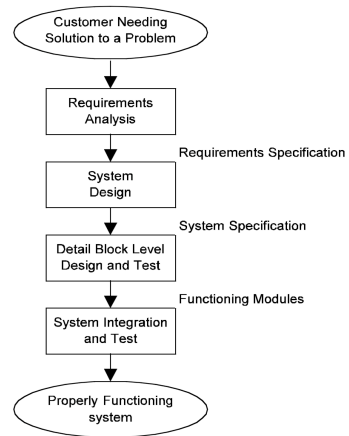


SDP05

The Requirements Specification

ECE 415
Thu 23 Sept 2004

...a quick review



Needs Assessment – Stating the Problem

The problem statement should exhibit the following attributes:

- nontechnical
- nonquantifiable
- complete
- specifiable

Techniques for arriving at a problem statement

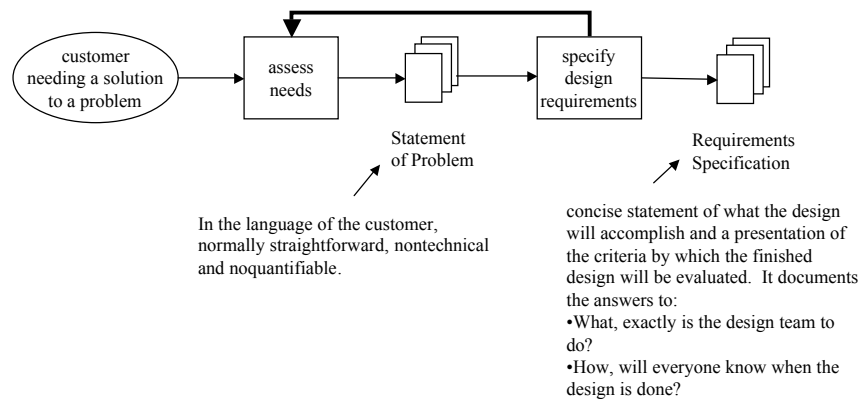
1. question the customer (virtual customer, the “customer” within)
2. differentiate needs and wants
3. explore project boundaries
4. input/output analysis
5. preview the user interface
6. survey design attributes
7. identify conflicting needs
8. prepare a draft operations manual

for an example, see Case Study, Appendix A,

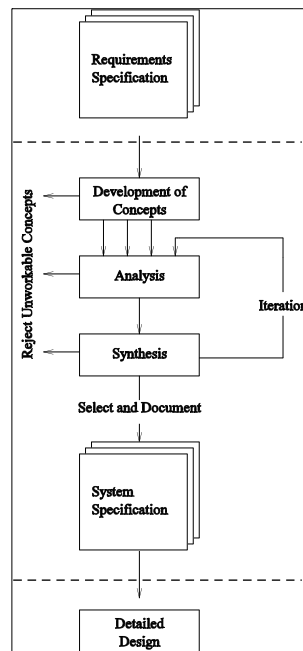
Two-stage approach for developing a requirements specification

Need for iteration

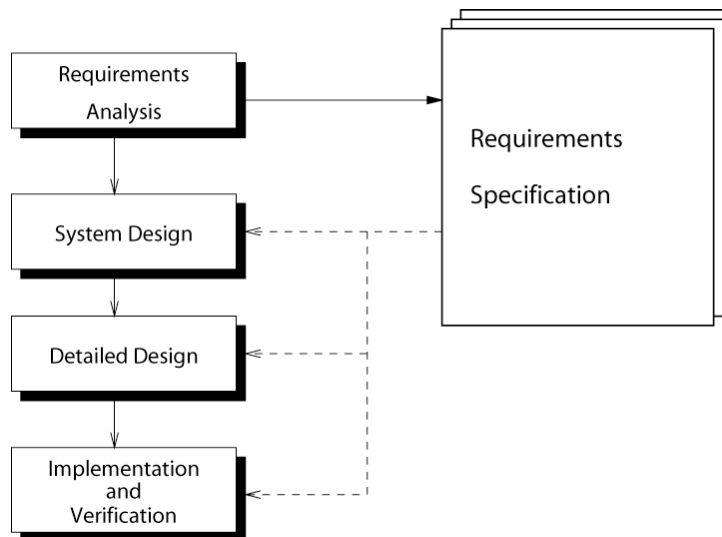
- Refining the problem statement raises questions about the customer’s needs
- Specifying the requirements raises questions about the problem statement



What comes after the Requirements Specification?

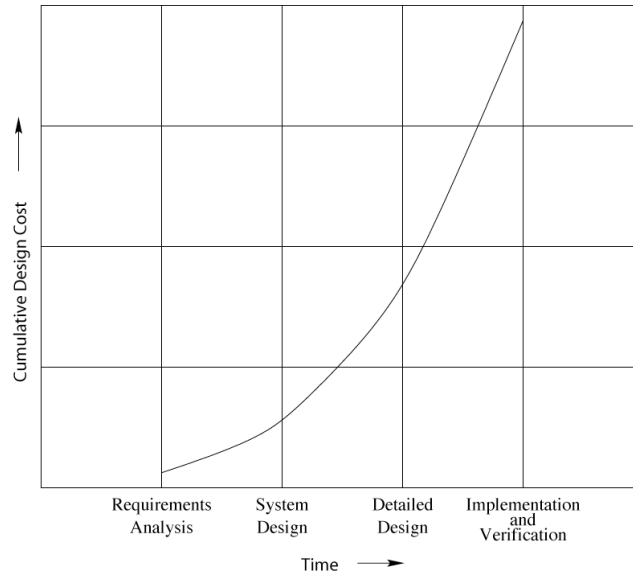


How is the Requirements Spec used?

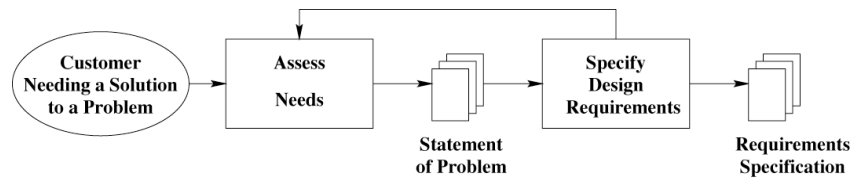


Why is it important to
thoughtfully consider the Req
Spec?

Product design is expensive!



Again... the two stage process



The Req Spec can be thought of as a technical restatement of...

...the Problem Statement.

Oddly enough...

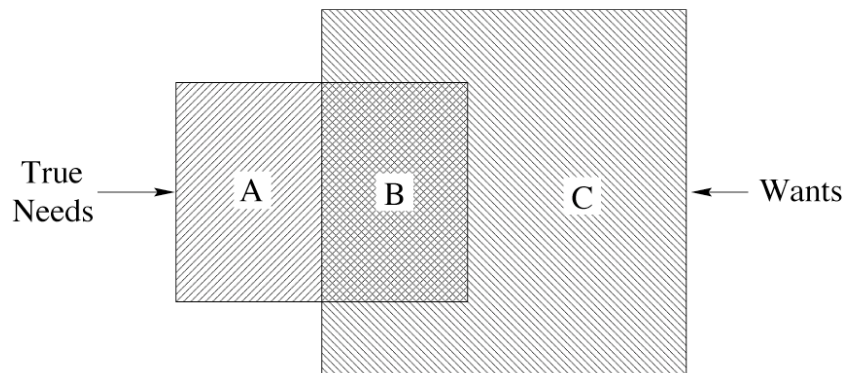
A search for solutions must be avoided.

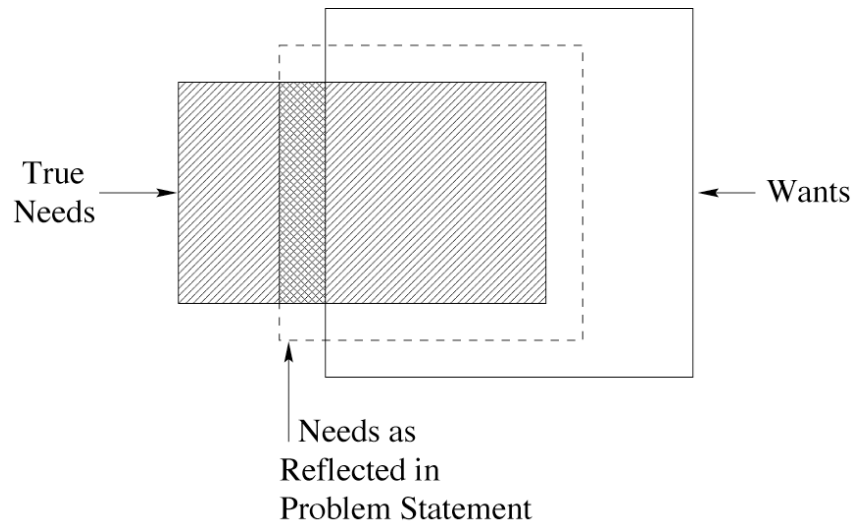
Needs...

[Honda Civic]

...and wants.

[Honda Civic Si with JDM engine]

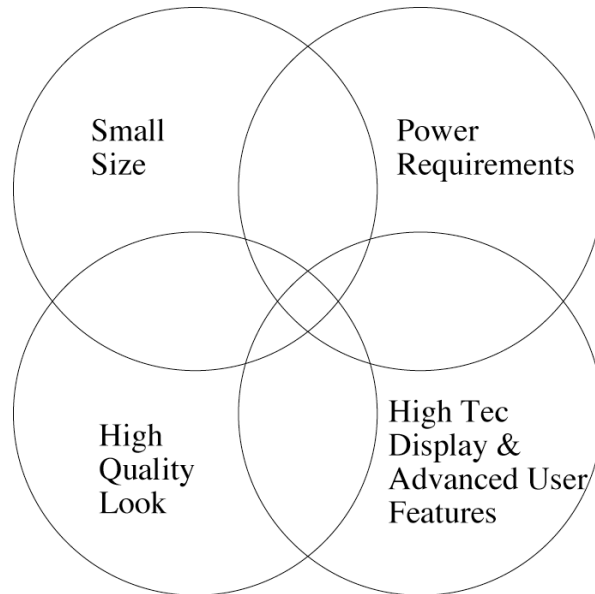




It is the job of the engineer to translate the customer's wants into a problem statement that reflects true needs.

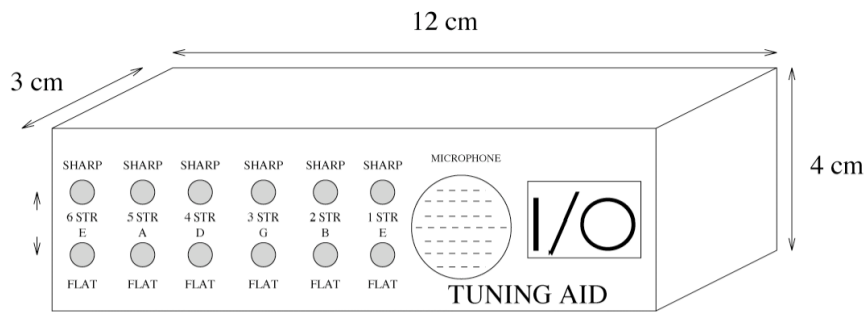
Conflicting design needs

Consider the
Apple iPod

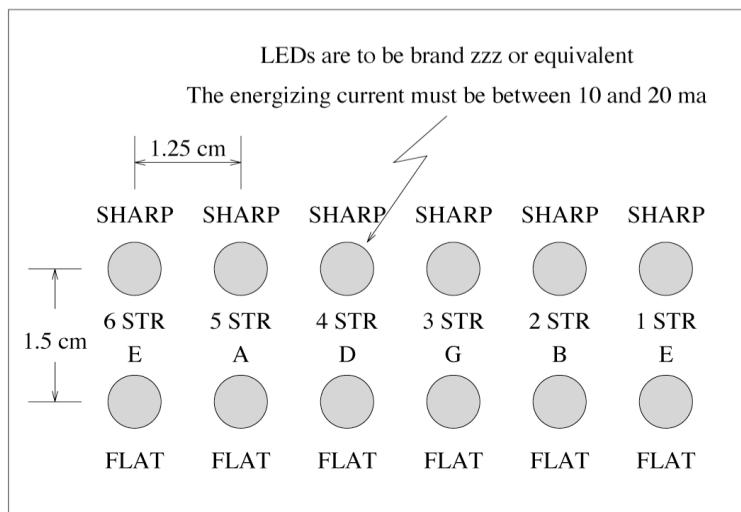


There is help in the appendix:
Guitar Tuner

Use the guitar tuner case study as a
model for your Req Spec



AGMC's CONCEPTION OF FINISHED UNIT



FACE PLATE SPECIFICATION

I/O Analysis
[page 29]

User Interface
[page 30]

Survey Design Attributes
[page 31]

Identify Conflicting Needs
[page 31]

Draft Operations Manual/
User's Manual
[page 34]

- Further preparations...
1. Search out expert sources

Further preparations...
2. Analyze similar designs

Further preparations...
3. Conduct tests or experiments

Req Spec organization:

- Background
- The Deliverables
- Special Restrictions
- Principle of Operation
- User Interface
- Input
- Output
- The [draft] User's Manual
- Acceptable Tests
 - .. For tuning accuracy
 - .. For LEDs
- Product Cost
- Dispute Resolution Mechanism

The assignment:

- The Requirements Specification
- Consult syllabus for assignment details
- Deadline: in class, next week (Th 30 Sept 2004)
- Refer to the grading sheet
- Refer to Chap. 3 and Appendix A

Same bat time
Same bat channel