



# Trawling for Requirements – Part 2

## Lecture Objectives:

- 1) Define the concept of an apprenticeship
- 2) Explain how observation can be used to determine requirements
- 3) Explain the concept of a mind map
- 4) Construct a mind map for a system
- 5) Explain how a mind map may help to determine requirements for a product
- 6) Derive requirements for a system based upon a persona.
- 7) Explain how to construct a quick and dirty process model.



Servant

"A young man learned this trade through apprenticeship with a local blacksmith. He normally began his apprenticeship when he was about 14-15 years old and served his master for four to seven years. In exchange for being taught the trade as well reading, writing and mathematics, the apprentice worked for the master and lived with him. In exchange for the work, the master also provided clean clothes, food and a place to sleep. Like a servant, the apprentice would sleep in or above the shop and was responsible for opening it, lighting the fire, gathering wood and any other chores required. At first, his training was limited to watching the blacksmith do the work and that would later be followed by helping with common tasks at first. This would be followed by more advanced training like melting or bending iron and making pots.

At the end of his training, the apprentice had to produce a finished product or a "master piece" which would be judged by his master. If the product passed this inspection, the apprentice passed his apprenticeship and became a journeyman, a tradesman who would travel to nearby villages to repair and make goods until he saved enough money to open his own shop. Once the training ended, the master would provide a set of basic tools and perhaps a small cash payment."

~ 200 years  
History

The women and girls were responsible for most of the work inside the home. At a very young age, girls were taught to spin, weave, make candles and soap, sew, bake bread, make butter and cheese, and cook. Pioneer girls also had to clean the house and wash the dishes.



# Partner exercise

- Partner 1: Fire up your laptop
  - Get ready to do some internet work.

*Observer (Apprentice)*

- Partner 2: Observe and take notes at how person 1 does their job
  - They are an expert at their job...



# Partner 1

- You are an employee of a company which has multiple small bands touring the midwest. Your job is to send sound equipment to the field to replace items which are damaged through use. You have accounts with B & H photo and Sweetwater. You have arrived at your desk Monday morning and have two requests
  - Band 1 needs two Shure SM58 microphones by ~~Tuesday~~ *Tuesday* shipped to them at 1025 N Broadway Milwaukee WI 53202
  - Band 2 needs a new PreSonus StudioLive 16.4.2 mixer shipped to it by *Wednesday* at 100 E9th Street, Cleveland, OH
- Your boss insists that you always buy from the cheapest source, including shipping.
- Go through the effort of determining which store has the lowest price on these items.

- What did we learn?

Scroll really quickly  
Don't look @ details.

Use Google

Copy & Paste Product name

Buy Used its cheaper

↳ Amazon, Start by price  
etc.

Partner 2

⇒ Quality ⇒ if used  
⇒ Shipping time.

Rebuilding  
a current  
system.

Apprenticing

Apprenticing is particularly useful for in-house work. The underlying assumption for apprenticeship is that users are currently doing work, and you, as the requirements analyst, have to understand their work. This work could be clerical, commercial, graphic arts, engineering, or almost anything short of brain surgery.

If significant parts of the current work and systems are likely to be reimplemented, then apprenticeship is appropriate. Please keep in mind, however, that you will not reimplement the work exactly as is. We recommend that all apprentices refer to the section on essence.

- Apprenticing
  - Act as both an observer and an interpreter
    - Artifacts, technology, and other inputs must be seen as a product of the previous designer

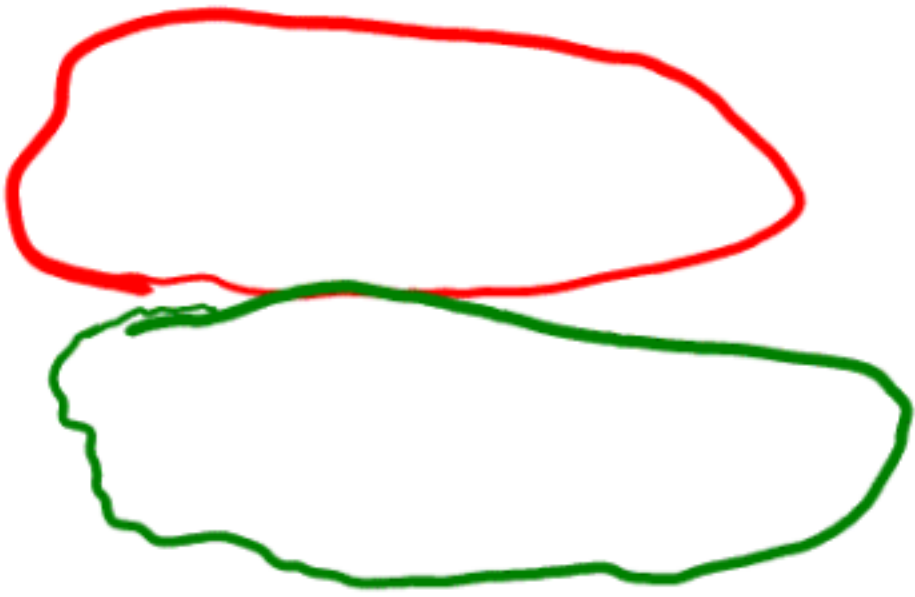
Don't exactly duplicate the details.

## Example

- MSOE is in the process of building a system to aid students in financial planning upon graduation. The tool will help them to plan the first five years after college to ensure that they are financially stable. What would need to be taken into account in such a system?

*Manage Money*

# Mind Map





# Mind Mapping

- A Mind map is a drawing and text representation that attempts to represent information the way your brain stores it – by making associations
  - Commonly done with sticky notes and other moveable media

# Project Monitor: A Cell Phone Safety Monitoring System

- There are many times where it is useful to monitor the health and welfare of people from a distance. A parent who has to go to work may want to check in on a child that is home sick. A new father may want to check on the status of his wife and newborn at home while he is working in the office. A brother might want to check in on his sister after a difficult emotional situation developed while away at college. Project Monitor is developed to allow people to easily communicate with each other.

Your initial thoughts: What are the requirements?

- Needs to be simple to use to check in on a child.



## Personas

- **Frances Miller** — *Watched by her laughter.*
- Sixty-seven year-old Frances is the mother of four children and the grandmother of twelve. She lives in her own home in , bakes a pie once a week so that she has something to serve for Sunday visitors (usually one of her children and their immediate family), and has two cats. The cats' names are Fred and Wilma, names given to them by four-year old grandson Bobby. She likes to knit and do needlework, which she either gives away as presents to her family or donates to the annual sale to raise money for the church she belongs to.
- Every morning she goes for a one hour walk along the lake front when the weather is good. On bad days she'll go with her neighbor to the local mall where a group of senior citizens "Mall Stroll" each morning before sitting down at one of the restaurants for coffee or tea. For breakfast Frances prefers a cup of Earl Grey tea and two slices of whole-wheat toast with her own home-made preserves. Lunch is typically a bowl of soup or a sandwich and then she'll have the opposite for dinner.
- She is a middle-class retiree living on a fixed income. Her mortgage has been paid off and she has one credit card which she seldom uses. She has been a customer of the bank for 57 years although has never used an automated teller machine (ATM) and never intends to. She has no patience for phone banking and does not own a computer. Every Monday at 10:30 am she will visit her local bank branch to withdraw enough cash for the week. She prefers to talk with Selma the branch manager or with Robert, a CSR who was a high-school friend of her oldest son



What does this persona tell us about the requirements of the system?

- Must be mobile.
- Can not be very expensive  
→ Maybe kids are using.
- Technologically challenged

# Boarding an airplane

- What are the steps that an airline passenger goes through to board a plane?



- Simulates the current reality of a system
  - Does not use formal models or methods
- Often constructed with sticky notes
  - Easy to move around and change
- DO NOT design screens or delve into the low level details at this time.