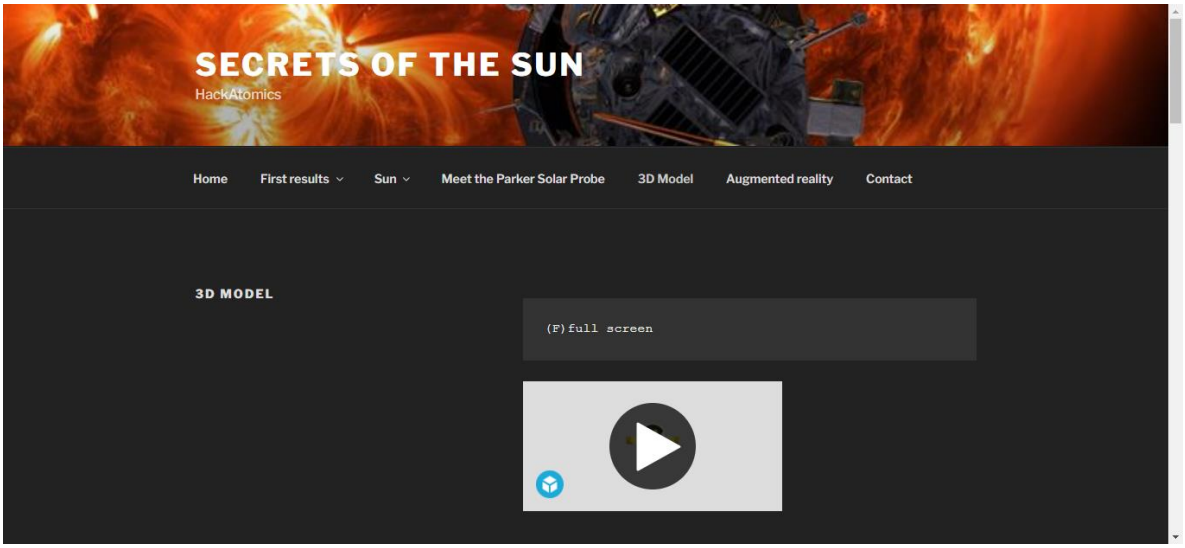
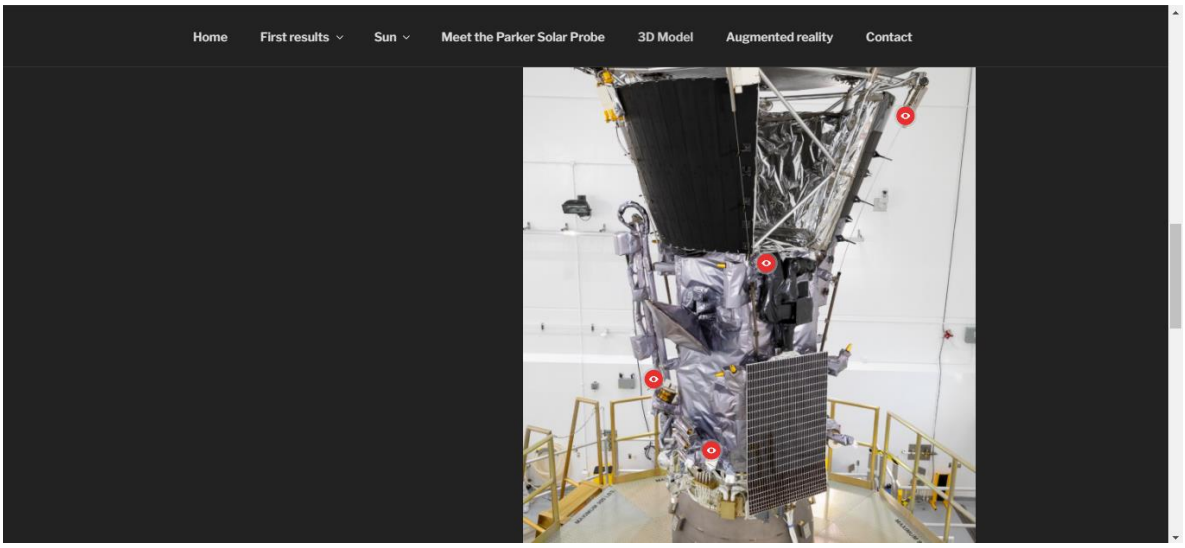
3D MODEL AND AUGMENTED REALITY OF THE PARKER SOLAR PROBE

First, it was proposed to use a 3D model of the Parker Solar Probe on the website that would attract the curiosity of people to interact and learn with this object, learn a little more about its main parts, which are distributed in 4 large groups of instruments called FIELDS, WISPR, ISOIS and SWEAP. This model is found in a section with a Genially that helps to understand a little more about the groups of instruments mentioned, with the purpose of being able to relate the individual parts and the function in which they support when belonging to a certain group of instruments of the probe. Likewise, in another section of the web page created with the Azure WordPress resource, a tab is included where it is possible to find a QR code and its respective link to visualize in augmented reality the probe, which for the moment is only available for iOS, without ruling out in the future to include the AR visualization for Android and thus, access to an even larger audience.

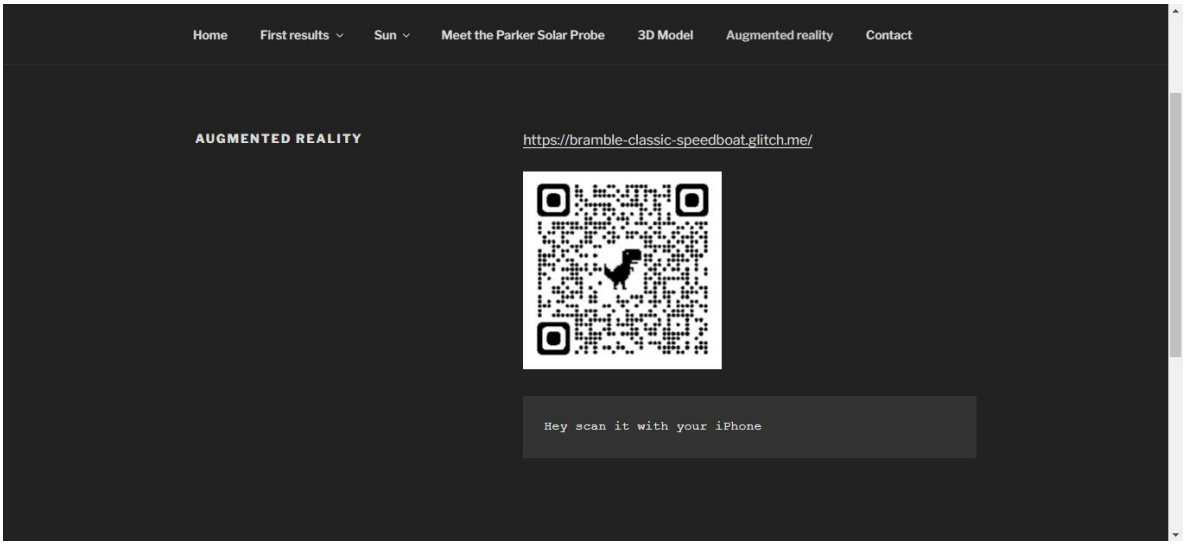
In the next images, you can see how the prototype of our Interactive Website:



The preview of 3D model.

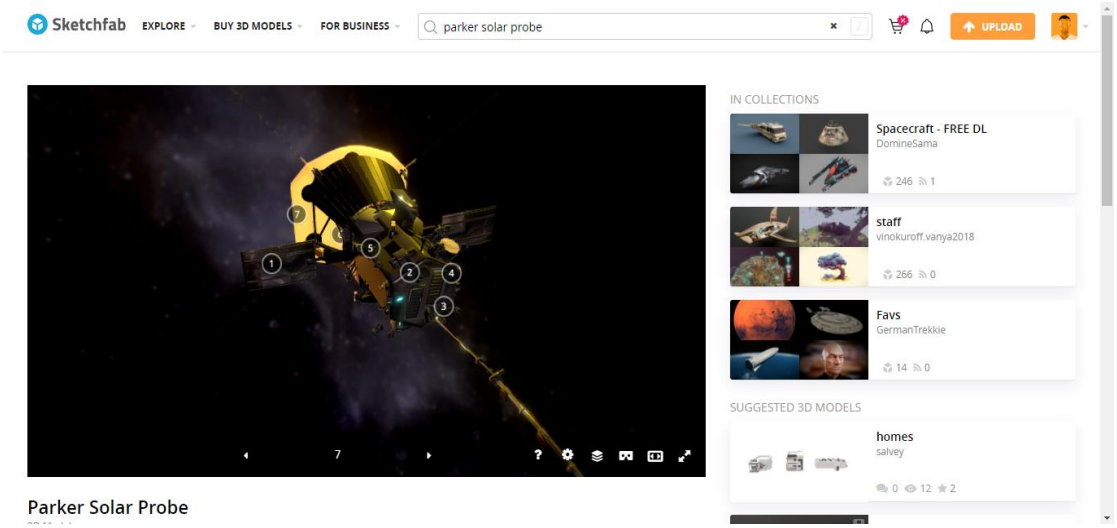


The Genially with the indications to learn about the principal 4 groups of instruments, FIELDS, SWEAP, ISOIS and WISPR.



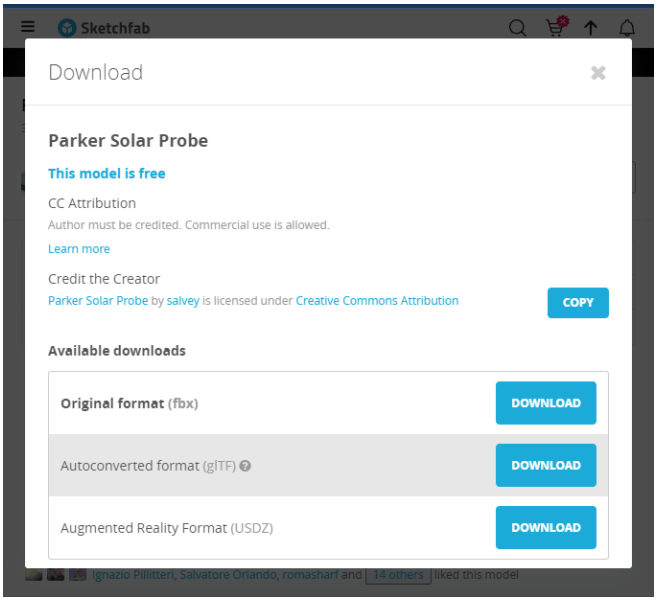
And finally, the QR code for visualize the Probe and interact with it in your iPhone.

To carry out all the above, first an object was chosen that met the requirement of being a model of the Parker Solar Probe (PSP). This was obtained from the Sketchfab page by



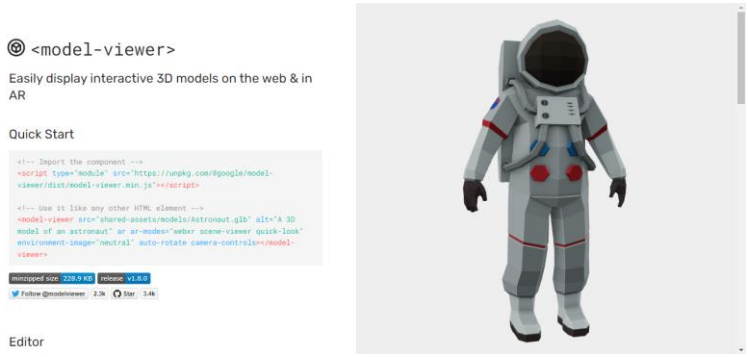
Parker Solar Probe

searching for the name of the probe in English: Parker Solar Probe.

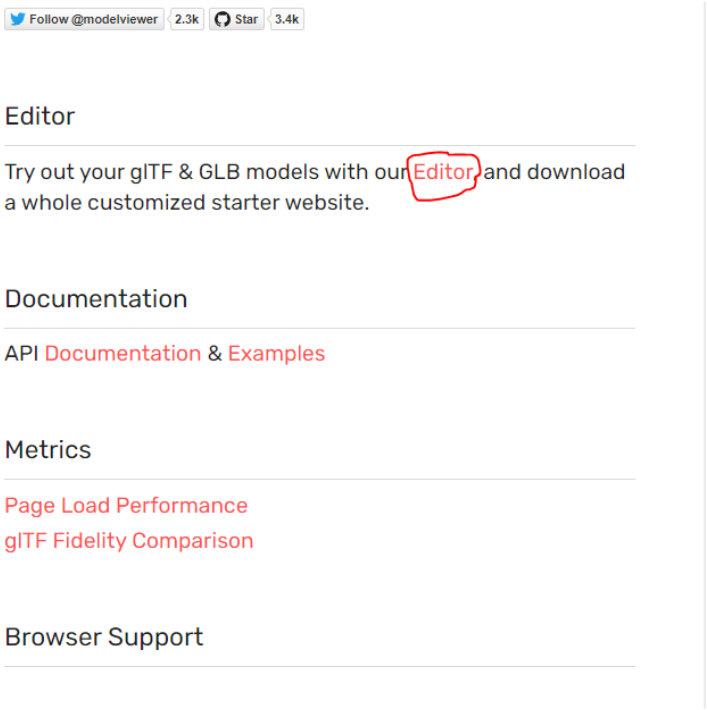


This model was downloaded in glTF format to be able to work with it later in Model Viewer.

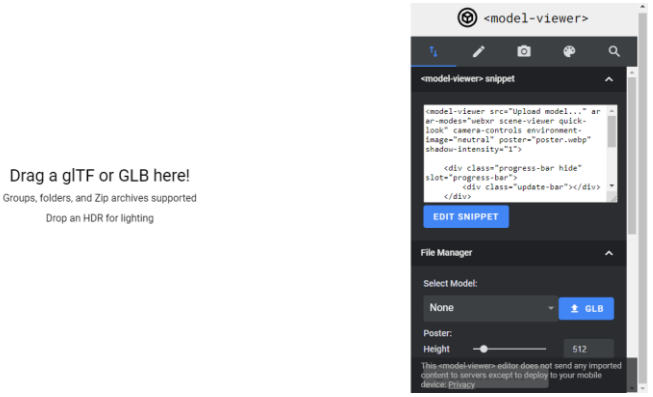
Subsequently, the Model Viewer page is accessed, which can be viewed as follows:



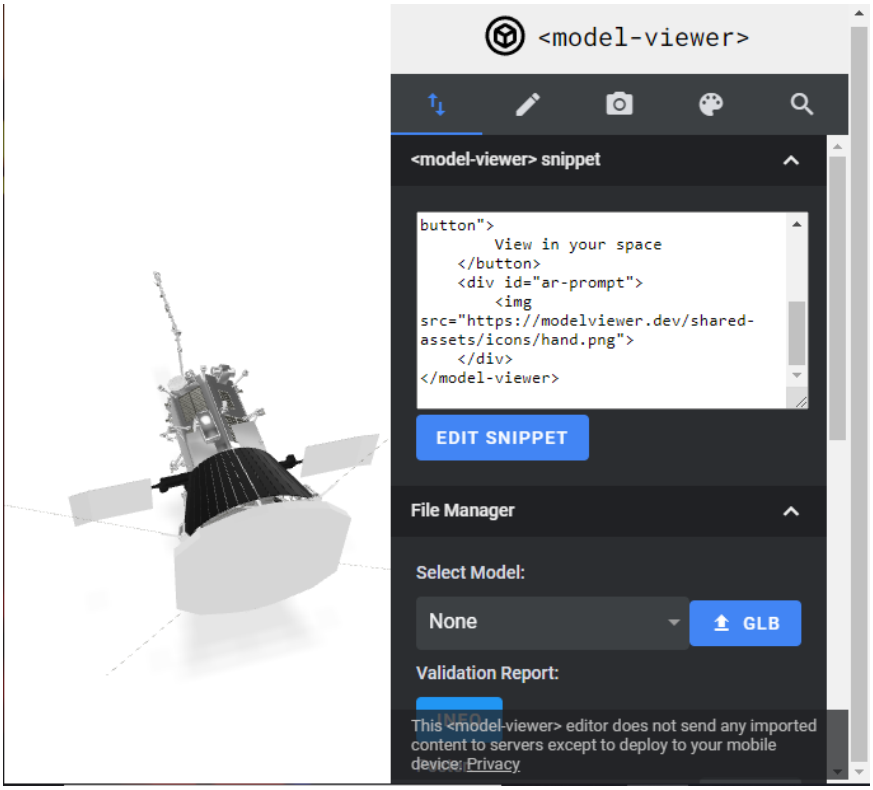
to immediately enter the Editor to work with the previously downloaded model, as can be seen, the formats supported by the editor are gITF and GLB:



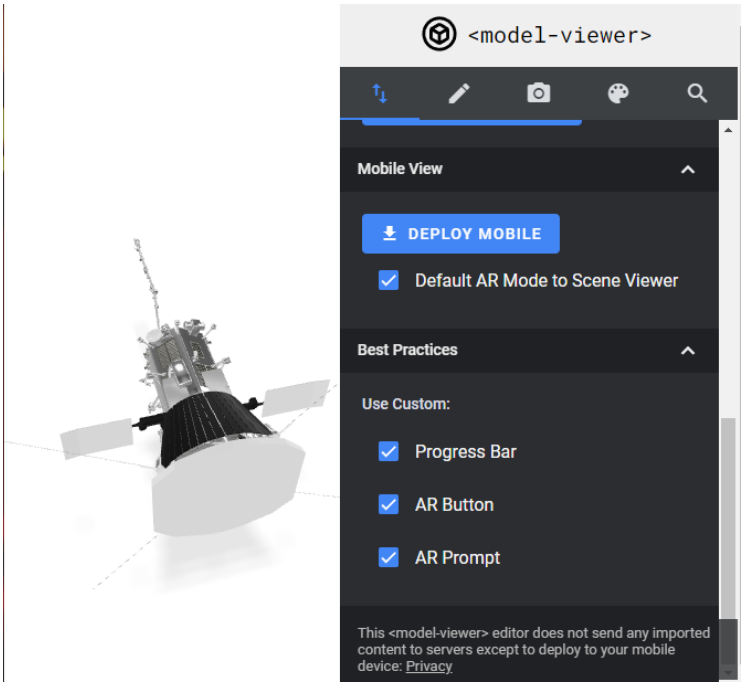
As can be seen in the following image, the Model Viewer Editor can be displayed, where it will be possible to work with the downloaded object and adapt it to the needs of the project.



The downloaded file can be dragged or uploaded for a close-up view:



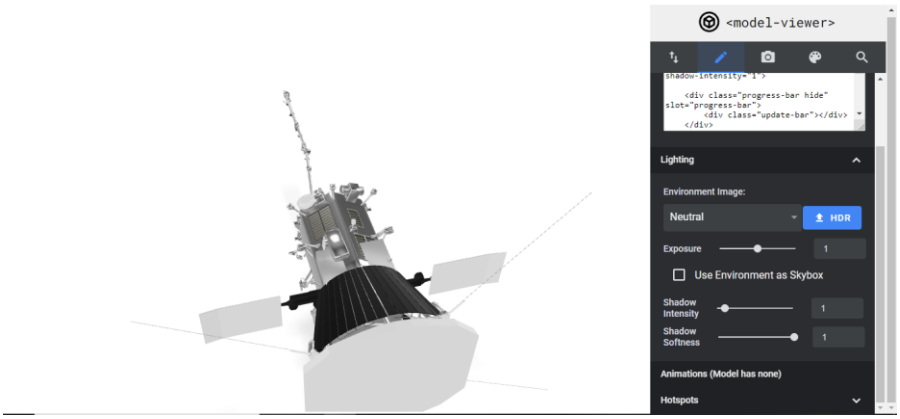
If you scroll down the Editor pane you can find some check boxes to enable, which are necessary to be able to view in AR:



And if you click on DEPLOY MOBILE, you can get a QR code to verify how it would be viewed from an iOS phone, obtaining the following preliminary result:

Once you have checked that the code works and that the model can be visualized, you can modify some other parameters of the model such as colors, textures, shadows, and other

attributes that might seem interesting:



Where you can upload an HDR you can add an environment to verify the colors it would take, modify them or take any other action you consider necessary, as well as observe how it would look in a particular "environment".

It is possible to verify the conditions in which the object could develop and how it would be influenced by the colors of the environment.

This part activates the camera's auto-rotation, which is optional.

Finally here you can color each of the parts of the ship, adjusting the parameters as desired for each of the categories.

Finally in the Model Viewer, the SNIPPET is checked.

Finally, you can download it to enter it in the web page with its respective code.

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