Topics

- History: The Dynabook
- Squeak Overview
- Projects using Squeak
- Squeak: A Tool for Research
History

- Alan Kay 1968: The Dynabook Vision
- Xerox PARC 1972-1980: Smalltalk
- Disney 1997 - 2001: Squeak
The Dynabook

A Dynamic Medium for Creative Thought
Xerox PARC: Smalltalk
Squeak

- Prototyping Environment
- Based on Smalltalk 80
- Adds Multimedia features
  - Color and 2D Graphics
  - 3D, Sound, Networking...
- Etoys prototype for kids
Squeak: Overview

DEMO
Viewpoints

- Tweak: Scripting + UI
- Croquet
- Coke/Pepsi/Cola
- Rethinking Language Implementation
Squeak.org

Community squeak.org

Lots of cool projects

Some demos later

Sadly not much coordination

Working together is very hard!
Squeak 3.9

- Merged back Squeakland + SmallLand + SCG + Impara + Seaside (NetStyle)
- New Features:
  - Traits, Pragmas, Services, Look
- A ****lot**** of changes!
Projects

- Sophie
- Impara: Plopp3d, ....
- Croquet
- OLPC
- Seaside
Plopp3d

DEMO
Sophie

- Open-source multimedia publication and run-time frameworks
- Flash + iMovie + PDF
- Completely new text + font implementation
Sophie Project

http://sophieproject.org/
Open-Croquet

Immersible and collaborative system

http://www.opencroquet.org

version 1.0 is out
Qwaaq Forums

http://qwaq.com/
OLPC: $100 Laptop
Seaside

http://www.seaside.st/
Free seaside hosting
Support for Ajax
scriptaculous.seasidehosting.st/
http://seachart.seasidehosting.st/
www.dabbledb.com

Seaside-based
venture capital funded
www.dabbledb.com
CMSBox

cmsbox.com
Part II: Research

Why use a kids system for Research?

Especially Software Engineering?
Example: SCG

Software Evolution

Two directions

Reengineering

Language support for Evolution
Reengineering

- Analyzing existing source code
- Understanding big systems
- Enabling future evolution
- Software Visualization
Moose

Reengineering Environment

Many Plugins

Example: Chronia

http://moose.unibe.ch/
Moose

- Implemented in Smalltalk (Cincom)
- Smalltalk enables
  - Rapid prototyping of complex tools
  - Very fast turnaround
  - Agile development
Languages for Evolution

Languages do not support Evolution

How to support Evolution better?
Squeak for Prototyping Languages

- Completely open
- Reflection
- VM easy to modify
- Simple
- Simple Syntax
- Dynamic Typing
Traits

- Classes composed of Traits
- Collection of methods
- No state

Pioneered in Squeak

Scala, Perl6, Fortress, Slate
Changeboxes

- Provide first class model of Change

- History always available even at runtime

- System can be run in old version
Other groups...

- HPI Potsdam (Germany)
- University of Savoie (France)
- Ecole des Mines de Douai (France)
- Cadence Design Systems Inc. (USA)
Thats it...?

... for now

Questions?

Next?
Possible topics...

- Reflection
- Metaprogramming and Refactoring
- Bytecode + Bytecode Transformation

Examples of how to use dev tools
- Monticello, Browser...