



Transient Response

The Lunar Module Simulator

Professor Robert Kelly

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Robert Kelly:

Credentials:

- Received Ph.D in Computer Science from NYU in 1991
- Professor at Stony Brook University since 1999
- Research in following fields:
 - Emergency Department Error Detection System (EEDS)
 - Marine Science Database project
 - Universal Medical Monitor
 - Grumman Aircraft Engineering Corporation



Image:
<https://www.cs.stonybrook.edu/students/Undergraduate-Studies/ISEprogram>

Apollo II Space Mission

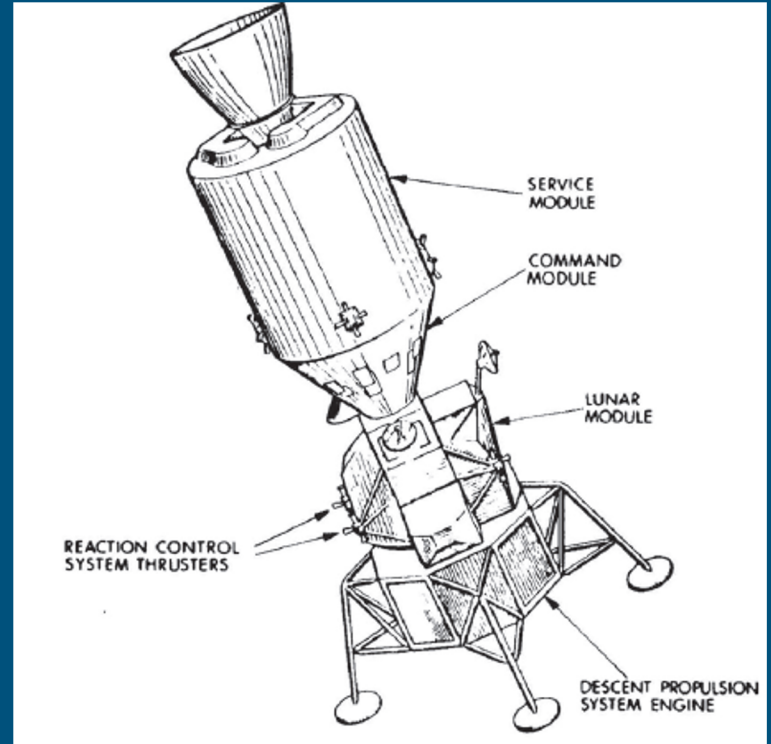
- In 1961, President John F. Kennedy declared that America would go to the moon, within a span of a decade
- Race to Space between U.S and Soviet Union
- Joseph G. Gavin Jr. director of Apollo II Lunar Module Project at Grumman Aircraft Engineering Corporation
- Gavin and his team developed a computer simulation for the lunar-landing project



Image:https://en.wikipedia.org/wiki/We_choose_to_go_to_the_Moon

Transient Response

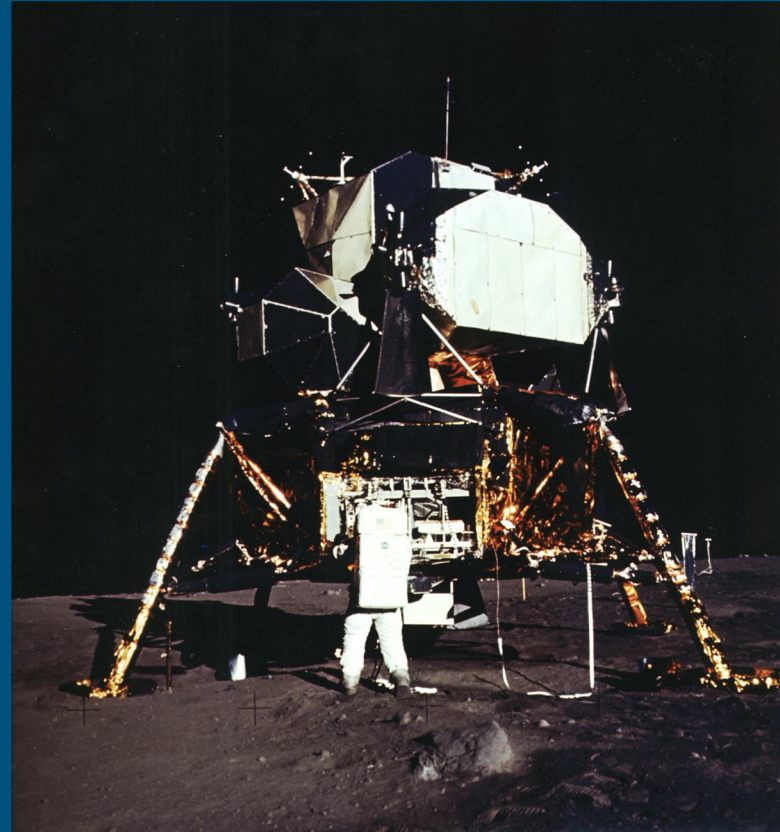
- A Computer simulator
- Allowed LM simulations
- Was used in early APOLLO Missions
- Written By Prof. Kelly for Grumman AC.
- Was written in Fortran
- Ran on the IBM 7094
- Punch Cards were used to run the simulation



Widnall
(1970)

Impact

- Facilitated simulations.
- Saved time, and reduced errors
- It was reused many times over during different APOLLO Missions.
- The Landing was successful
- Helped enormously during the rescue mission in APOLLO 13
- It paved the way for Computer Simulations.



Interview with Professor Kelly

- <https://drive.google.com/open?id=14sDWQqeYuFXgwaQtKJWm6y9dPNkXgfzX>
- **Full Interview:** <https://drive.google.com/open?id=1-8HbMJJ9YBEDPEXdT9-Oahm1AeHpNHyo>

Thank you

We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win, and the others, too

-- John F. Kennedy