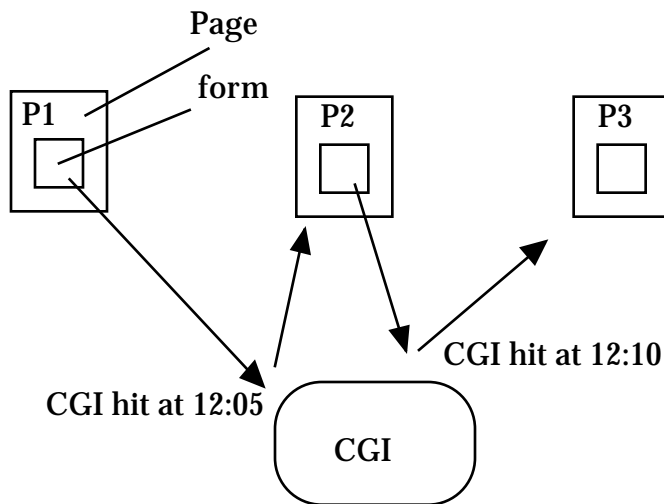


CGI 5

The State Problem



Page 1

Page1 presents information to the user

Page 1+form = Page 2

The user makes some choices on the page1 form. That state is sent to the CGI which uses it to produce page 2.

Page 2+form = Page 3

5 minutes pass. The user makes some further choices on the Page 2 form and submits it yielding page 3.

Problem

The user made choices to get the Page1 -> Page2 transition. Later in the Page2 -> Page3 transition, the CGI needs to remember the things the user specified on the Page1 form.

Hidden Field Solution

Keep Info In Form

When generating the Page2 form, put in hidden fields to remember state -- e.g. the things the user specified in the Page1 form.

When the Page2 form is submitted later, it contains the page2 user choices, as well as a memory of the Page1 choices.

Server point of view

Task on receiving Page1 form

Generate HTML and form for Page2. Generate the form HTML so that later, if and when Page2 is submitted back to us, we have enough information to generate Page3.

This is the complex picture to have in mind when writing the code that generates the Page2 HTML.

The Trojan Rabbit

There's that classic Monty Python skit -- the knights are trying to attack the castle. They build the giant wooden Trojan Rabbit and get it dragged in to the castle. However, they forget to get inside beforehand, so the whole thing doesn't work.

HTML forms are just the same. You need to put the data in the form in page 2. Later when page 2 comes back to you, the data you need is there.

"State" illusion -- forward style

We give the user the illusion that their edits are all compounded together editing the one state on the server side. This works so long as they always move forward.

Problem: Back Button

If they hit the back button, we are in trouble.

Hidden fields do not solve that case -- we'll look at other techniques later that do deal with that case.

The back button is great for traversing content that does not change. It's a real problem when we are using web pages to present the illusion of editing state.