ORGANIZING NLM BUDGET

National Library of Medicine

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Cornell University
Information Science (UX & Interactive Technology)

PROBLEM DISCOVERY

- **User Interviews:** Division Chiefs, AO's, Budget Office
  - Different pain points and different needs
  - Centered around central problem
- **Problem**: We want to be able to see how much has been spent and how much we have left to spend on the work budget but can't because:
  - Inconsistent financial record sending schedule
  - Unclear interpretation of financial records

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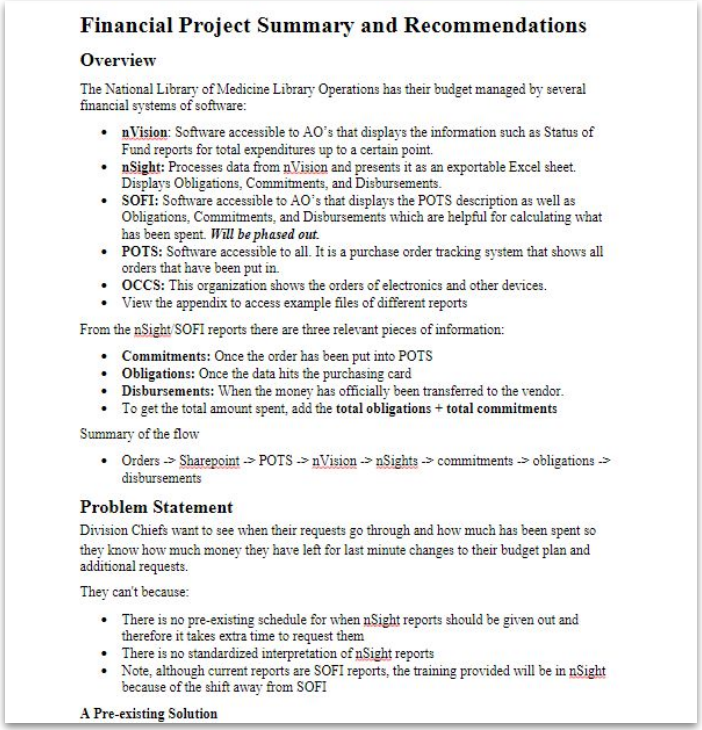
THE SOLUTION

- **Solution**:
  - Training of AO's and Division Chiefs on existing software
  - Mandate financial records to be sent out on a regular basis
- **Deliverable**: Written report summarizing user research, training to be implemented later



Financial Project Summary and Recommendations

Overview

The National Library of Medicine Library Operations has their budget managed by several financial systems of software:

- **nVision**: Software accessible to AO's that displays the information such as Status of Fund reports for total expenditures up to a certain point.
- **nSight:** Processes data from nVision and presents it as an exportable Excel sheet. Displays Obligations, Commitments, and Disbursements.
- **SOFI:** Software accessible to AO's that displays the POTS description as well as Obligations, Commitments, and Disbursements which are helpful for calculating what has been spent. ***Will be phased out.***
- **POTS:** Software accessible to all. It is a purchase order tracking system that shows all orders that have been put in.
- **OCCS:** This organization shows the orders of electronics and other devices.
- View the appendix to access example files of different reports

From the nSight/SOFI reports there are three relevant pieces of information:

- **Commitments:** Once the order has been put into POTS
- **Obligations:** Once the data hits the purchasing card
- **Disbursements:** When the money has officially been transferred to the vendor.
- To get the total amount spent, add the **total obligations + total commitments**

Summary of the flow

- Orders -> Sharepoint -> POTS -> nVision -> nSights -> commitments -> obligations -> disbursements

Problem Statement

Division Chiefs want to see when their requests go through and how much has been spent so they know how much money they have left for last minute changes to their budget plan and additional requests.

They can't because:

- There is no pre-existing schedule for when nSight reports should be given out and therefore it takes extra time to request them
- There is no standardized interpretation of nSight reports
- Note, although current reports are SOFI reports, the training provided will be in nSight because of the shift away from SOFI

A Pre-existing Solution

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IMAG wiki PUBLIC EDUCATION

National Institute of Biomedical Imaging and Bioengineering

Grace Peng — Head of MSM Group

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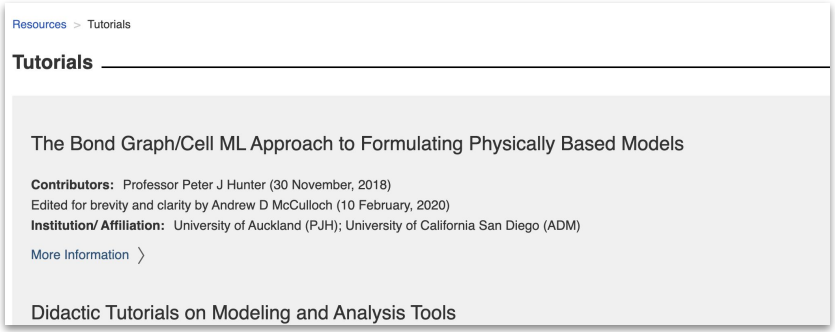
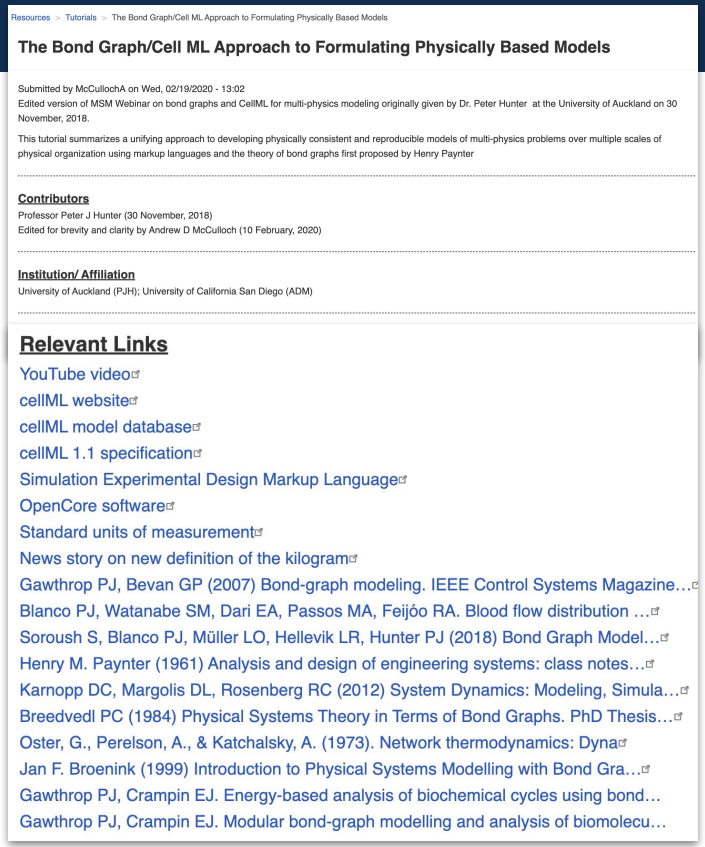
PROBLEM

- IMAG wiki *current audience*: modeling researchers
- Needs a education section as current one is highly specialist
- But for who? What will it look like?





Example from the tutorials section

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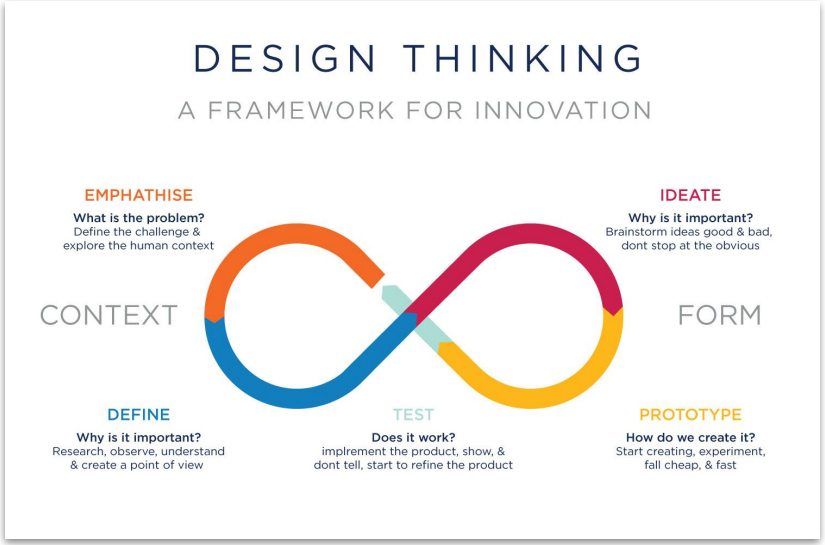
PROCESS

Research

- Deciding on a user group
- 12 User Interviews
- Interviews Synthesis
- Competitive Analysis

Prototyping

- Information Architecture (Content Requirements)
- Mid-Fidelity Prototyping
- 12 User Tests
- Iterating and making High Fidelities



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DECIDING ON A USER GROUP

Patient Advocates
Doesn't have the motivation to want to learn about modeling, focused on getting better.

University Students
Motivated, but has resources from school

K-12 Students
Interested, but modeling currently isn't integrated into curriculum

General Public
Interested, but not too much going in-depth

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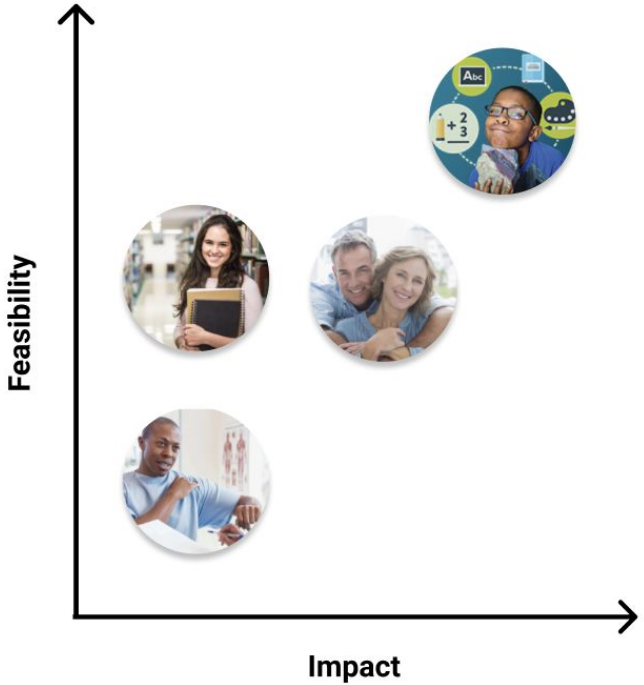
DECIDING ON A PROBLEM SPACE

- K-12 students would benefit the most from Public Education because:
  - Early education increases diversity in the field
  - Many tools exist that K-12 could use but no aggregated site for all of them
  - K-12 content could also be applied to novices in general looking to learn more
  - High impact and feasibility



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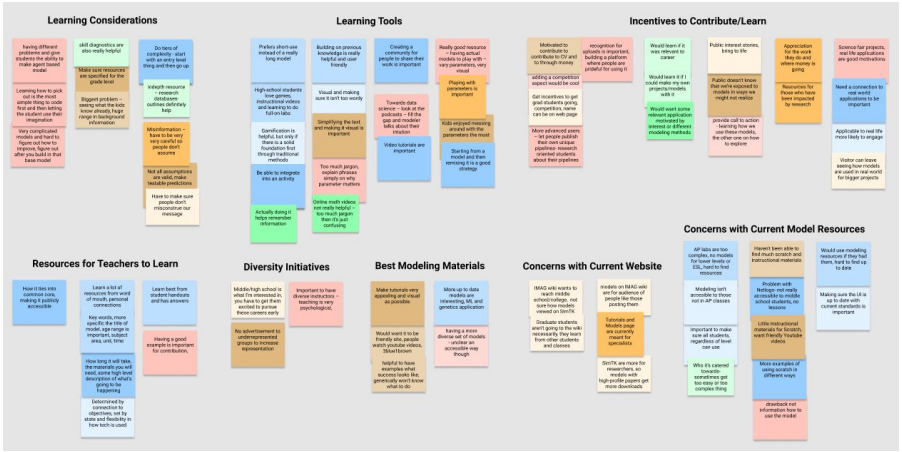
RESEARCH



Student Motivations	Learning	Problems w/ Website	Problems w/ Current Resources	Teacher Needs
Real-world applications Important to have connections to current events to answer why these skills matter	**Variety of Resources** Use video tutorials and podcasts to fill in gaps in knowledge	**Tutorials and Models are Currently meant for Specialists**	**Quality:** Haven't found many events for Scratch and Instructional Materials, need more examples of using scratch in different ways	**Parameters:** Age range is important, how long it will take, subject unit, how it ties to common core
Careers: Want to see how modeling connects to their career goals	**Interactive** Being able to manipulate a model and then increase in complexity is important	**Not geared towards undergraduates** Graduates and undergraduates will learn from classes	**Modeling not Accessible** AP labs are really complex, no models accessible to everyone	**Resources** Learn best from resources that already have examples and answer-keys, want to do the activity
Competitions: Provides a way for people to be incentivized to contribute and to learn modeling	**Remixing** Users find it easiest when they're able to remix a file and play with something that already exists		**Up to Date Resources** Current resources are out of date and UI is out-dated	
	Assumptions Want to avoid misunderstandings so make sure the explanation is indepth			

Frequency of Response

Most | Middle | Least

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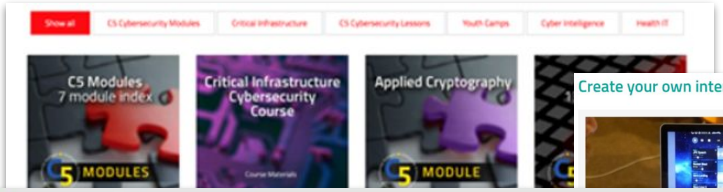
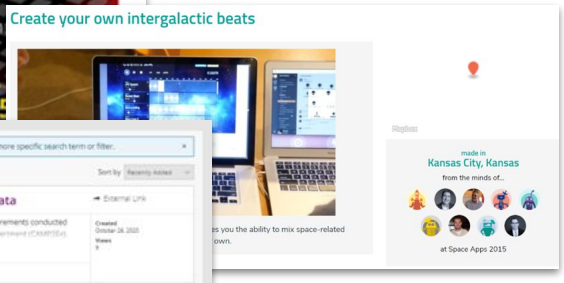
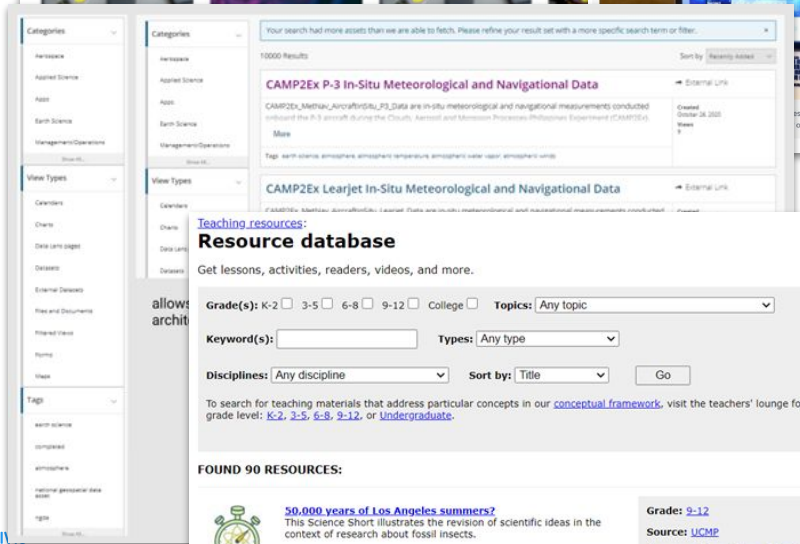
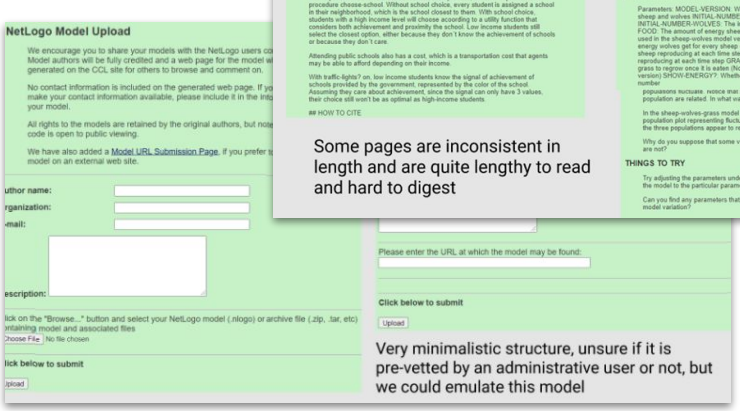
COMPETITIVE ANALYSIS

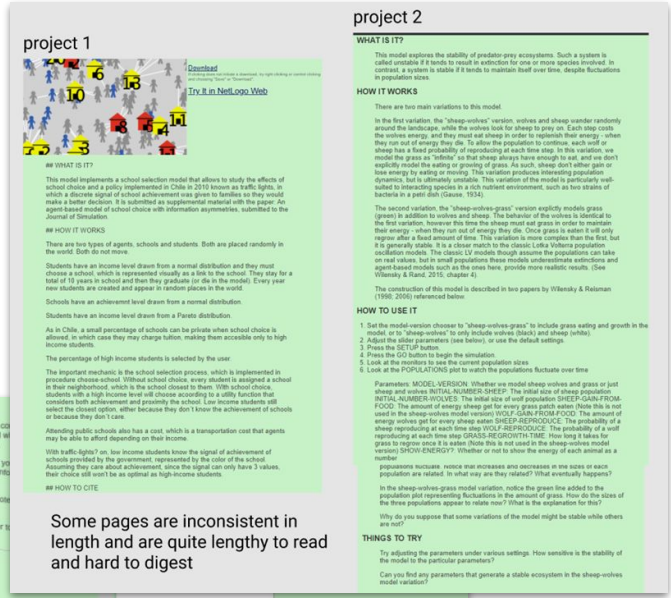








Very minimalistic structure, unsure if it is pre-vetted by an administrative user or not, but we could emulate this model



Some pages are inconsistent in length and are quite lengthy to read and hard to digest

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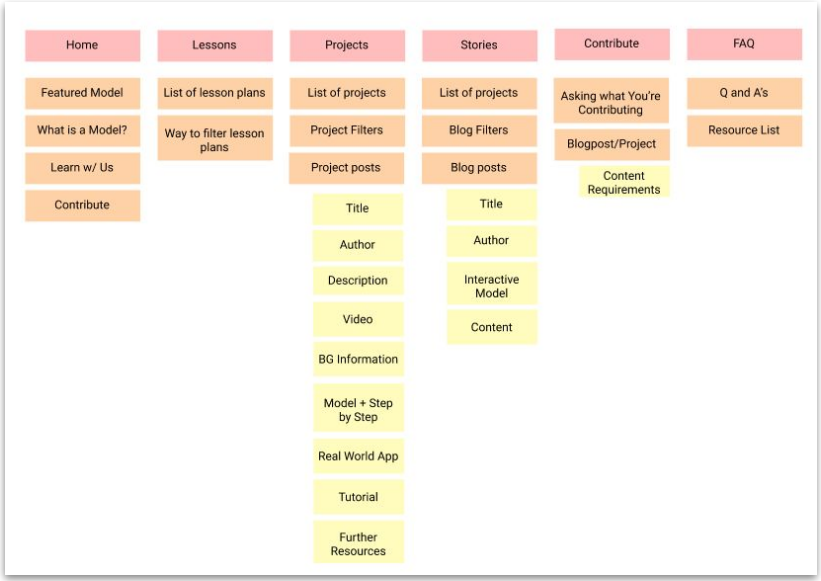
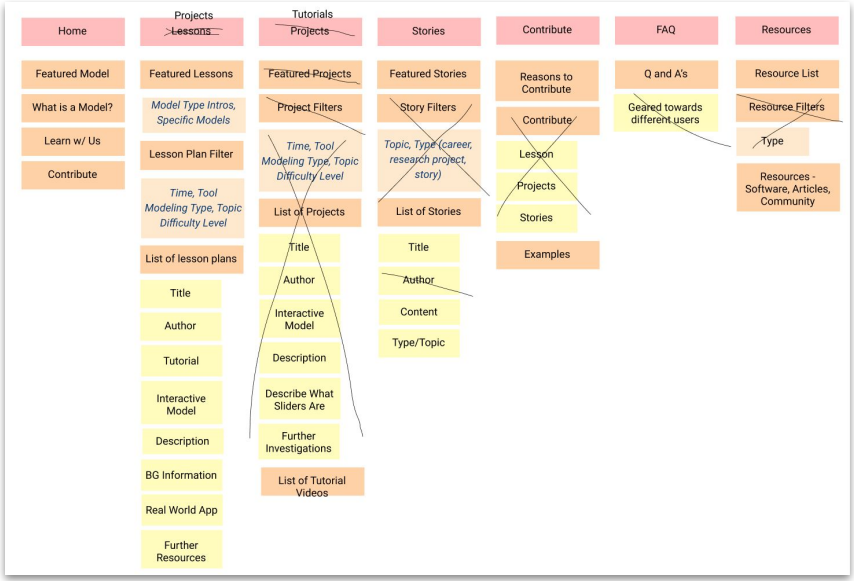
ITERATING





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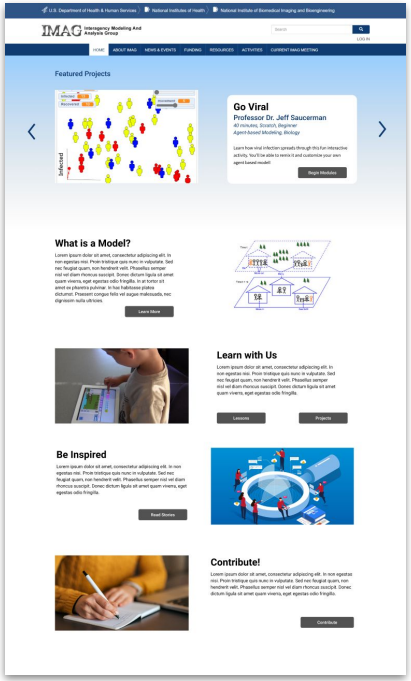
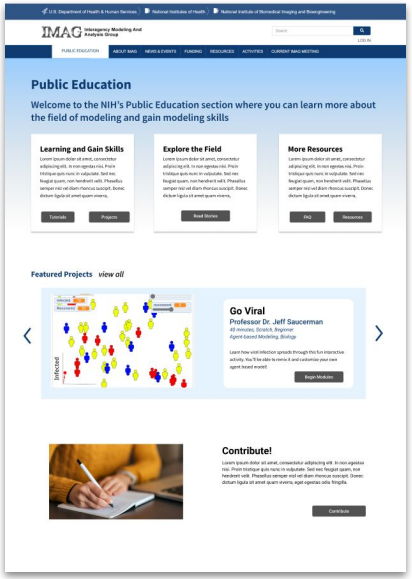
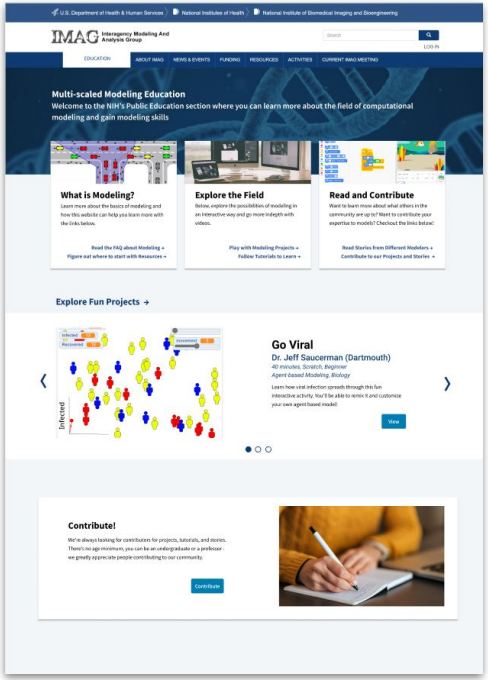
USER TESTING



First iteration



Second iteration



Final iteration

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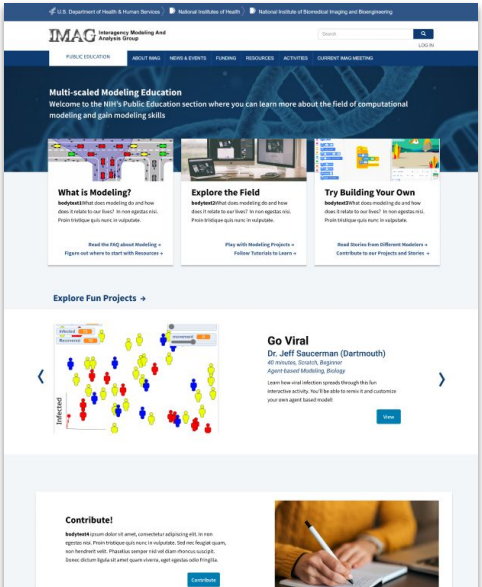
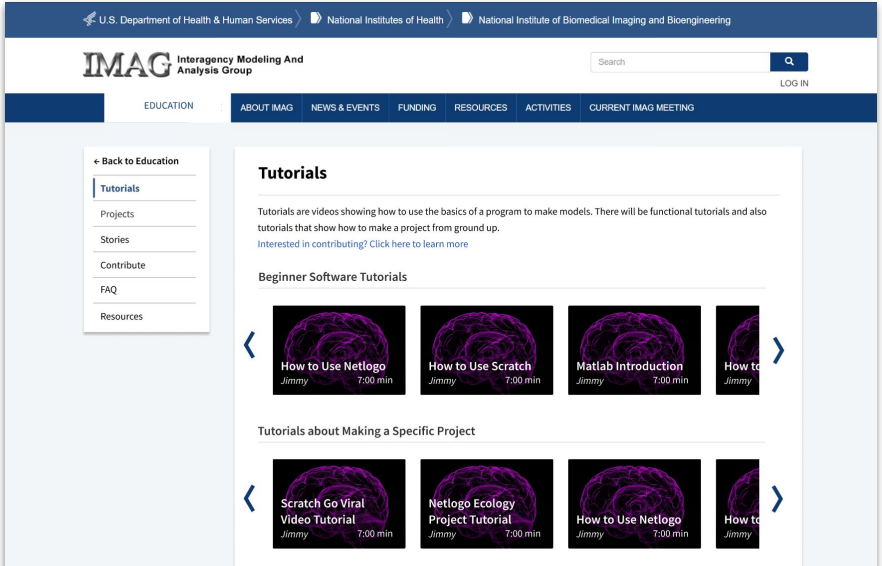
FINAL PROTOTYPE - HOME, TUTORIALS

- **Goal:** Present modeling in a way that is applicable to real life, and represents diversity. Effective model lessons are interactive and remixable with a range of skills and learning levels.





Try it out via QR Code!

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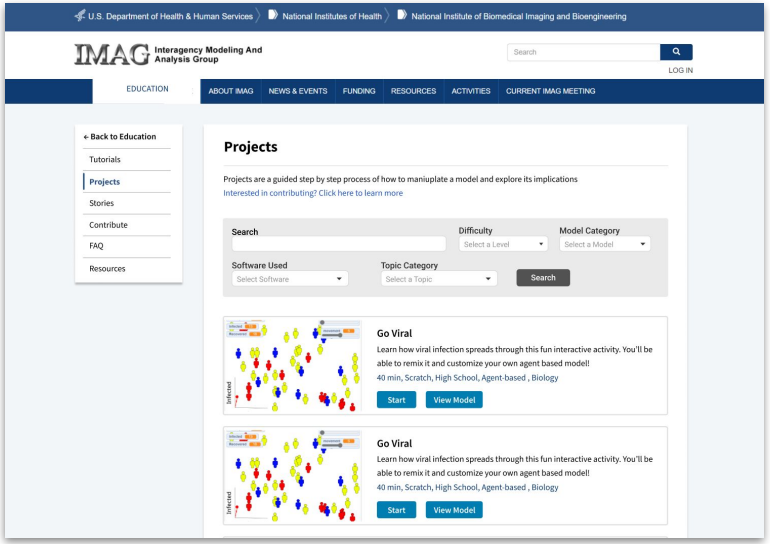
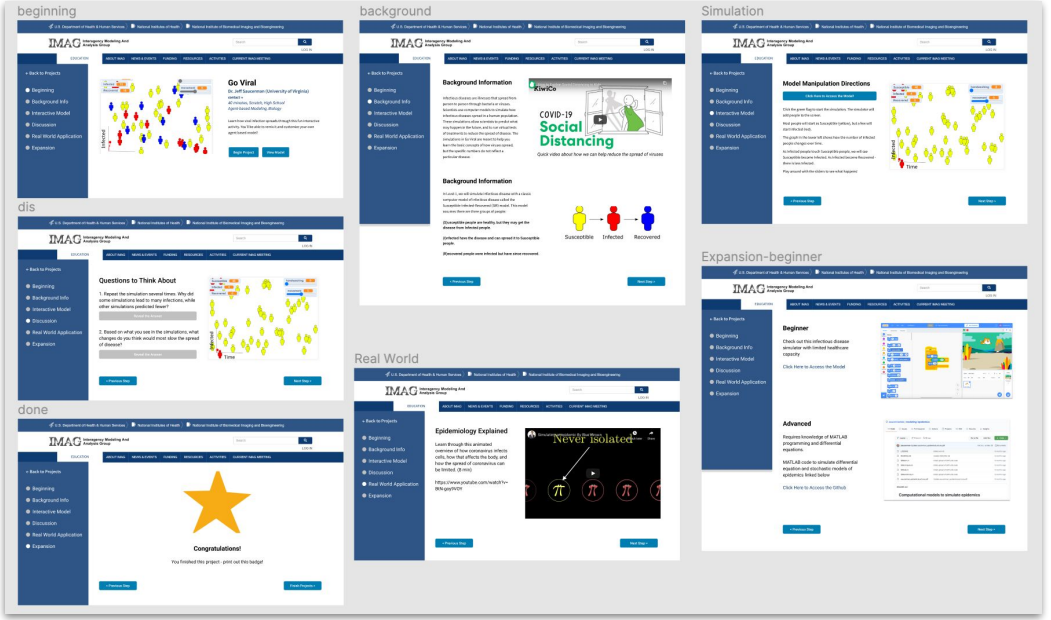
PROJECTS





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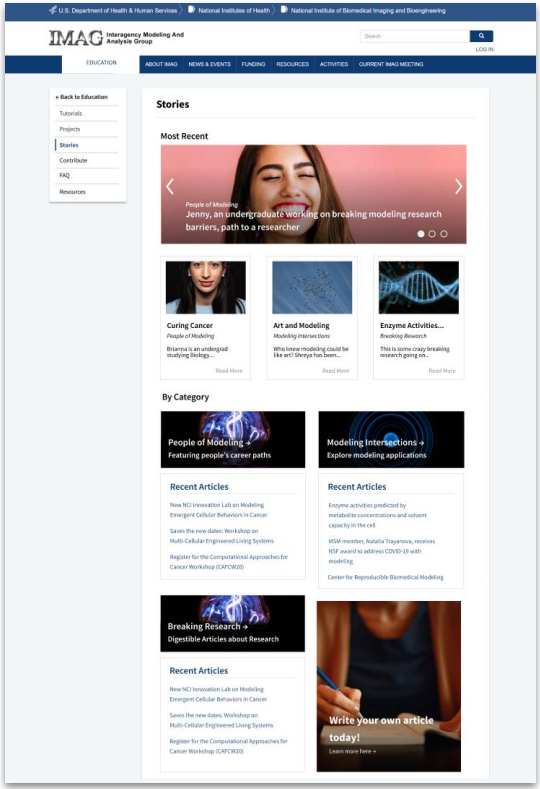
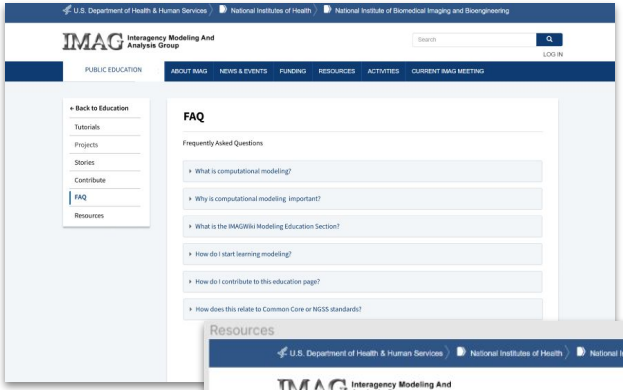
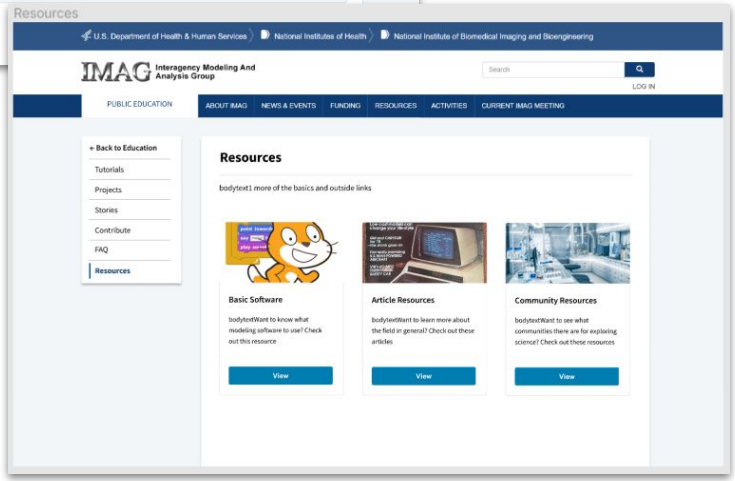
STORIES, FAQ, RESOURCES







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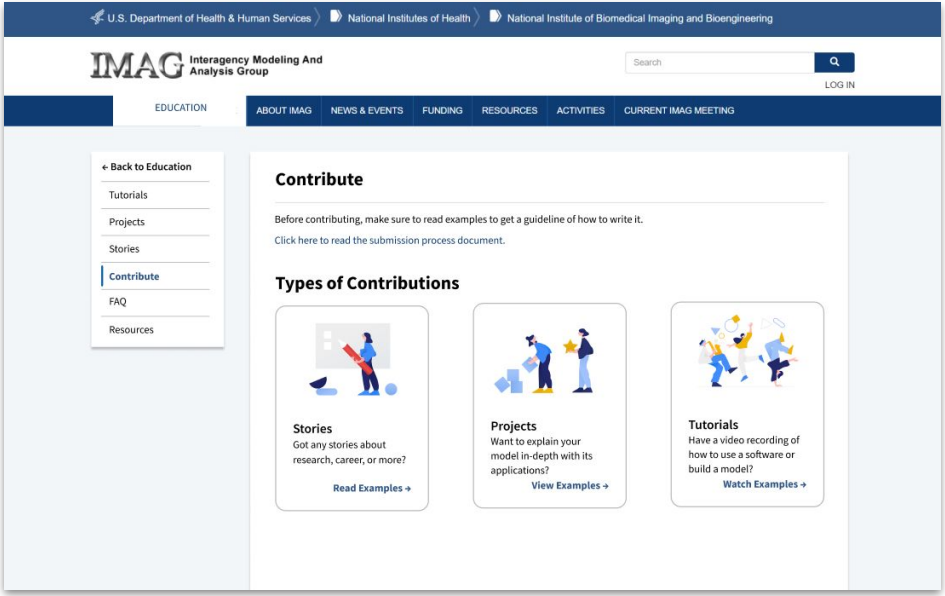
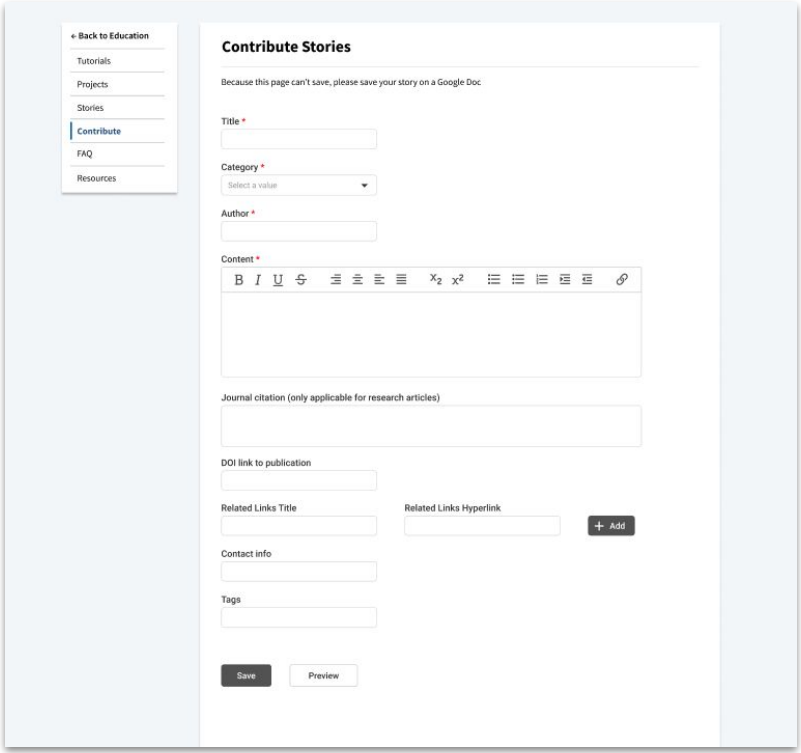
CONTRIBUTE





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RESULTS

- **¾ surveyed that the Education section was effective-very effective**
- **Next Steps**
  - Create content for the NIBIB IMAG wiki Site
  - Create Call for Submissions to populate the site with more content
  - Distribute the site to educators for use

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THANK YOU

- **Deborah Jordan-Lockett, Carolyn Kurowski** and **Grace Peng** for their daily insights
- **Jess Mazerik** for her support and direction
- **Rachel Dodell, Chris Kuang, Ariana Soto** from Coding it Forward
- **Mentors** John Hashimoto and Judy Siegel
- Everyone who helped out with user testing and user interviews!
- *Contact me at cl2264@cornell.edu with any thoughts or questions!*

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