Worksheets

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are Dynamic, Interactive

web applications

E.g. e-program sheets used on the Stanford Campus

Will demo the “cool” program sheet with charts.
Then show a quick demo of SF BUILD for business.
Games are also worksheets – Trifecta worksheet.
So are simulations – game of life.
How do we build them?

Front end: HTML, JS, …
Back end: PHP, Python, …, MySQL …

Takes too long to build!
Updates can be expensive, prone to errors!
Is there a better way?

Logic Programming
E-program sheet revisited

Let’s see how this application could look like if built using logic programming.

Here I’ll open up the Lily editor showing UI of a simplified program sheet with rules. Show how data and UI mirror each other. The UI is simply a wrapper around the Dynamic Logic Program. Change a few rules. Show results. Introduce a new transition rule. Show results.

How are changes being mapped to and from the UI? Show Mapping
How stuff works...

Users interact with the UI through gestures e.g. clicking buttons, checking or unchecking checkboxes.

Gestures
  e.g. select(course,cs103)
  Gestures are translated into actions

Actions
  e.g. choosecourse(cs103)

Actions change Data
  e.g. chosen(cs103)

Data

Views
  e.g. satisfied(foundation)
  Views are concepts defined using Data

Application Logic
  Transition Rules
  View Definitions
  Styling Rules a.k.a "Stylesheets"
This is where I open a HTML file of the program sheet (without rules) and show how it can be converted to a worksheet.
We've also built a cloud based platform where you can create and manage your worksheets without having to write HTML.

Quick walkthrough of worksheets.stanford.edu. Login > Private > Create worksheet.

Worksheet with 1 course. Constraint turns red / black if course is not selected / selected.

Show some basics of Lily.

Discuss project ideas - government forms. Program sheets. Legal worksheets. Games.

End with - creating a quick animation of PacMan in Lily.
I've created my Worksheet locally, BUT I want to use Lily – can I?

Yes

Show how one can paste HTML content, and manage rule editing in Lily.
Next week…

Collaboration through Worksheets

Show how one can paste HTML content, and manage rule editing in Lily.