

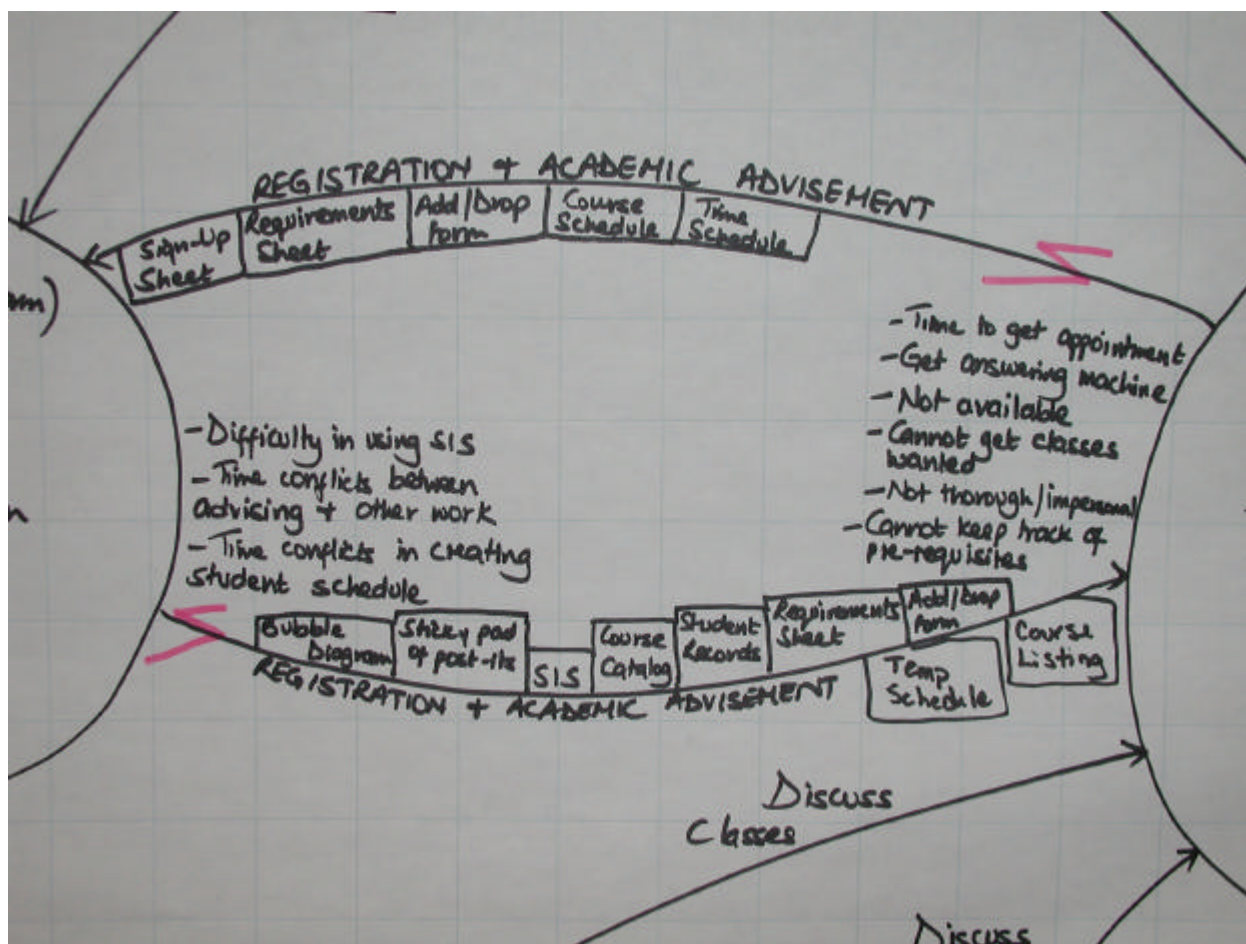
Work Modeling: Interpretation of the Data

With observation and interviewing Contextual Inquiry will generate a lot of raw data in the form of field notes. This data must somehow be interpreted to get a clear picture of how the users are currently accomplishing their work. The data should help to reveal what really matters to the users, how they organize their tasks, how they go about doing their tasks, who is involved the process, and where do things currently breakdown. In Contextual Design, Beyer and Holtzblatt have defined 5 different ways of modeling the data, termed *Work Models*. Work models provide a language to describe the work being done. A very important aspect of work modeling is that it provides a visual representation of the data collected. Unlike other methods of design such as Task Centered Design, the work models provide an overall picture of the data. Task Centered Design focuses on a list of individual subtask of the work, never getting a clear picture of how each subtask fits together. Another important aspect is its visual nature. The visualization of the data provides a common frame from which team member can discuss their understanding of the work and how it impacts the design of the software.

Given the time limitations of the semester, students are asked to focus on three of the five possible models:

- 1) Flow Model – indicates who is performing what tasks and how they coordinate their activities. Reveals roles and lines of communication
- 2) Sequence Model – indicates the steps taken to perform a task. Reveals strategies for accomplishing tasks.
- 3) Artifact Model – model of items used in the process. Reveals ways of organizing and communicating information.

The Flow Model recognizes the different roles that are needed to complete a task, each role defined by a set of responsibilities. It also shows how and what is communicated between the different roles. And, as with all the work models, breakdowns in the process are noted. This is important since these are likely the points in the process that the design needs to address.



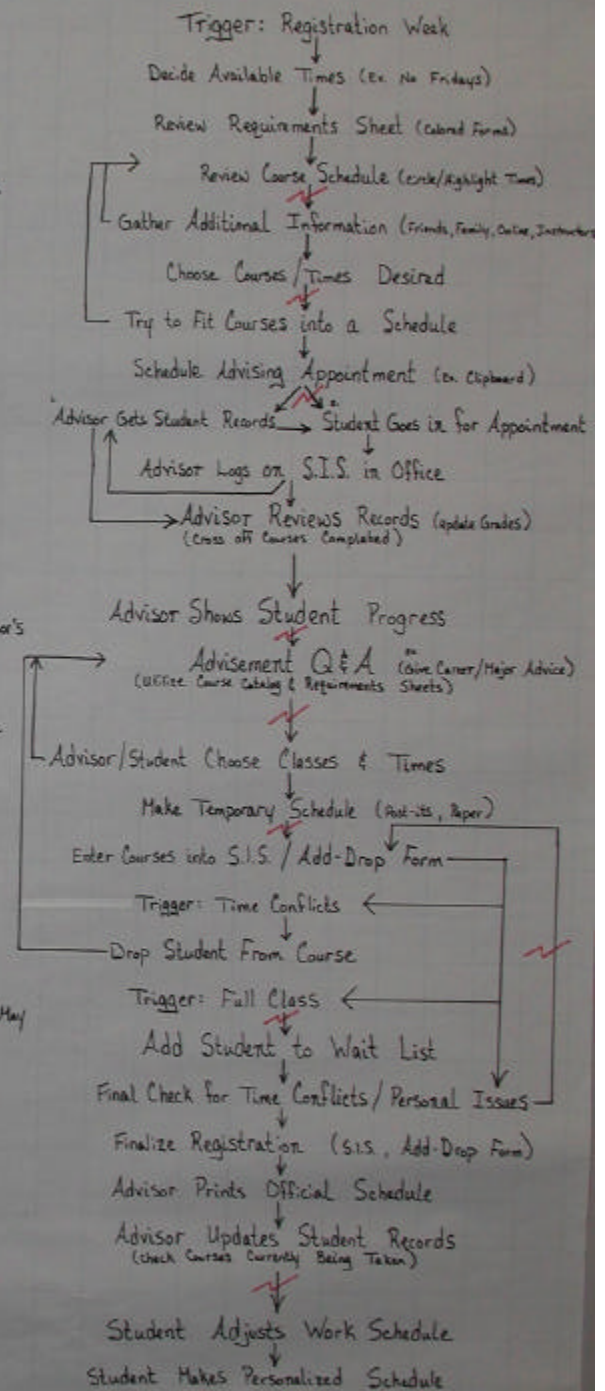
Flow Model: Communication between roles with noted breakdowns (red thunder bold)

The Sequence Model recognizes the steps taken to complete a task and the specific order they were taken. Triggering events for a set of actions are noted since it is important that the end design support these. And the intent of each sequence of events is recognized, because ultimately the design of the software must support the intent of an activity even if it changes the way the activity is performed. Breakdowns in the process are noted as always.

Consolidated Sequence Model

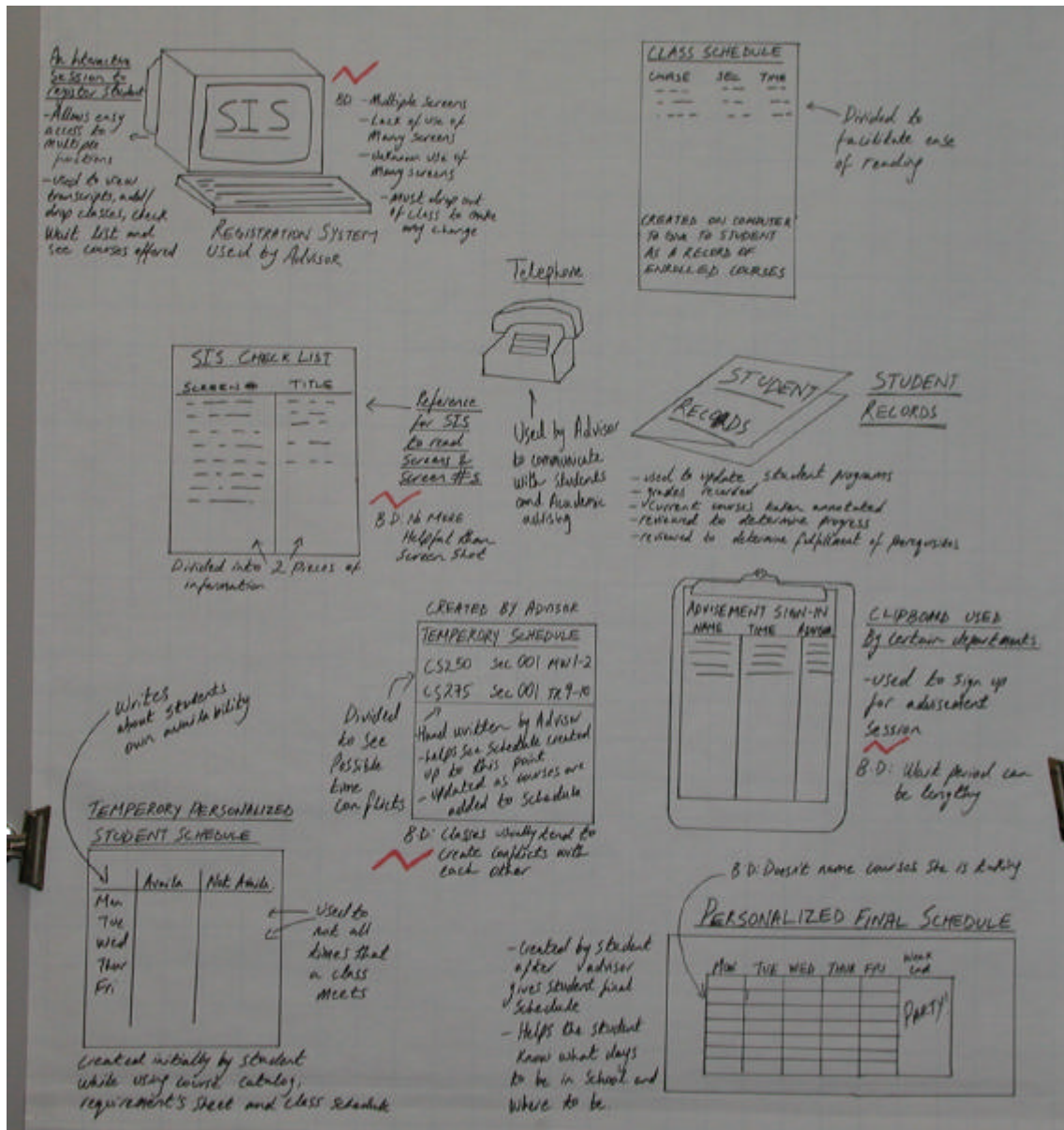
Intent

- Help Choose Appropriate Classes
- See Necessary Courses
- Choose/Remember Times Chosen
- Learn Course Descriptions & Requirements *Not Enough Information Available*
- Make Schedule
- Get a Working Schedule *Difficult to get Working Schedule w/ desired Times*
- Set aside Time for Registration
- Have Access to Student Information *Be Registered* *Long Waits Advisor N/A*
- Get Access to Transcripts & Registration Screen
- Update Student Progress
- Help Make Decisions *Takes time Away from Advisor's other Responsibilities*
- Learn what Should be Taken & What is Wanted (Credits, Core) *Time Conflicts Not Enough Sections Available*
- Make Official Schedule *Time Conflicts*
- Get Idea Prior to S.I.S. Usage
- Register into Course *Multiple Screen Usage Becomes Cumbersome*
- Eliminate Time Conflicts *Lengthy Waiting List May Not Get Into CLASS*
- Give Student Option to Enter Course when Available
- Finalize a Schedule
- Be Enrolled Officially
- Give Student Official Record of Registration
- Keep Status Current *Unable to Satisfactorily Modify Work Schedule*
- Eliminate School/Work Time Conflicts
- Create Easier to Read Form



Sequence Model with breakdowns and intents

Artifacts are any items used to support the user's activities. These could be forms, catalogs, directories, references, other software applications, memo pads, note boards, calendars, pda's, or any item used to get the work accomplished. The Artifact Model notes the content, structure, and usage of any artifacts that were used as part of the process. This model will help reveal relevant bits and pieces to the task. The structure will help to reveal strategies for organizing information involved in the process. As in other models, breakdowns in the use of any artifact are noted.

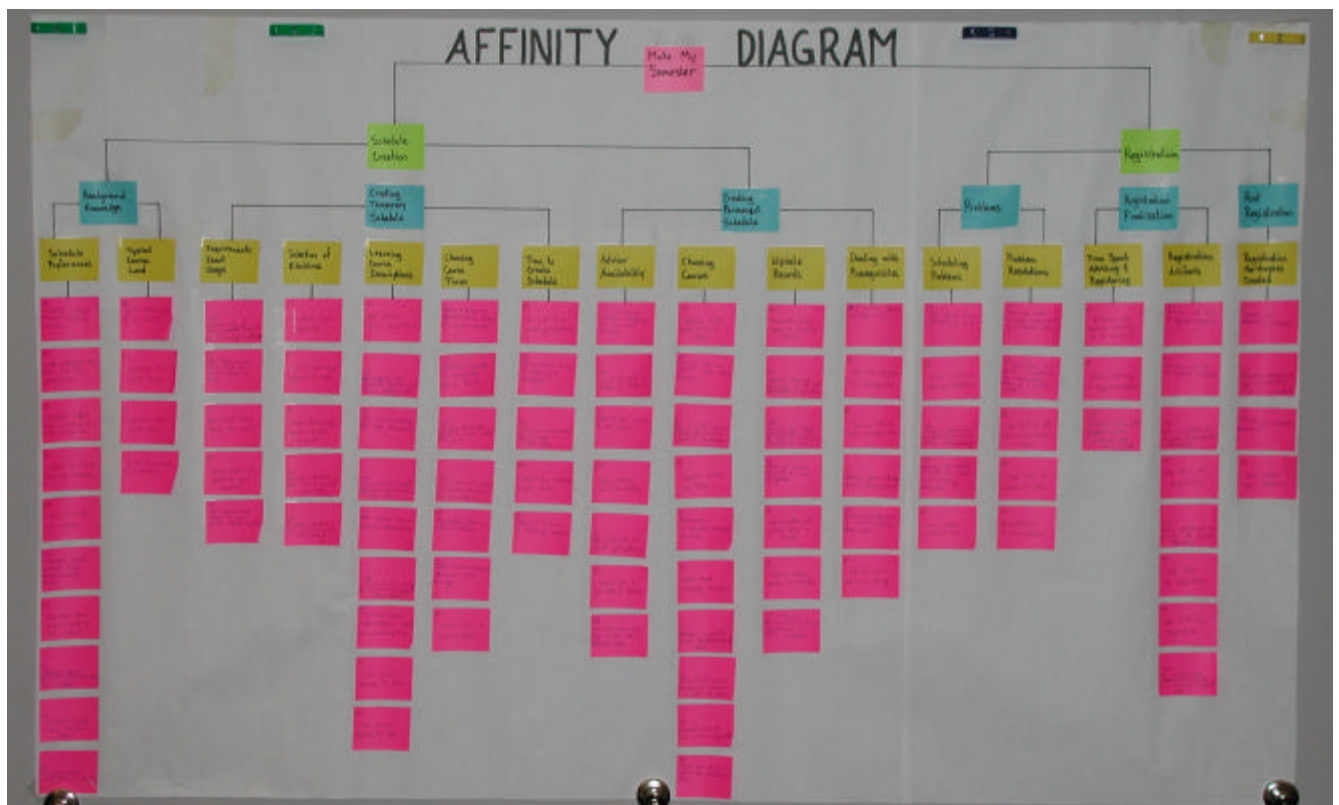


Artifact Model

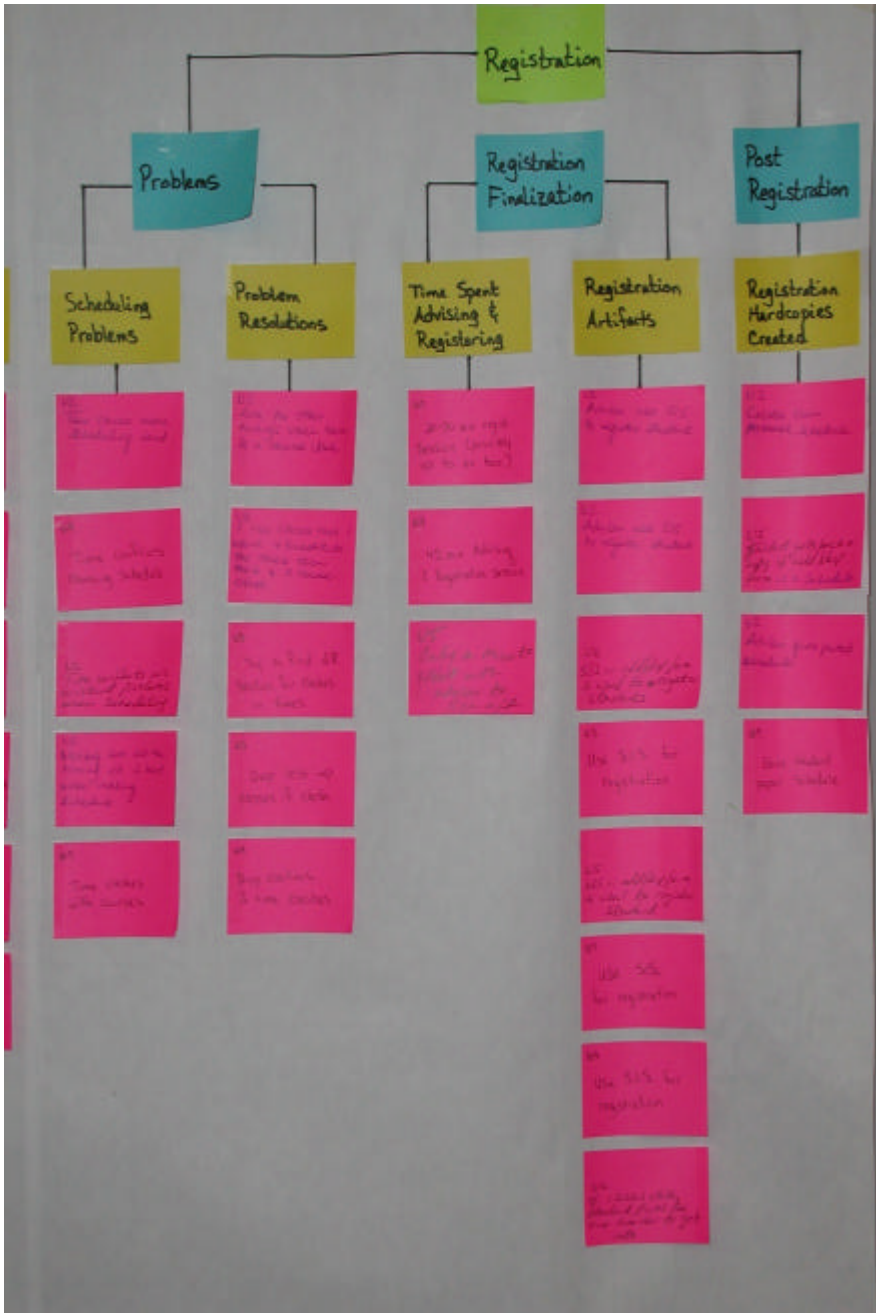
For each individual user interviewed/observed a set of models (flow, sequence, artifact) is created by the team in an Interpretation Session (See Team Process Document). Following this a

Consolidated Model of each type is created. Consolidation consists of seeing similar patterns across each of the individuals. This will provide a picture of the overall population of users the team is designing for.

The final model created is called an Affinity Diagram. An Affinity Diagram is a final way to organize all the field notes from the individual interviews into a single coherent picture. Going through their notes each team member attempts to recognize common elements and themes. The organization of the diagram is from the bottom-up. This approach allows themes and organization to flow naturally from the individual facts gathered during the interview. The result is a 3 or 4 tiered grouping of notes. At the very bottom are individual facts from interviews, each successive layer a sub-grouping recognized by the team. These grouping represent the scope of issues that the design of the software should address.



Affinity Diagram



Affinity Diagram: Tiers