"Through the development of Rate Monotonic Scheduling [theory], we now have a system that will allow [Space Station] Freedom's computers to budget their time, to choose between a variety of tasks, and decide not only which one to do first but how much time to spend in the process"

Deputy Administrator of NASA, Aaron Cohen, "Charting The Future: Challenges and Promises Ahead of Space Exploration", pp. 3, October 1992.
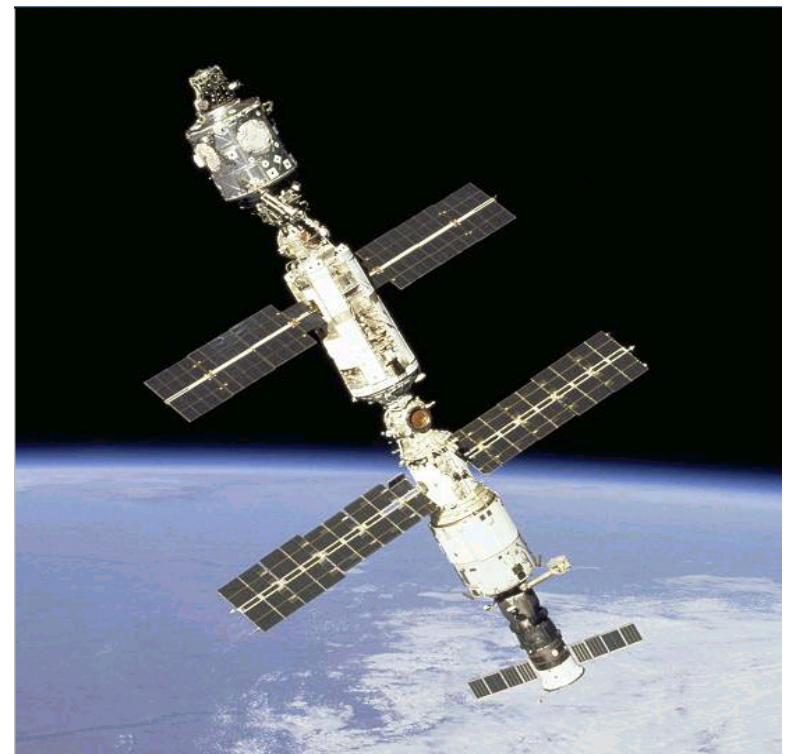
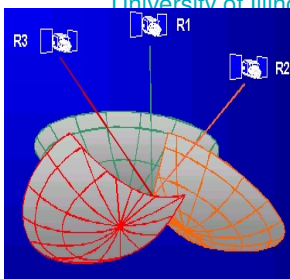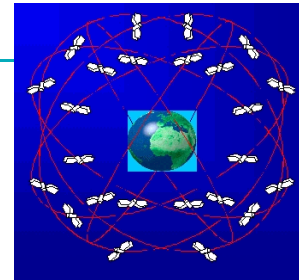[After overcoming development problems in the real-time software of Space Station Freedom.]

"Dear Dr. Sha,

I hope this finds you doing well. I frequently recall your efforts on everyone's behalf in convincing IBM on RMS principles for the Space Station Software…It has been a very exciting 5 years since the reconstruction of the Station from Freedom to its present configuration[International Space Station]."

ISS C&DH Architecture and Software Manager, David Pruett, NASA Johnson Space Center, January 19, 2001.

[After successful operational testing of International Space Station.]

INTERNATIONAL GPS SERVICE

Monitoring Global Change
By Satellite
Tracking

IGS

ABOUT IGS   ORGANIZATION   FAQs   FTP ARCHIVES   WEBSITE INDEX   WHAT'S NEW
MAIL   DATA & PRODUCTS   TRACKING NETWORK   NEW PROJECTS & APPLICATIONS

"The navigation payload software for the next block of Global Positioning System upgrade recently completed testing. ... This design would have been difficult or impossible prior to the development of rate monotonic theory", L. Doyle, and J. Elzey, "*Successful Use of Rate Monotonic Theory on A Formidable Real-Time System*", in the Proceedings of 11th IEEE Workshop on Real-Time Operating Systems and Software, pp. 74, 1994.
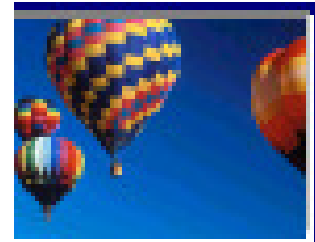
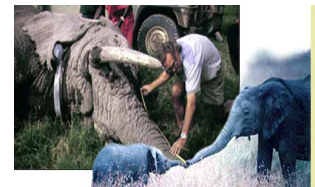GPS Helps Find Stranded Motorist in 48-hour Rescue Effort
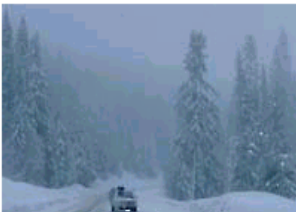
Polar Studies and Glaciology

Volcano Monitoring

NOMAD on its way through the Antarctic.

After a radio collar is fitted on the elephant, data is recorded and parasites, blood and DNA samples taken

Using GPS radio collars we study long-distance movement to better understand elephant needs. Elephants are sensate beings of higher order intelligence.

"The Mars Pathfinder mission was widely proclaimed as "flawless" in the early days after its July 4th, 1997 landing on the Martian surface. … But a few days into the mission, not long after Pathfinder started gathering meteorological data, the spacecraft began experiencing total system resets… Once diagnosed, it was clear to the JPL engineers that using priority inheritance would prevent the resets they were seeing. …No more system resets occurred.

David also said that some of the real heroes of the situation were some people… who first identified the priority inversion problem and proposed the solution …They were Lui Sha, John Lehoczky, and Raj Rajkumar. …

When was the last time you saw a room of people cheer a group of computer science theorists for their significant practical contribution to advancing human knowledge? :-) It was quite a moment."

http://catless.ncl. ac.uk/Risks/ 19.49.html
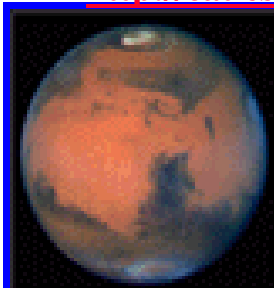
Ever since Pathfinder landed on Mars July 4th, 1997, *this* world has never been quite the same. (Courtesy NASA/JPL)