KatySat

A Collaborative Effort to Make Space Fun

"Kids Aren't Too Young for Satellites"

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http://www.katysat.org

Agenda

- KatySat Concept Overview
- KatySat as an "Intellectual Commons" collaboration

Traditional Space

- Science

- Remote Sensing

- Military

- Telecom

- Navigation

Personal Space is Beginning

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Learning from Other Technologies

How do we make space "personal?"
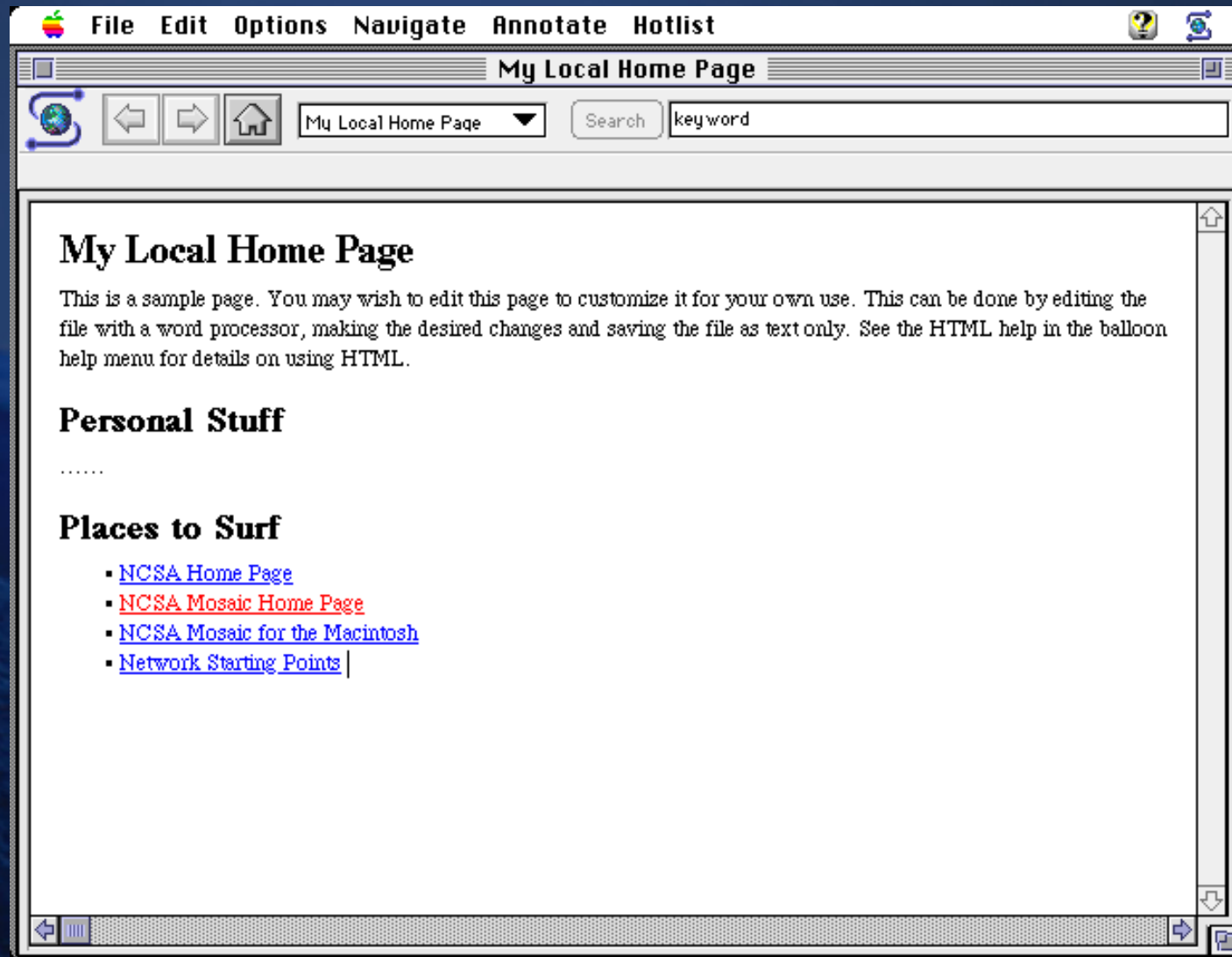
Simplicity

1978 Apple II
(Thought Different)

"Simplicity is the Ultimate Sophistication"
    - Leonardo Da Vinci

"Making the simple complicated is commonplace; making the complicated simple, awesomely simple, that's creativity.

    - Charles Mingus

and Accessibility

Creates Innovation

"…Fascinated by Computers in High School"

Students Today Need Similar Inspiration

KatySat

"When I compare our high schools to what I see when I'm traveling abroad, I am terrified for our work force of tomorrow. In math and science, our fourth graders are among the top students in the world. By eighth grade, they're in the middle of the pack. By 12th grade, U.S. students are scoring near the bottom of all industrialized nations. . . .

Bill Gates, in a speech to the Governors' Conference Feb 26th, 2005

KatySat Mission Statement

Develop and implement a technically simple, fun, flexible, and affordable satellite system that will challenge and motivate young people's interest in the fields of space, technology, and science. Create an infrastructure for K-12 students to have hands-on experiences and establish global collaborations using space.
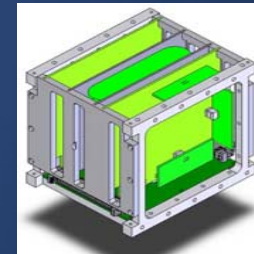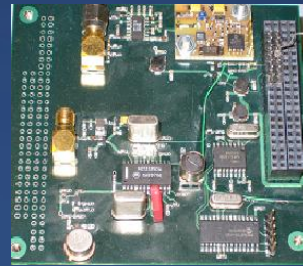
KatySat is a Collaborative Effort…

Thrusters

Attitude Determination

De-orbit module

Deployable Solar Panels

…for Education and Innovation

"Intellectual Commons" Style Collaboration

- Inspired by Apache web server, Linux communities
- Opportunities for non-commercial and commercial participants
  - Maximizes innovation
- The "Making a Cake" analogy
  - What is shared?
  - What is proprietary?

Final Product

"Intellectual Commons" Style Collaboration, cont'd

- Share the cake recipe(s)
  - Basic bus and ground station designs
  - Basic educational tools and design
  - Example: Linux kernel, Apache code
- Flour, eggs, and other ingredients
  - Independently developed power, comm boards, software, OS's, kits, etc, are proprietary
  - Improvements for pre-existing components/designs/software are shared
- Actual cakes can be sold
  - Integrated, assembled systems, etc
  - Support services
- Frosting+ is proprietary
  - Value added extra capabilities
  - Example: Redhat/SuSe Linux, Lindows, IBM WebSphere

shared

Not shared

Benefits of KatySat Collaboration

- For Starters: a great first satellite mission
  - Simpler requirements
  - Accelerated development time
  - Help local community
  - Good PR value
  - Funding Prospects, especially as concept matures
- **Example: KySat**
- For more experienced groups
  - Serve an important and new kind of "customer"
  - Shift to a product-based mentality
  - Pioneer the era of personal space
  - Utilize creativity to "make space fun" (the KatySat Mantra)
  - Accelerate development time with access to other designs, technologies, methods, architectures, code bases, etc
- For commercial: outlet to offer products and services
- KatySat is looking for "early adopters"

Thoughts? Feedback? Discussion?

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