**Hat Racks for Understanding:** Methods we use to understand requirements. Marc Rettig 1992.

**The how** is the design, structure and presentation

**The what** is understanding of how customers will use the software, and what they want AKA user requirements.

When you understand what is being delivered then how it is going to be designed will change. This is because the design aids the understanding.

* The application and study of this: UCD, iterative development, user testing, and concern for human factors

Back to Hat Racks:

* Hat Racks: maps, diagrams, chart, lists and timelines.
* Information hats are hung on racks to reveal patterns.

There are five general ways according to Marc Rettig, to organize information.

* Location
* Continuum
* Magnitude
* Category
* Time

Old style SE failed to identify the ‘What’ which was tackled through

* UCD
* Human Centered design
* Co-operative evaluation
* Participatory design
* UX design

There are many different types of UCD mythologies.

Know the strengths and weaknesses of each.

Use one that is the most appropriate from the requirements.

UCD (different from conventional requirements capture ):

* Involves participants to evaluate and make suggestions to improve the design.
* Participants usually know about the requirements and of the systems and interfaces
* Runs as a focus group based activity
* UX specialist acts as a facilitator of the conversation between the participants
* Functional aspects uncovered within the UCD process.
* Uses iterative looping mythology
* UCD is interested in making sure the functionality elicited in the requirements capture is the ‘right’ functionality for the users – it is ‘What People Want!’28.
* Iterative cycles are less ridged than traditional engineering methods.
* Makes sure the functionality is what the users want
* The requirements taken during the requirements analysis are presented in model form such as UML.

**Functional requirements**: specific to development in question

**Non-functional requirements**: relates to good UX in-general e.g system should be accessible to disabled users. A function should execute in a certain time frame.

What Information is needed?

Requirements Engineering: Elicitation, specification and validation. Encompasses all parts of the system design. Requirements engineering is also known as requirements analysis.

Requirements Elicitation: The first step within the requirements engineering process. What the user wants is elicited using 2 models: roles, actions; and users, actions, and information.

(Read page 61 and 62 to find out more about the 2 models) – don’t quite understand the differences between the types of users.

How are the models implemented?

* In the 70s, 80s and 90s the elicitation process was tried to become computerized
* Computerizing the elicitation was seen as inflexible, as once it was designed and printed it wasn’t really changed.
* Post it notes: anything can be written on them, placed on them, they can be moved around, they can be placed on different surfaces. (page 62 and 63)

How to get the information that is needed?

* Methods for collecting data come from a combination of anthropology and sociology.
* Interactionism: How interacting leads to experiences.
* Most used methods are: participant observation, interviewing, archival and unobtrusive methods.
* Time is the limiting factor

If you have 6 months:

* Participant Observation: is the process by which data is gathered by participating in the daily life of the group or organisation under study.
* Give high level of detailed understanding
* Conversation with a purpose: try to get important information without making it obvious and masking it in a conversation.
* May use informants which are people that have a knowledge about the company under observation. Provide clarification.
* Key informants are an excellent way to recover information about past events or organisational culture and memory that are no longer observable.
* Sampling must be representative
* Can use probabilistic and non-probabilistic techniques.
* Non–probabilistic : Snowball, judgement and opportunistic, theoretical

If you have six weeks

* Do focus group interview
* ‘Learn By Asking’
* Wide but shallow
* After do structure of semi structured interviews
* UX’er acts as a moderator and scribe for the informants
* Alternative: respondant/member validation
* Action research: UX’er collaborates with users to diagnose and find solutions to problem
* Interview: between UX’er and user. Can be strucutured or semi-structured. Can be conducted as part of the focus group or after for clarification.
* **Descriptive questions** (allows users to provide statements about their activities), **structural questions** (allows users to find out how they organize their knowledge) and **contrast questions**(allows users to discuss the meanings of situations and provide an opportunity for comparison to take place between situations and events in the users world) . All these types of questions are used in focus groups and interviews.
* More likely to catch small, implicit information when requirements elicitation is done in a not so formal setting such as a systems design interview.

Lack of Users?

* Use archival records for requirements capture.