



# GoodNotes

share your mind



# GoodNotes is a learning tool

- What is learning?
- What is knowledge?
- How do we get more?



# We learn by communicating

- Communication
  - Language both spoken and written
- Group negotiation of meaning
  - Distributed cognition
- Vitality of conversation to life
  - We evolved in groups

# God Save the School School is Dead

School:Learning::Hospital:Healing

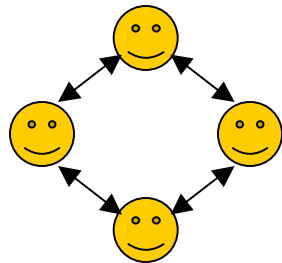
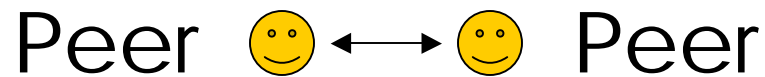
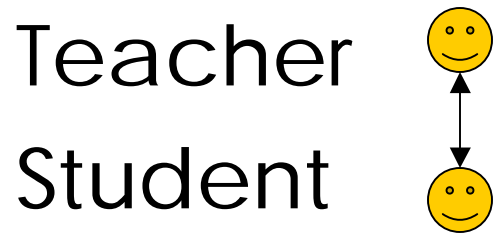
Learning is naturally ubiquitous

Learning occurs in all layers of space





# Stakeholders Relationships

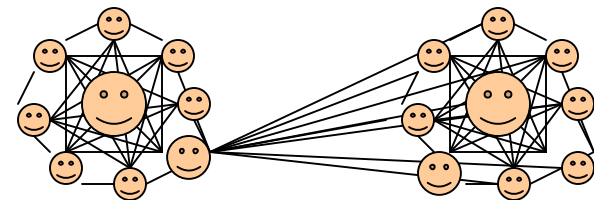
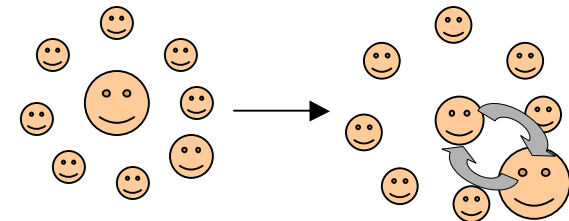
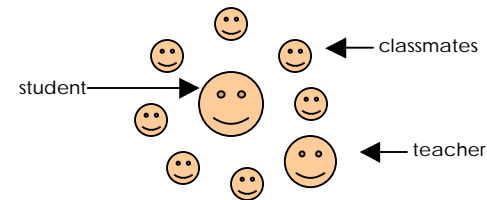


Teacher/student  
Teacher/student



# Design Challenge

- Put students at the center of the design process
- Every student can be a teacher
- Every student can be part of a group that contributes to the larger body of knowledge



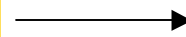
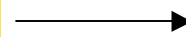
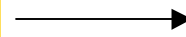
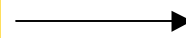
# GoodNotes

GoodNotes is an  
online collaborative learning tool  
between peers  
regardless of school



# Who, what, how?

- Peer to peer sharing
- Medium-high technical facility
- Students who use the web for research with varying levels of expertise
- Impoverished people a.k.a students



- A learning tool
- A piece of technology
- A browser tool
- A free open-source tool



# Core Features

- Social connections
- Bookmarks
- Tags
- Text annotations
- Spatially invasive annotation marks



# Demo

[Open browser](#)



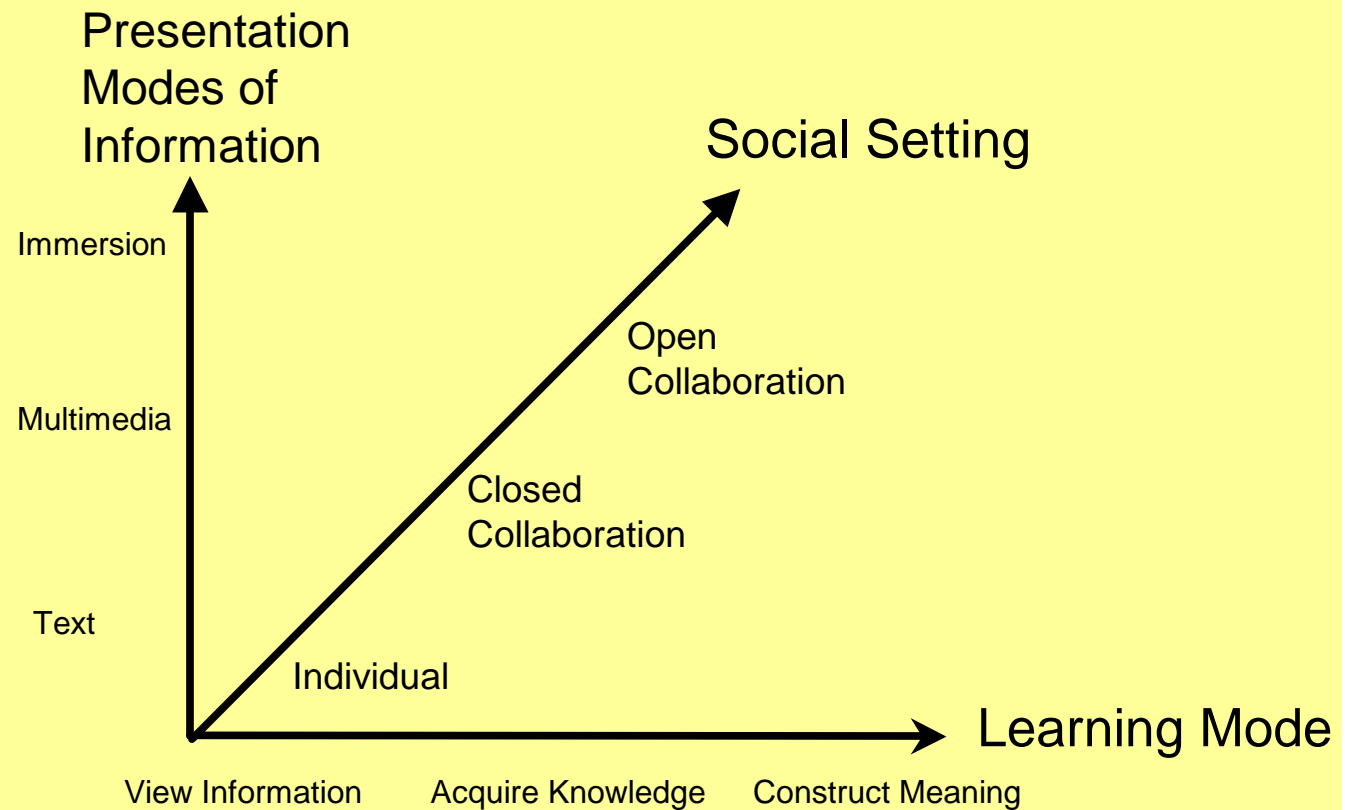
# Design Choices

- Why groups
  - Distributed formation of new language patterns
- Why annotations
  - Allows student to challenge the author, within spatial and temporal contiguity to reduce cognitive load
- Why “Tags”
  - Encourages rich connotative filtering
- Overall
  - Publishing medium vs. collaborative medium

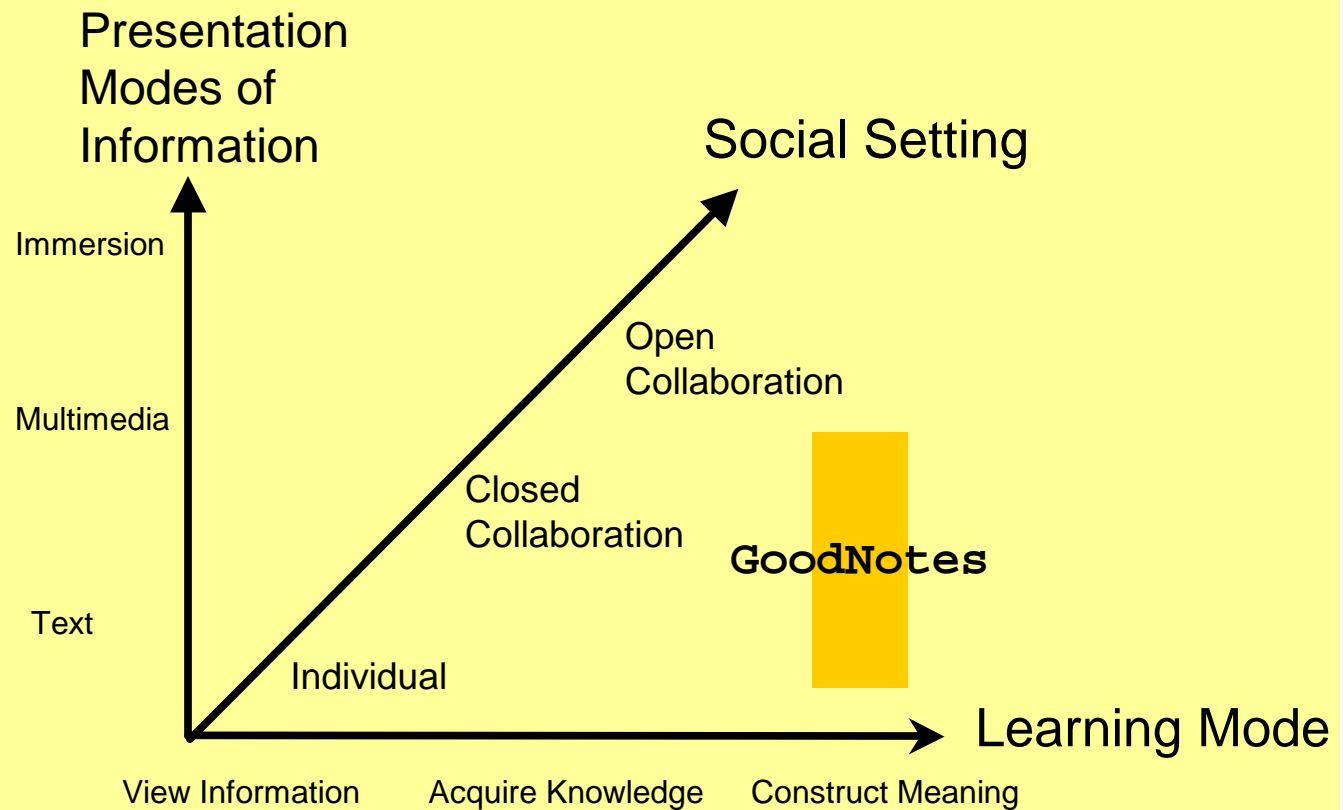


# Learning Strategies

*If there's a common taxonomy*



# Learning Strategies



# Similar applications

- Social software

- Del.icio.us, Flickr

- E-learning

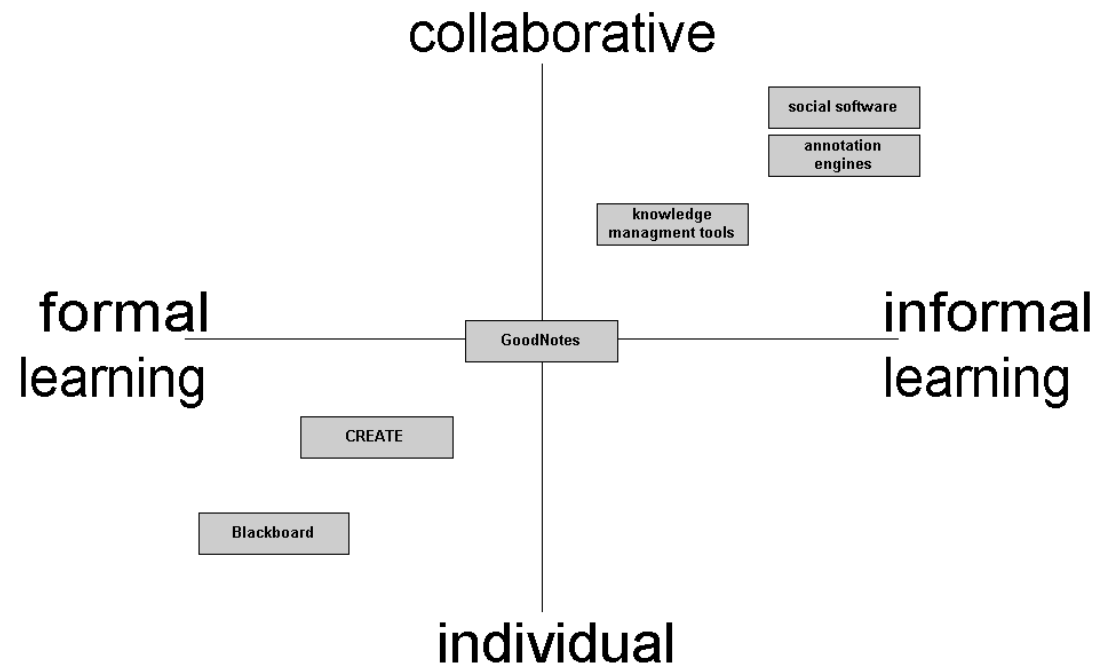
- [Blackboard](#), [CREATE](#), elgg.net

- Knowledge Management

- OpenText, Tomoye, CompanyCommand, MyLifeBits

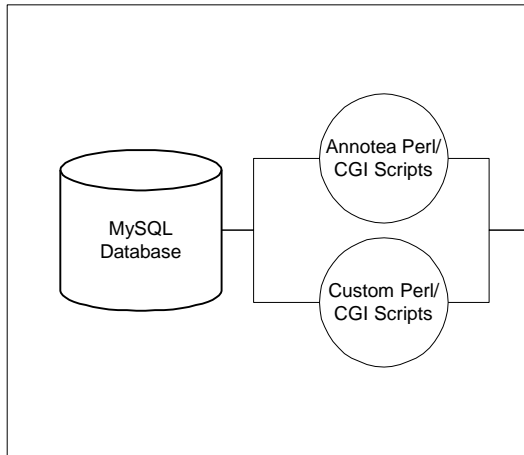
- Annotation engines

- Annozilla, Annotea

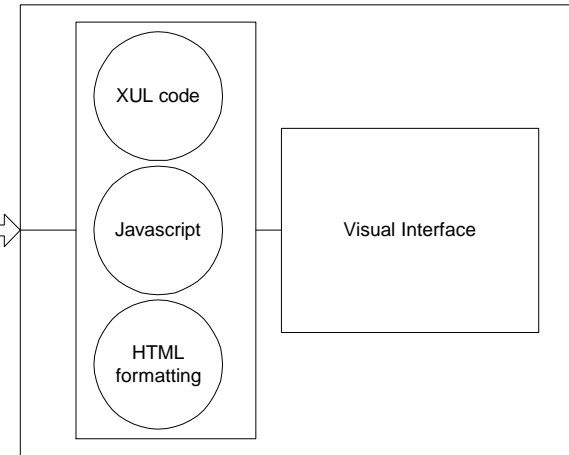


# System Architecture

Server Side - Debian Linux / Apache 1.3



Client Side - Firefox / Mozilla



*All documentation exists online at [begoodnow.com/thesis](http://begoodnow.com/thesis)*

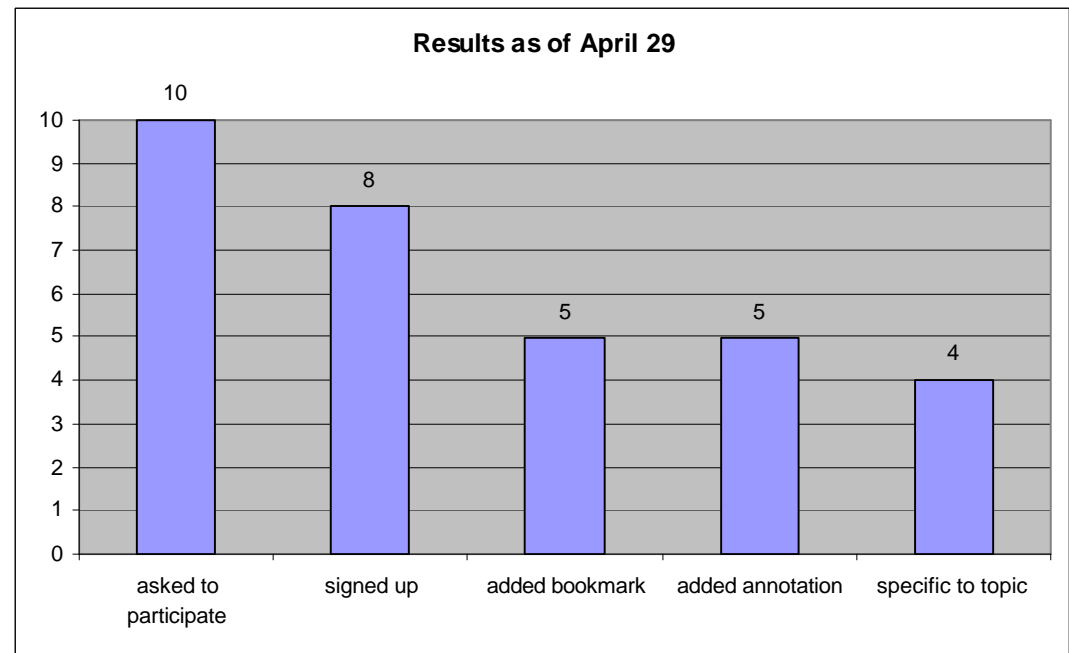
# User Testing Results: ITP

- ITP is composed of small clusters of students informal “experts” but who are peers.
- Simple learning task: Do normal online research. Presume group project on educational gaming.



# Test Results

- 10 students were asked to sign up
- 8 signed up
- 3/8 dropped it
- 5/8 added information
- 4/8 added information specific to the topic

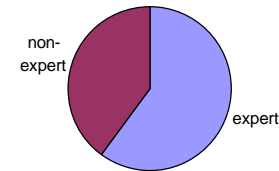




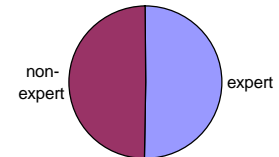
# Test Analysis

- Results showed strong drop-off for non-experts
- Mixed results from experts – 4/6 left information, 3/6 left useful info.
- However, if it only takes one connector to reach another cluster, these two are more than sufficient.
- Everyone who left a bookmark left a personal annotation
- Technical problems discouraged non-experts

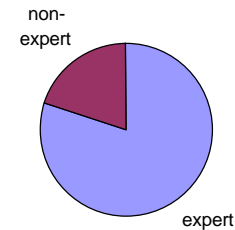
Asked to Participate



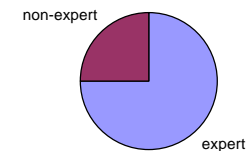
Signed up



Left bookmark & annotation



Left useful bookmark & annotation





# Guesses Confirmed by Users

- Expertise is located in groups
- Annotations are useful in spatial contiguity
- Tags are useful way to filter shared bookmarks

# Next steps

- Keep testing with existing and new clusters
- Test with different age group
- Compare with server log behavior
- Re-engineer and release via Mozdev



# Thank you!

*Questions?*

Thanks to:  
Nancy Hechinger, Thesis Class,  
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