

# Develop A User Profile

## USER PROFILE CHECKLIST

### Psychological characteristics

**Cognitive Style:**

- Verbal/analytic
- Spatial/intuitive

**Attitude:**

- Positive
- Neutral
- Negative

**Motivations:**

- High
- Moderate
- Low

### Knowledge and Experience

**Reading Level:**

- Less than fifth grade
- Fifth to twelfth grade
- Above twelfth grade

**Typing skill:**

- Low
- Medium
- High

**Education:**

- High School Degree
- College Degree
- Advanced Degree

**System Experience:**

- Expert
- Moderate
- High

**Task Experience:**

- Novice in field
- Medium
- Expert in field

**Application Experience:**

- No similar experience
- One similar experience
- Some similar experience

**Native language:**

- English
- Other

**Use of other system:**

- Little or none
- Frequent

**Computer literacy:**

- High
- Moderate
- Low

### Job and Task Characteristics

**Frequency of use:**

- Low
- Medium
- High

**Primary training:**

- None
- Manual only
- Elective formal
- Mandatory formal

**System use:**

- Mandatory
- Discretionary

**Job Categories:**

- Executive
- Manager
- Engineer
- Secretary
- Clerk

**Turnover Rate:**

- High
- Moderate
- Low

**Other Tools:**

- Telephone
- Calculator
- Adding Machine
- Other

**Task Importance:****Task Structure:**

High  
 Low

High  
 Moderate  
 Low

Physical characteristics

**Color-blind:**

Yes  
 No

**Handedness**

Left  
 Right  
 Ambidextrous

**Gender:**

Female  
 Male

User Characteristics	Design Goal
Low motivation, discretionary use	Ease of learning
Low motivation, mandatory use	Control, power
High motivation, due to fear	Ease of learning, robustness, control, power
High motivation, due to interest	Power, ease of use

## USER INTERFACE MODELS

Three models of a user interface

1. user's model
2. programmer's model
3. designer's model

Each one has concepts and expectations that may differ.

- Models are important because they help ease the burden of learning.
- We build on past associations and continually enhance our models.
- When something doesn't fit the model, that causes us concern.

### **User's Model**

It is important to gather information from the users themselves.

They are the ones that will use the system.

They are familiar with the existing system, know how it works and where the problems are.

Need to watch as well as listen to users.

They often report how they think they do their work, rather than how they actually do it.

Users sometimes have what is referred to as "superstitious user behaviors".

### **Programmer's model**

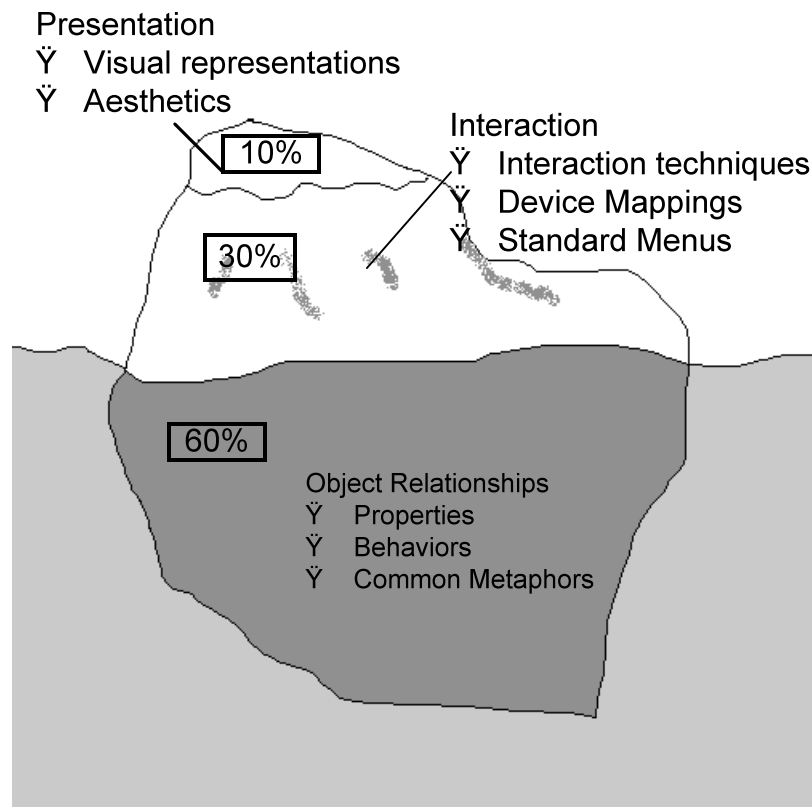
Programmer's model is explicit.

Can be formally defined via functional specifications.

## Designer's model

The designer's model describes the objects the user works with, their presentation to the user, and the interaction techniques used to manipulate the user's objects.

Concept of the iceberg chart, from IBM. (page 33)



This discussion is important.

Without good design, there are many project failures that could have been successful.

THE PSYCHOLOGY OF HUMANS AND COMPUTERS

## Sensory Storage

Sensory Storage is the first level of information processing

Subjects are taken into a room one at a time for an experiment.

Presentations are flashed quickly on a screen so that there is little time for recognition.

First the subjects are shown either a capital letter (such as A) or a two-digit number, (such as 17). They are then shown 13 which has a great resemblance to a broken letter B.

What do the subjects see?

Answer: it depends on what they saw previously.

**Implication:** your brain attaches the best meaning it can to any stimulus.

In a crowded party you are talking with friends, and you hear your name spoken on the other side of the room, even though the room is very crowded and noisy.

**Implication:** your brain is always sensitive to certain key stimuli.

Any change in the environment causes the brain to reevaluate the situation. Bright lights or loud sounds are especially distracting.

**Implication:** your brain is always reevaluating the situation.

In a movie theatre a series of still frames is shown to you with a very short interval between frames. The human brain interprets the displacement of objects as their continuous real time movement.

**Implication:** there is very high level processing happening that turns direct perception into understanding.

## Short Term Memory

Short Term Memory is the second level of information processing.

Someone calls you up to ask for a phone number. You look up the phone number in your address book and tell your friend. Then you

immediately forget the phone number. This is what STM is made for, temporary storage.

It is also the weakest link.

STM doesn't distinguish rhyming words easily  
STM loses information very quickly if distracted  
STM forgets faster with complexity  
STM forgets faster with more data  
STM forgets faster if similar to recent memory  
STM remembers icons better than words  
STM recalls better if we ponder harder  
STM deteriorates with age

## **Long Term Memory**

Long Term Memory is the third level of information processing.

The registrar asks you for your parents phone number. You do not look up the phone number in your address book since you know this number by heart. You may never forget the phone number. This is what LTM is made for, permanent storage.

Our LTM abilities are underutilized in the current age. Before literacy, when things are written down the ability of the old people to remember historical events was prized. A audit, as suggested by the word is an aural recitation of the books so the owner can see if it matches his memory of the businesses' transactions.

LTM works better when in the same environment  
LTM works better when out is similar to in  
LTM works better with rule based information, as opposed to raw text

LTM works better with distinct information

LTM works best with pictures, better with visualizable, worst with abstract.

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Humans</b>	Pattern Recognition Selective attention Capacity to learn Infinite-capacity LTM Rich, multilayered LTM	Low-capacity STM Fast decay STM Slow processing Error prone Unreliable access to LTM
<b>Computer:</b>	High-capacity memory Permanent memory Fast processing Error-free processing Reliable memory access	Simple template matching Limited learning capacity Limited capability LTM Limited data integration

Human Computer Interfaces attempt to bridge this divide.