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CONNECTING EARTH AND SPACE – USING A SMARTPHONE APP

Abstract

This paper presents an approach to using smartphones and tablet devices to establish a connection between astronauts on the International Space Station (ISS) and people on Earth. This was initially devised in response to the "Spot the Station" challenge in the International Space Apps Challenge 2013. The goal of the challenge was to create an app to alert people of visible ISS passes over their location, using publicly available data about the space station's position. T-10 takes this one stage further with versions of the app available for Earth and space, which work in harmony to create a sense of connection between the ISS and the ground. The T-10 app is designed to have a practical, time-saving element for astronauts, as well as increasing awareness that the ISS can be seen from Earth. The proposed solution uses a weather-sensitive alarm-based system to alert astronauts at T-10 minutes before the ISS passes over areas they have selected to be of photographic interest. When astronauts elect to take a photograph, ground users in that location will receive a notification, telling them to "smile for the camera". The Earth app also alerts users to visible passes of the ISS, and collates data about the number of people "waving" at the ISS and sends this to the crew. The team considered the needs of users on the ground and in space in order to create a tool that is both fun and functional. This will promote continued use of the app to share sightings of the ISS and specific points on Earth with new and existing social networks.