StellarEye

NASA Space Apps Challenge 2025

"Embiggen Your Eyes" Solution

Interactive Space Exploration Through Satellite Perspectives

Challenge: Help people see beyond human vision using satellite data

The Human Vision Problem

Human eyes see only 0.0035% of the electromagnetic spectrum

- X No infrared vision (heat signatures)
- X No microwave detection (cosmic background)
- X No access to space telescope perspectives
- X Can't experience how satellites actually observe space

Challenge: Give people satellite eyes



Interactive satellite vision for everyone

- ✓ Multi-wavelength space map Switch between optical, infrared, microwave
- **▼ Real NASA survey data** ESO, WISE, 2MASS backgrounds
- ✓ Mission image gallery Voyager, Hubble, JWST archives
- **✓ Google Maps for space** Intuitive exploration interface

Experience how satellites see the universe



Authentic satellite perspectives

Background Surveys:

- ESO All-Sky Survey (optical wavelengths)
- NASA WISE Survey (infrared heat signatures)
- NASA 2MASS Survey (near-infrared penetrating dust)

Mission Images:

- NASA Images API (Voyager, New Horizons, Hubble)
- Real astronomical coordinates (Gaia star catalog)
- Progressive image loading with CORS proxy



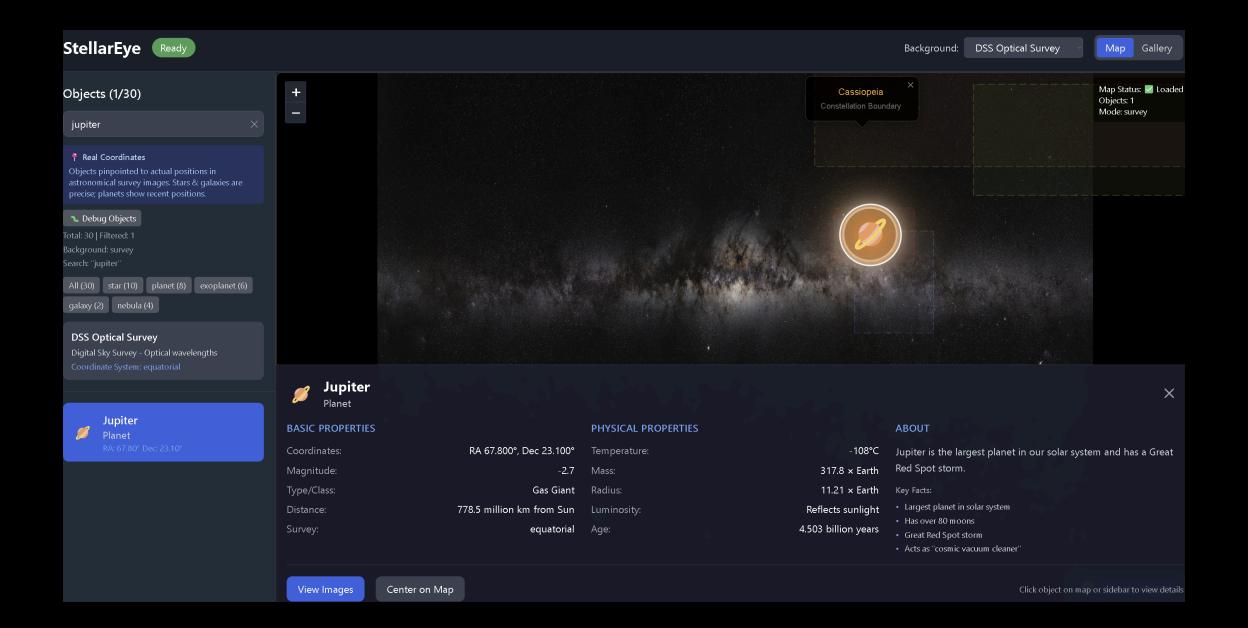
Interactive space exploration

Map Interface:

- Click celestial objects (stars, planets, galaxies)
- Switch survey backgrounds (optical infrared)
- Real astronomical coordinates (RA/Dec)

Image Gallery:

- Multiple telescope perspectives of same object
- Advanced zoom/pan viewer
- Mission metadata and descriptions





"Embiggen Your Eyes" Achieved

Giving humanity satellite vision

Challenge Requirements Met:

- Help people see beyond natural perception
- ✓ Use real satellite data (NASA/ESA missions)
- Create interactive experience
- Educational and accessible