### Hashtags: #earth, #whereonearth

Contact: [[email protected]](http://www.cloudflare.com/email-protection)

### Tags: Imagery

**Challenge Description**   
 NASA’s Earth Observing System provides us with a wealth of free satellite data for research and community service. Create a game or app that displays satellite images of places around the world and asks users to guess where and what they are. The app could include land cover and land class identification tools for users to visually interpret features on the ground.

**Background**

Data for this app can be obtained from any freely available remote sensing satellite. NASA’s Earth Observations include a fleet of satellites dating back to 1970s. Four decades of data from satellites like Landsat could be used to create images indicating manmade changes, for instance, growth of cities. Landsat 5, 7 and 8 will provide imagery at a spatial resolution of 30m, ASTER at 30m and MODIS at 250m. Certain geologic structures or interesting land formations like river deltas can be easily identified with natural color imageries at different scales, for example, Garden City in Kansas, US or the Nile River. Cloud free data can be chosen for better clarity. The app could also include land cover/ land class identification tools for users to visually interpret features on the ground. For instance, when the app displays a small scale imagery of part of France, users could interact with the imagery to identify prominent features such as the city of Paris or the Alps. Data archives of remote sensing satellites are wide enough to provide great scope for this project.

**Solution Ideas**

Here are some ways for you to frame this solution:

The app could be in the form of a game and could have different categories such as – Natural, Manmade, etc., different levels – Easy, Intermediate and Difficult and different themes addressing questions such as, what is happening here, where is this image taken, which prominent feature are you looking at, and so forth.

Some of the possible sections could be location, geology, weather, change detection, land use, random questions, etc. After the player answers a question, the app could give a brief explanation about the image (with the source of the image).

For every correct answer, points could be awarded. The game or app could include an option to share user scores on social media and invite others to play. The user could be able to take the quiz offline and keep answering questions and jump to different levels in the game.

**Sample resources**

* <http://landsat.usgs.gov/>
* <http://earthobservatory.nasa.gov/>
* <http://modis.gsfc.nasa.gov/>
* <http://asterweb.jpl.nasa.gov/>
* <http://earthexplorer.usgs.gov/>
* <http://glovis.usgs.gov/>
* <http://eospso.gsfc.nasa.gov/>