The Tech behind Creating an Experience on a Mobile/Tablet Platform

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1. INTRODUCTION

In May 2014, the Prado Museum in Madrid, Spain, launched *Second Canvas Prado*, a mobile app that has been a revolution in the way museum-goers interact with museums and their content via mobile devices. The technology behind this app has been the key to its tremendous success. We will explain some of these essential technological elements in *Second Canvas Prado* below.

2. GIGAPIXEL IMAGES

Gigapixel images are super high resolution digital images. Digitalising artwork in gigapixel format presents added difficulties relating to the capture of other types of gigapixel images: landscapes, panoramas, etc. The size of a gigapixel image of an artwork is equivalent to 500 standard professional photographs, but apart from size, there are other factors, such as precision, lighting etc, which affect the final result.

Thus, the capture process of a work of art in gigapixel format is complex and requires different phases (pre-production, production and post-production), and technologies (camera, computerised robot, capture software, specific lighting) to guarantee the quality of the result.

Once the image has been digitalised, its use in digital media means converting the image to a “pyramid” format that can be embedded in a player. This allows the image to be loaded and browsed at different zoom levels, with no need for users to download a gigantic file.

3. MOBILE APPS VS. PLATFORMS

All the content of the *Second Canvas Prado* app (iOS and Android) is managed by the museum

itself, via a Content Management System (CMS) in the cloud. There is no need for any third party to intervene in the processes to update content or publish new collections, works, etc. Updating is automatic in all the devices where the app is installed.

This work model is a notable improvement over earlier ones where all the operations relating to publication of a mobile app required management by a team of in-house or outside experts in this technology.

4. STORYTELLING AND USER CURATION

In the case of *Second Canvas Prado*, the combined use of gigapixel images and the content management platform in the cloud has permitted the museum to create multimedia storytelling about the artwork. This has turned out to be one of the most interesting functionalities for the public: additional layers with complementary information (infrared or x-ray versions of the painting), contextual information about details, etc.

Users themselves have been able to participate in this storytelling process about a work of art by using the tools available in the app to create their own conversations about details, anecdotes, etc, on social networks.

5. NEW TRENDS IN MOBILE APPS FOR MUSEUMS

The emergence of wearable gadgets (Google Glass, smart watches,...), beacons, SmartTVs and other elements that can interact with mobile devices, provide new opportunities for innovation and for designing new experiences with museum content.

Figure 1: Camera ready to start a capture

Figure 2: Interacting with museum content

Figure 3: SmartTVs, wearables, and iBeacons: new technologies for a new experience with museum content