NASA Models

Baglan Aitu, Mohamed Hussein, Sebastian Cajas, Talha Bilal

01

Overview

Proposed project

02

Tool

Software tools

03

Application

Our implementation

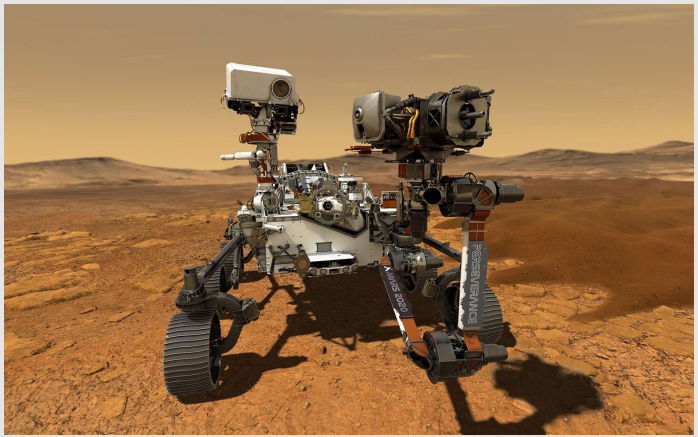
04

Demo

Our app demo

The objective of the project:

Developing educational application for visualizing and controlling NASA rovers



Tools:

iOS

Application

NASA rover displays and controls multiple rovers on a fixed plane space using your phone

“.usdz” models (https://mars.nasa.gov)

Development Timeline:

1

Week 1

Prototype 1: plane detection

2

Week 2

Prototype 2: plane detection and noise

3

Week 3

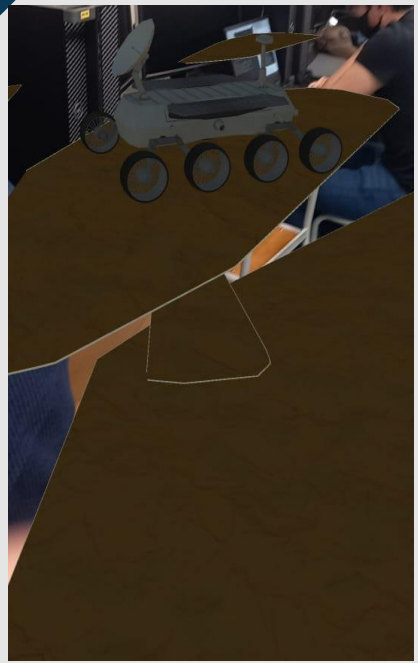
Prototype 3: Swift implementation of plane detection

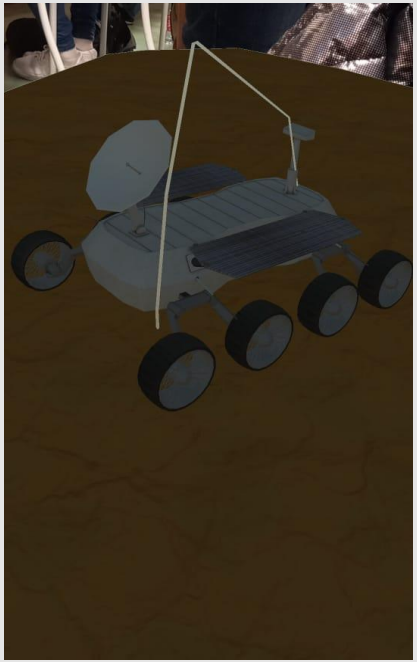
4

Week 4

Prototype 3: Swift implementation of plane detection and scrolling menu with models

First Model

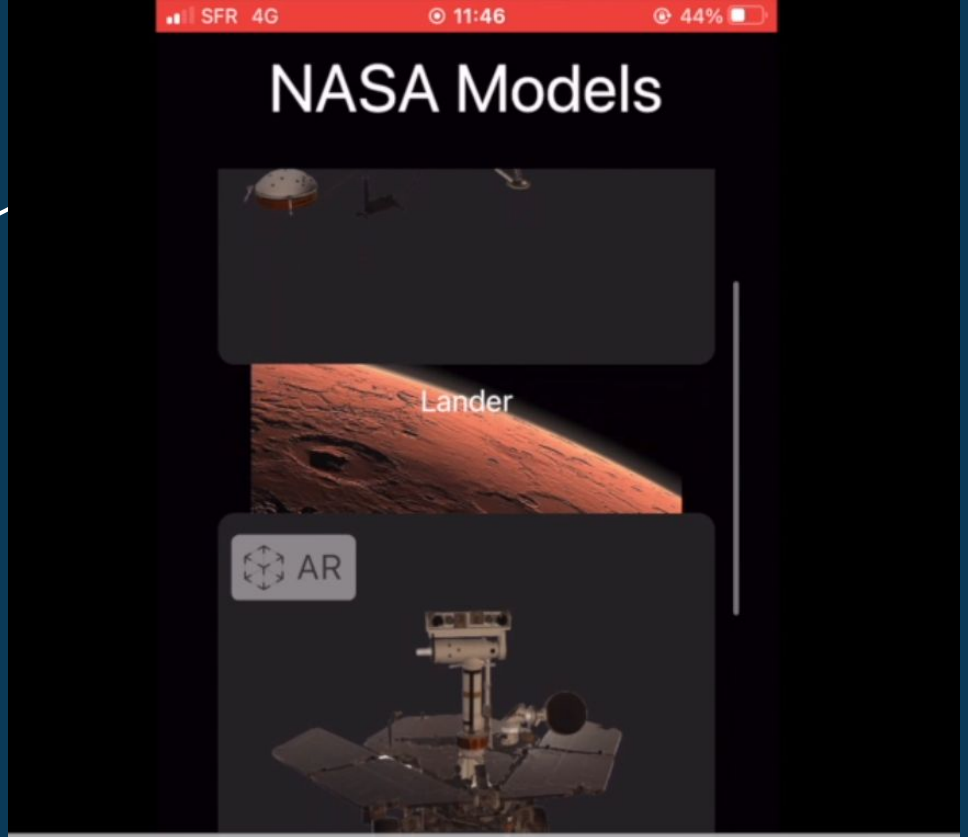




Second Model

01.

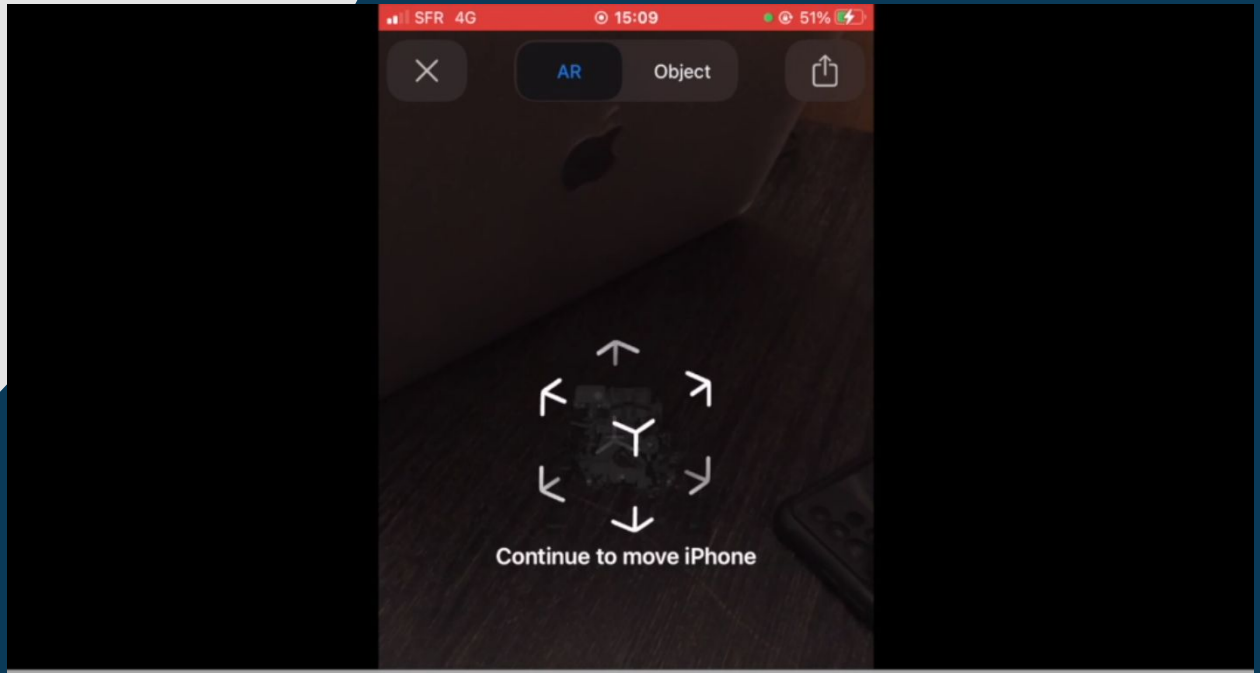
Icon app



Models

App has variety of models to run and test

Rover

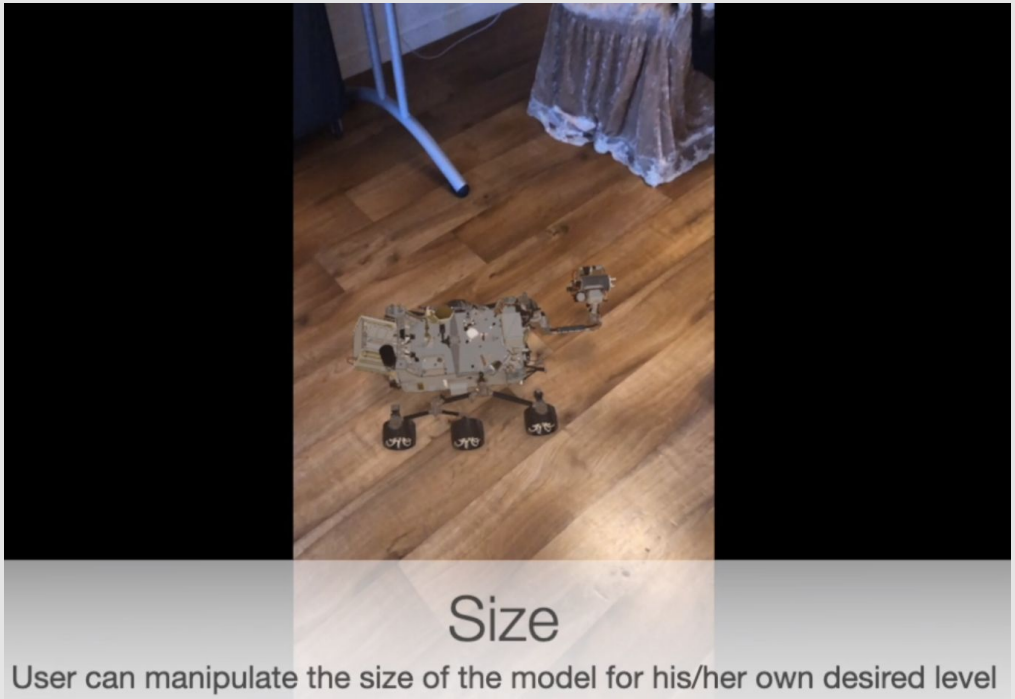


Calibration

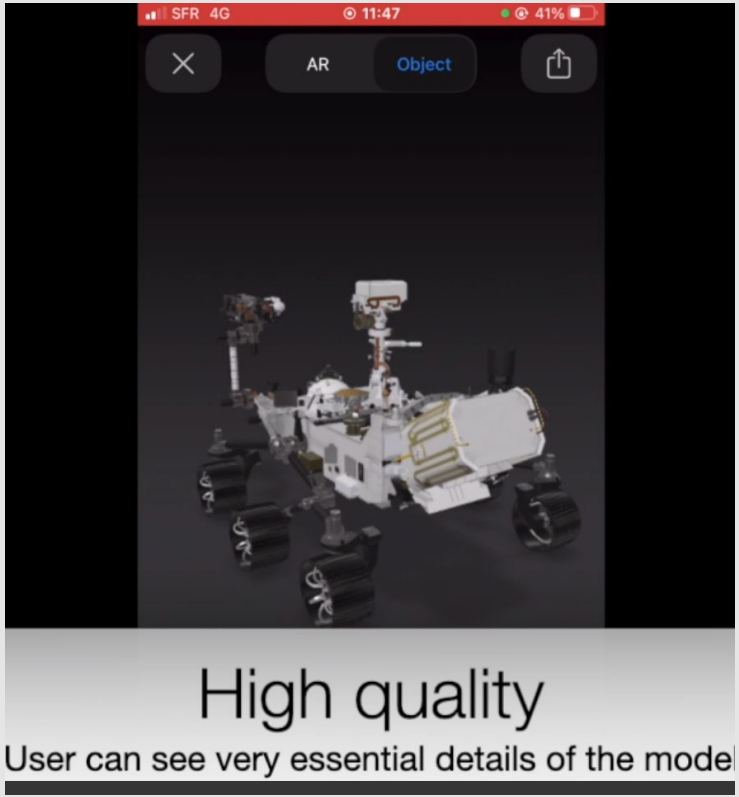
Phone requires different viewpoints to calibrate the camera and detect the depth

What can the user do with the app?

Here you could give a brief example what you can do: manipulate the size of the model and control its position on an on-set plane, previously detected with the help of ARkit

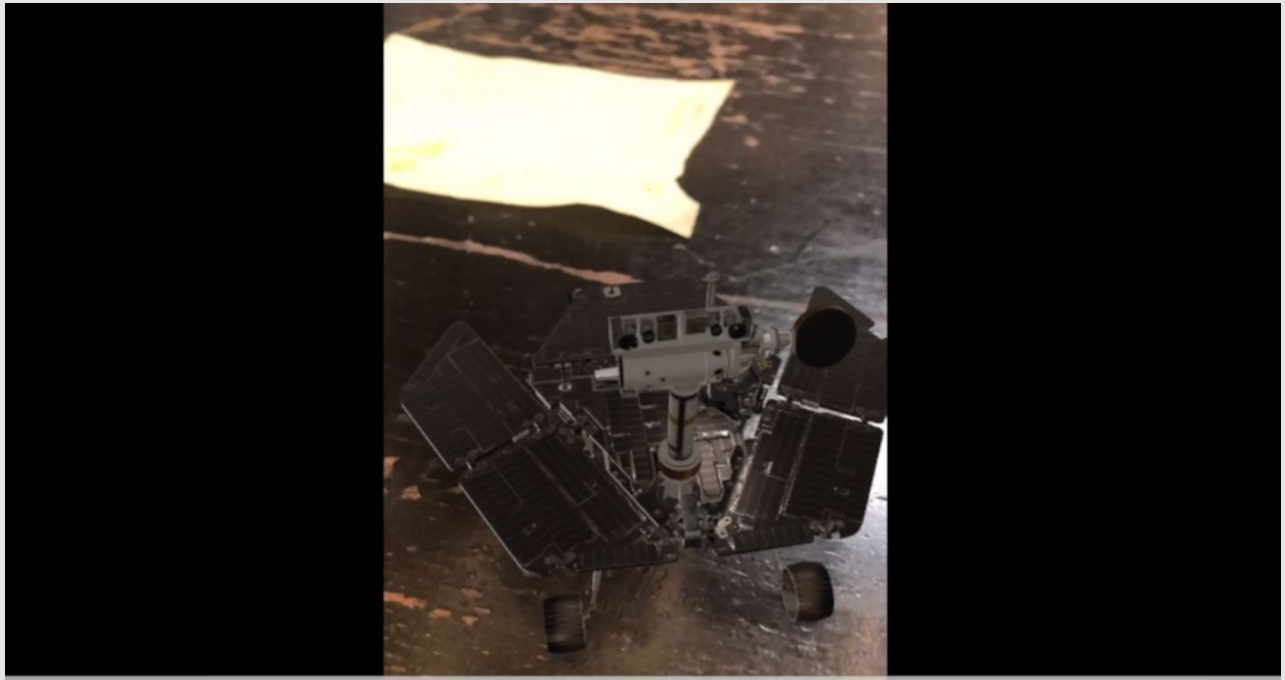


High quality models★



★https://mars.nasa.gov

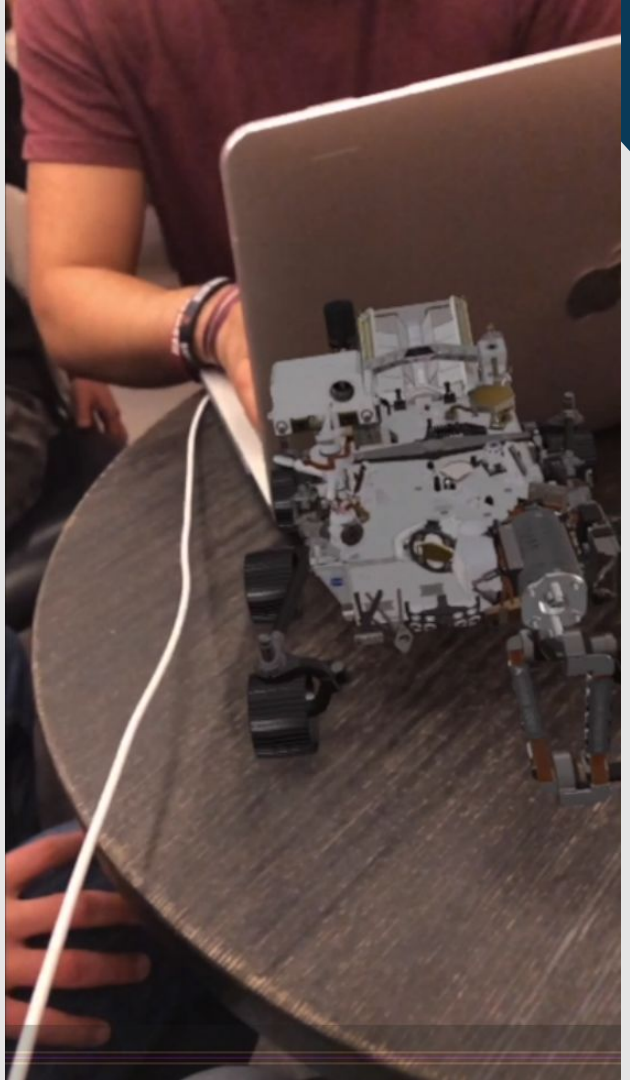
Depth detection



Different surfaces

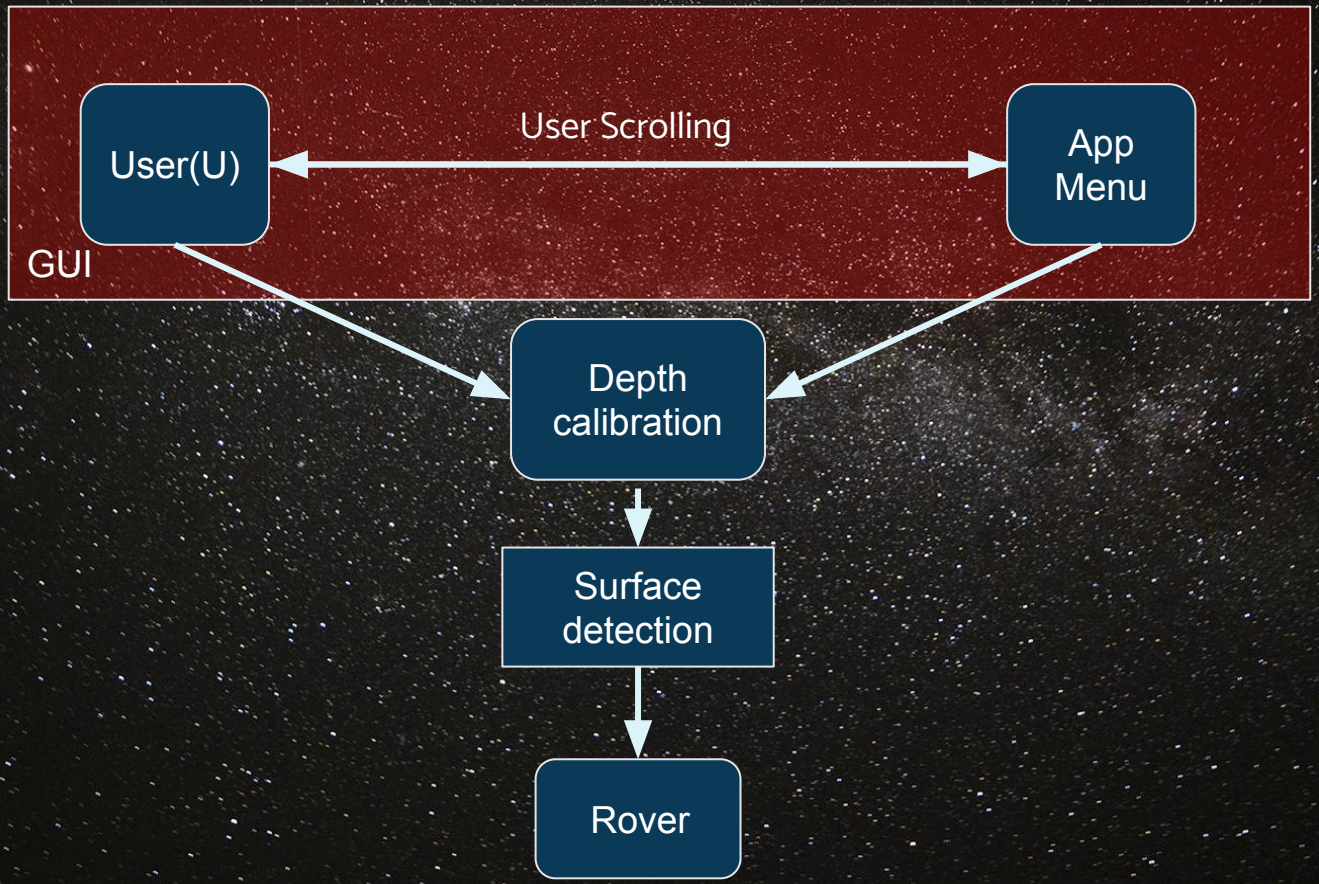
Object moves only on detected surfaces. They can be different according to the environment

Surface Detecting

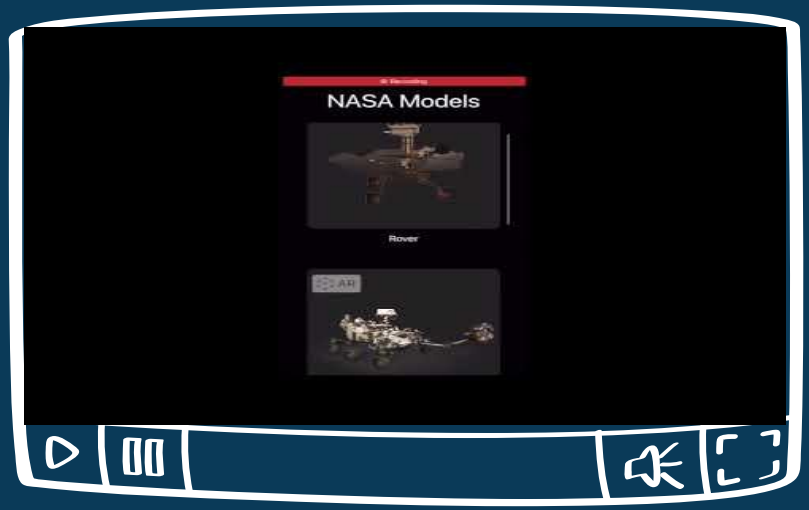


Venus

★Summary★


User(U)
User Scrolling
App Menu
GUI
Depth calibration
Surface detection
Rover

Application Demo:



References:

- Mars.nasa.gov
- stfalconcom.medium.com/augmented-reality-with-swift-5-how-to-start-19118c77dffe
- medium.com/twinkl-educational-publishers/create-your-first-ar-app-with-realitykit-and-swiftui-7c5d1388b5

Thank you for Your attention!