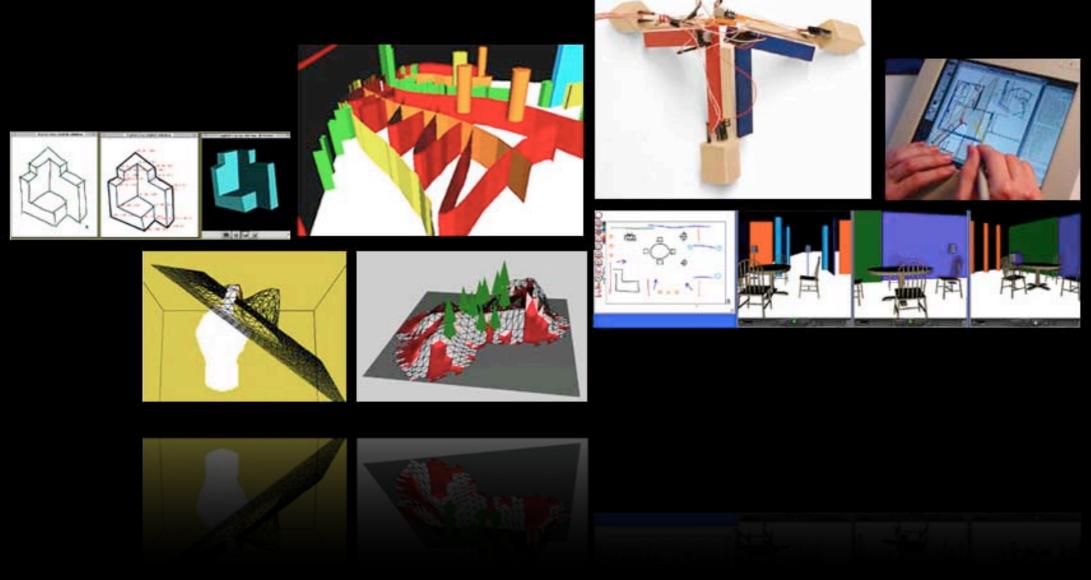
Environment for Creativity — A Lab for Making Things

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A Lab for Making Things



A reflection – Everyone can be creative!

Creative Making

. design = making --> creativity

. models and characteristics

. pro.gram = de.sign

The Joy of Making Things



to create == to make

To create:

- 1. Said of the divine agent: To bring into being, cause to exist; esp. to produce where nothing was before, 'to form out of nothing'
- 2. To make, form, constitute, or bring into legal existence (an institution, condition, action, mental product, or form, not existing before)

To make:

- 1. To produce (a material thing) by combination of parts, or by giving a certain form to a portion of matter, to manufacture; to construct, assemble, frame, fashion.
- 2. Of God (also of Nature personified, etc.): to create (a material or spiritual object).

Models for Creative Design

. materials & process

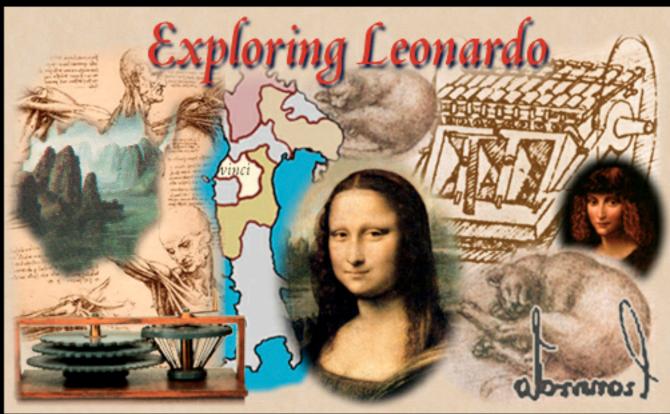
. studio laboratory environment

. the Leonardo model

Studio-Laboratory &

the Leonardo Model





scientist, inventor, artist engineer, architect, painter, composer, mathematician, etc...

Leonardo Machines



Division of Disciplines

Arts & Humanities

Artists Animation Architecture
Arts and Crafts Ceramics Computer
Generated Photography

Business

Advertising Agriculture Consulting
Construction Energy Financial
Food Internet Management
Manufacturing Marketing and Sales
Publishing Real Estate Security
Telecommunications Transportation

Computers & Internet

Artificial Intelligence Artificial
Life Consultants Databases
E-Commerce Education Graphics
Hardware Internet Multimedia
Parallel Computing Software Virtual
Reality World Wide Web

Directory of Conferences

Health

Alternative Disabilities Education
Environmental Fitness Medicine
Neurology Nursing Nutrition
Pharmacy Professions Teen

Society

Fashion Government Military
Mythology and Folklore Paranormal
Sexuality

Reference

Books Education Geography
Libraries Museums

Science and Technology

Aeronautics Agriculture
Alternative Astronomy Biology
Biotechnology Biochemistry
Chemistry Civil Earth Science
Ecology Electronics Energy
Engineering Environment Forensics
Geography Geology and Geophysics
Information Technology Life
Sciences Mathematics Mechanical
Meteorology Nanotechnology
Oceanography Paleontology Physics
Policy Psychology Research
Technology Space Vibrations
Wireless

Education

<u>Distance Learning Higher Education</u> <u>Instructional Technology Languages</u> <u>Libraries Literacy School Safety</u>

Social Science

Archaeology Anthropology Cognitive
Science Economics History
Humanities Linguistics Political
Science Philosophy Psychology
Religion Sociology Urban Studies

Recreation

Collecting Outdoors Travel

News

Internet Magazines Media Newspapers Photojournalism

Government

Law Military US Government

subjects, departments, schools, colleges

Creative Engagements

- . owning the problem
- . design and the play instinct
- . building tools to make things

Owning the Problem

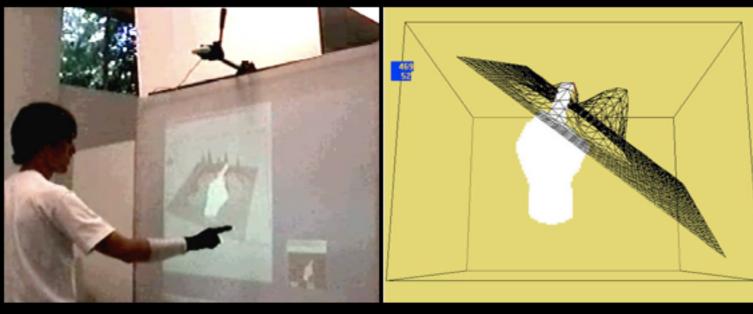


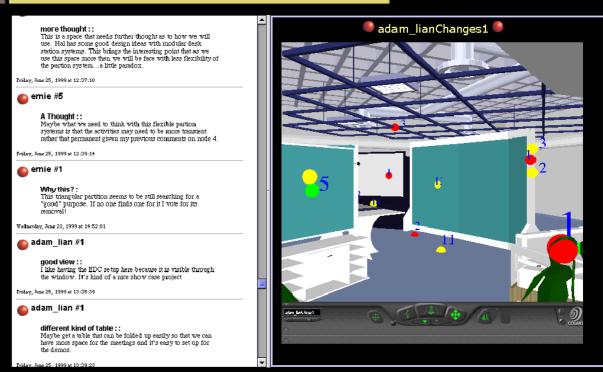
. deciding what to design

. figuring out the "wants"

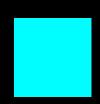
. having a reason to design

Owning the Problem





Design and the Play Instinct



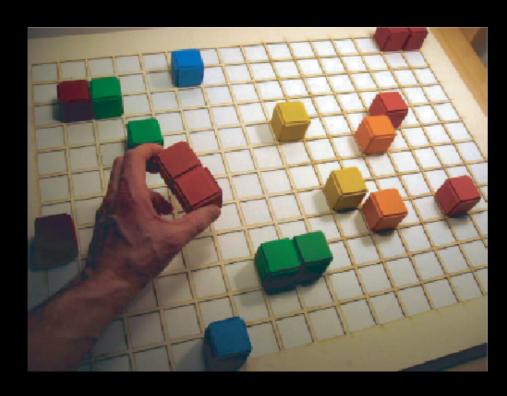
. tinkering

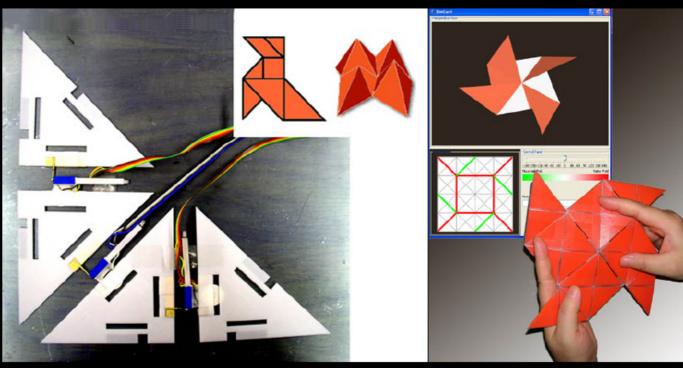
. play within constraints

. problem & solution co-evolve

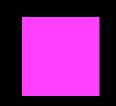
Design and the Play Instinct







Building Tools to Make Things



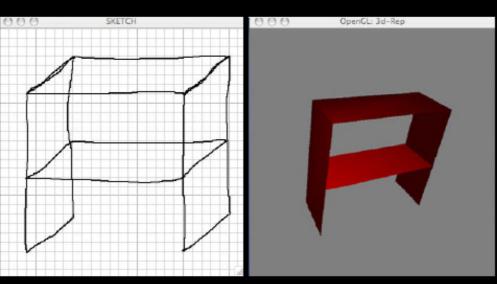
. object to think with

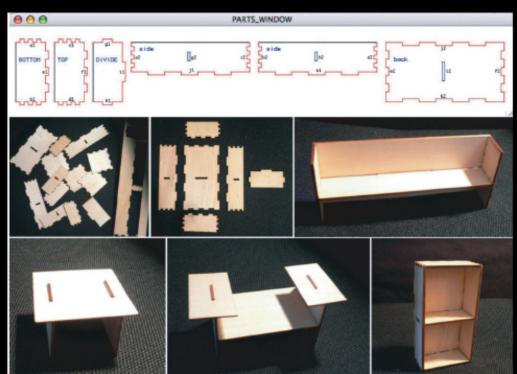
. ways of working

. methods and tools

Building Tools to Make Things







pro.gram = de.sign

```
pro = forward
gram = writing
```

```
de = out
sign = mark
```

to mark out to make an explicit representation

pro.gram = de.sign

Thanks

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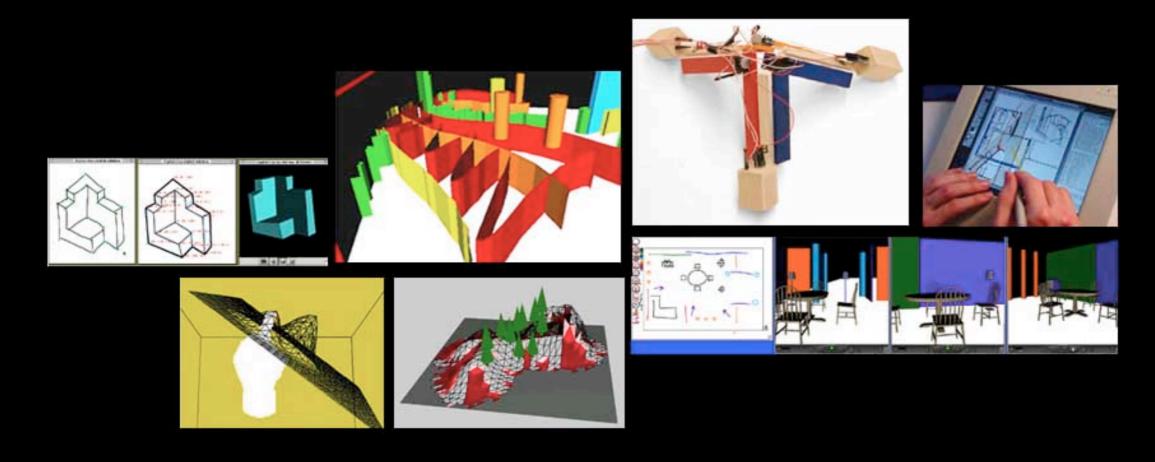
The views and findings contained in this material are those of the author and do not necessarily reflect the views of the National Science Foundation.







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