photo, etc.

Results

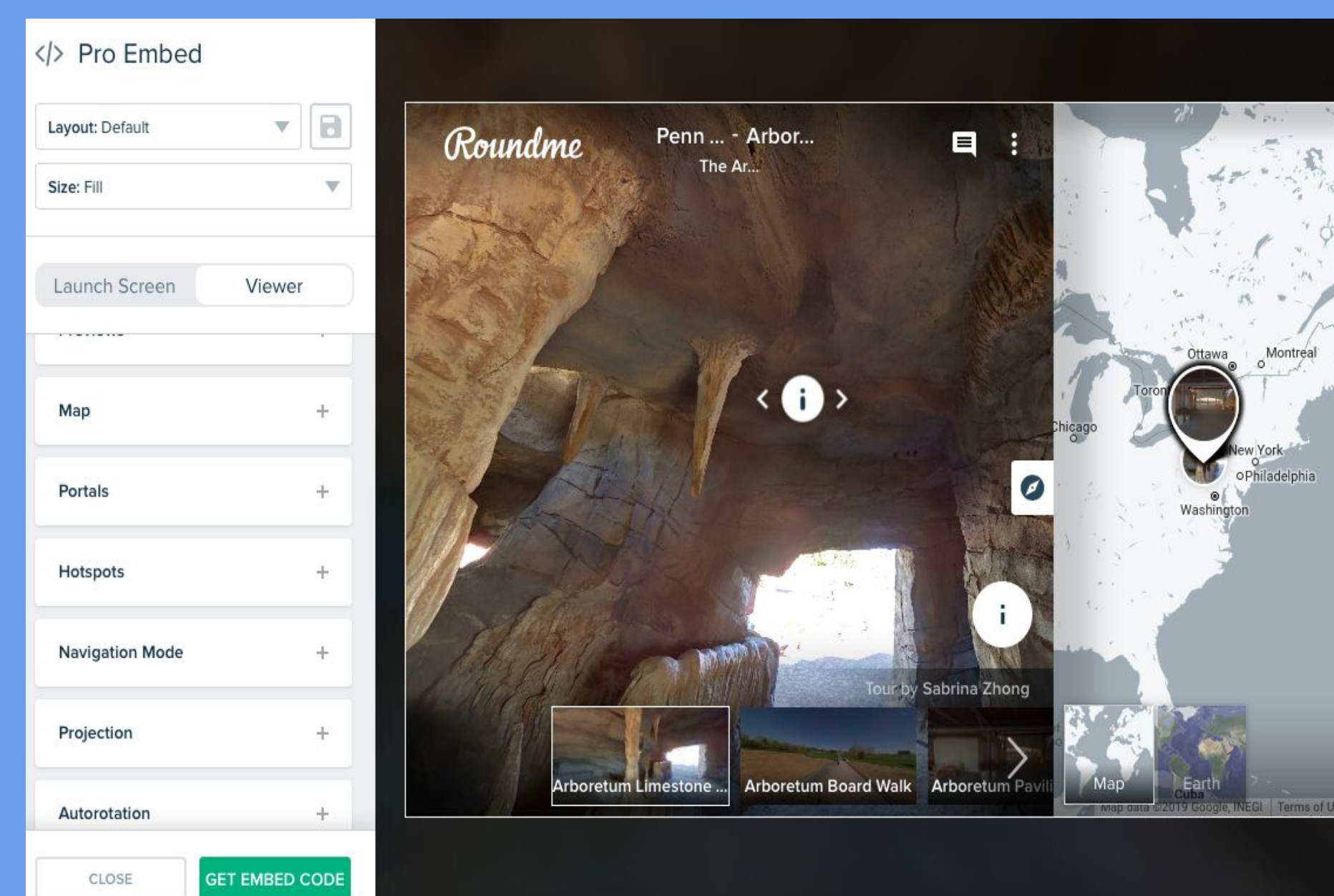
Photos

The google Tour Creator allows users to have photos that are in jpg, jpeg, png format of any size. Using it enables users to create extremely high quality image tours. The Roundme allows to have a photo size of 10,000 x 5,000 px and 10,000 x 10,000 px for stereoscope. Moreover, developers can insert camera info of each photo. Ocurus allows users to have a photo size of 13200 x 6600 px. Thinglink allows images in Jpeg, jpg, png, bmp, gif, mp4 (H264 WITH AAC audio) videos. The max image size is 25 Mb. It also allows for 2D images.

Interest of Point

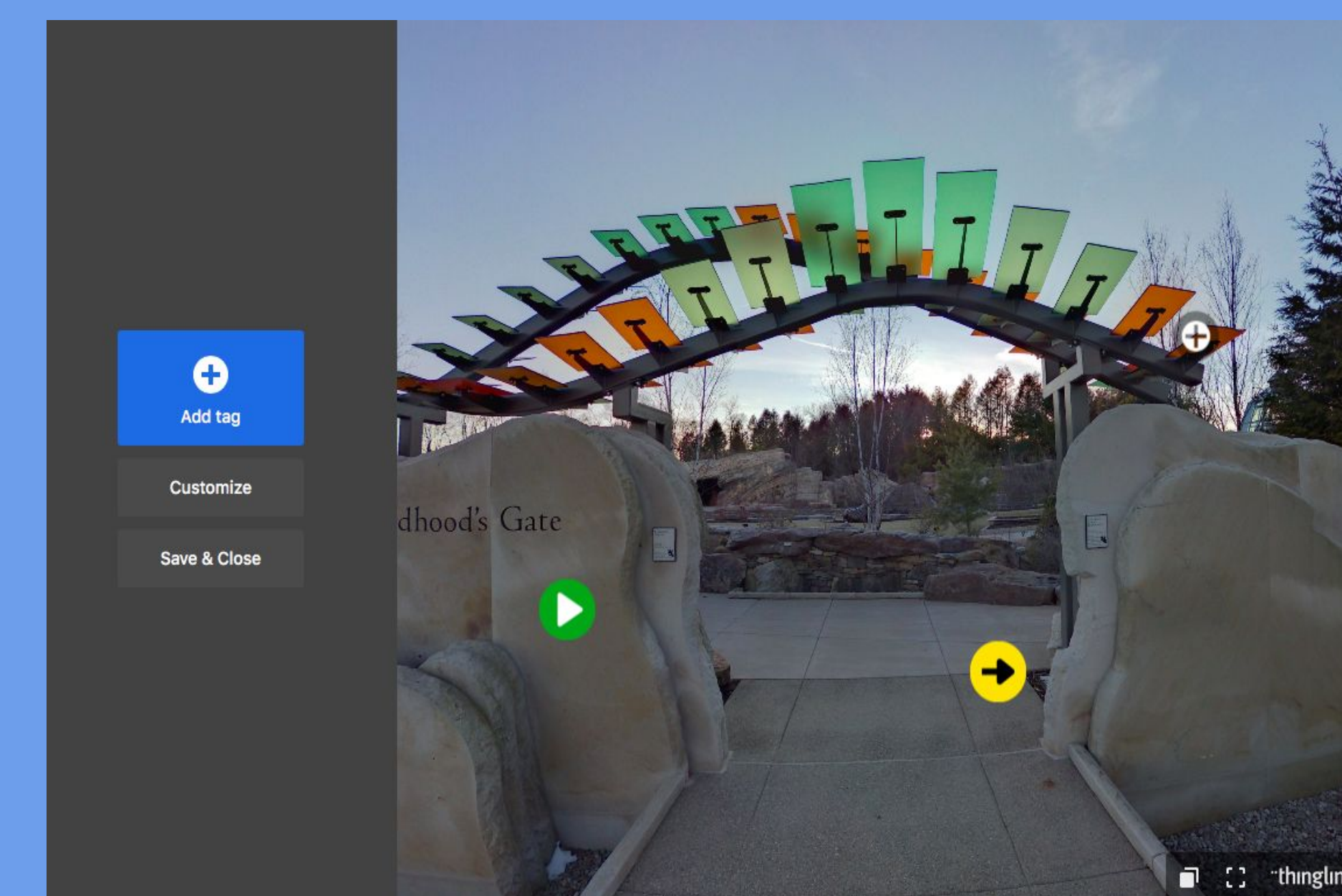
The google Tour Creator allows users to add any points of interest. However, the symbol for point of interest is monotonous. Also, it only allows developers to have up to 300 characters. For format, it allows users to insert photos and audio files.

The Roundme also enables users to add a point of interest. The format includes images, audio files and links. Another advantage of Roundme is that it has allows users to customize icons. People are even able to upload their own icons(128 x 128px). Without paying an extremely high price, Ocurus will not provide the function of inserting point of interest. Thinglink allows users to add any points of interest as well. The format includes photos, words and connection to next location. The icons can be customized.

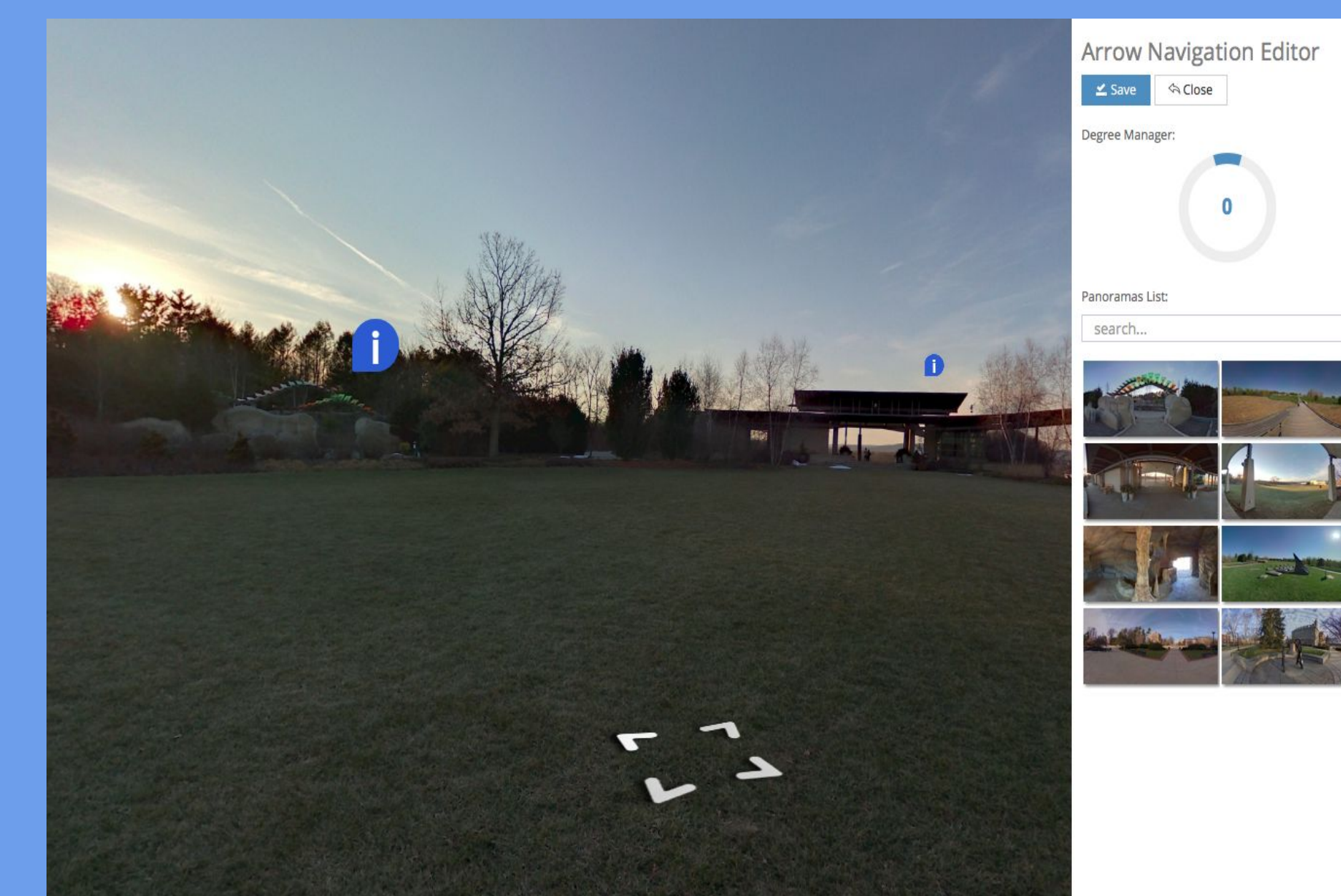


Source: Roundme <https://roundme.com>

Platform Features	Google Tour Creator	Roundme	Ocurus	Thinglink
Cover Photo	Yes and Must	Yes	Yes	Yes
Allowed file types	.jpeg, .jpg, .png	.jpeg, .tiff	.jpg, .png, .tiff	Jpeg,jpg, png,bmp,gif, mp4(H264 WITH AAC audio) videos
Max. Image size	Any	10,000 x 5,000 px. 65,000 x 32,500 px (Pro)	13200x6600 px.	25 Mb
Image Projection	Equirectangular	Normal, Architectural, Pannini, Little Planet, Stereographic	Equirectangular	Info not available
Tour Location on Map	Yes	Yes	No	No
Image Location on Map	No	Yes	Yes	No
Point of Interest	Yes	Yes	Yes	Yes
Audio	Yes	Yes	Yes	Yes
Autorotation	Yes	Yes	Yes	No
Project sharing	Yes	Yes	Yes	Yes
VR Mode	yes	yes	Yes	Yes



Source: Thinglink <https://www.thinglink.com/welcome>



Source: Ocurus <https://ocurus.com>

Conclusions

Overall, the Google Tour Creator has the advantage of tolerating high image resolution. In addition, it's a completely free tool and allows for active feedback. However, the customization for editing icons are lack. Roundme have various customization settings. What's more, each scene can be pinned on a map, as well as each tour. Therefore, it's a great tool for geography education. However, the admitted image size is limited. Ocurus will probably bring the best audience experience. Developers are able to upload their own minimap, and add navigation markers in the scene. What's more, Ocurus provides customized forms and Tour Analytics for commercial use. It's a professional tool for companies. However, it might not be the most suitable one for general users due to the high price to unlock all features. Finally, thinglink only allows adding hotspots for free users. However, for users who don't have device for taking 360 photos, this is the only platform that takes 2D image. The upgrade price is high although it allows unlimited co-authors to edit, as well as sharing.

Acknowledgments

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