

TIM 80C

4/5/16

Lecture 3

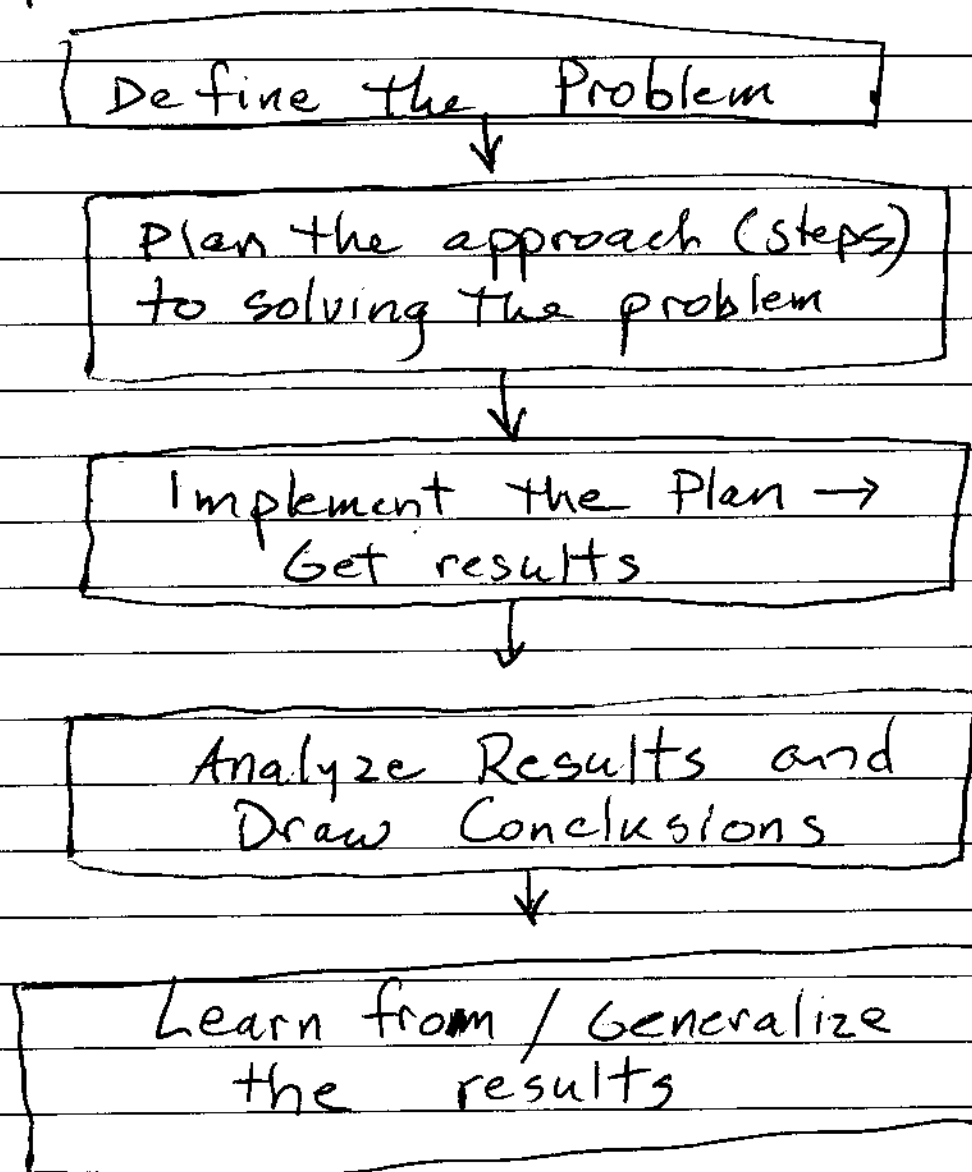
AGENDA

1. Problem Solving
2. Product Dissection
3. Homework #1 review
4. Preliminary Product Proposal

① Structured Problem Solving

Issue: How do we create a comprehensive solution to complex open-ended problems.

Approach:

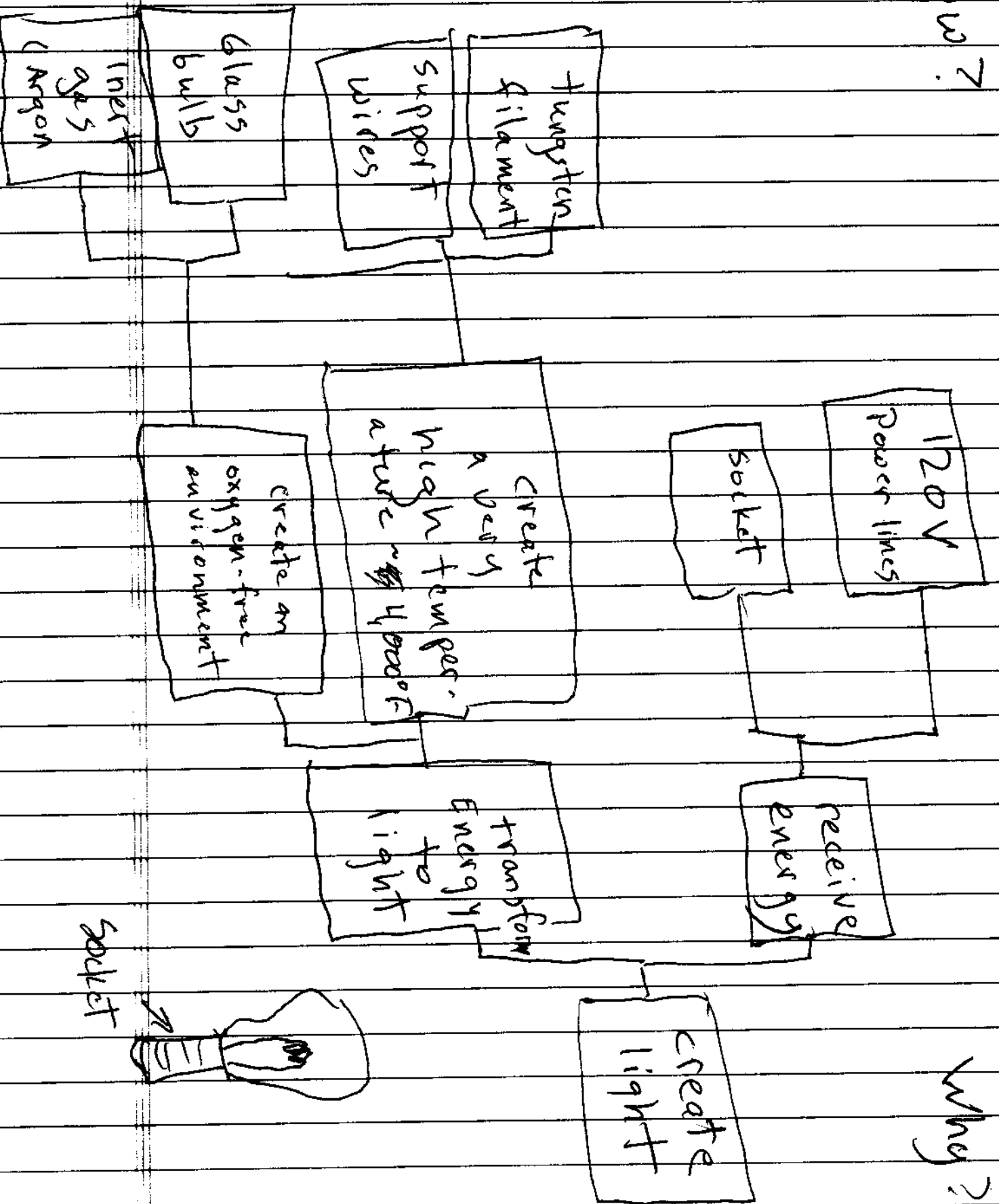


FAST DIAGRAM

LIGHT BULB

How?

Why?



Example: improve The Home Computer

Step 1: Define The Problem

Home Computers are underutilized.

Step 2: Create a Plan

- (1) Assess the existing home computer with respect to people's needs and generate recommendations
- (2) Identify the different types of computers used at home (desktops, laptops, tablets, phones). Select one to focus on.
- (3) Determine user needs for the selected type of computer.
 - personal experience
 - survey friends
 - internet research

(4) Assess how well existing products satisfy the identified user needs.

(5) Create a table with recommendations for improvement
- structured brainstorming

customer need	Assessment	Recommendation

Step 3 : Implement the plan

Step 4 : Analyze results & draw conclusions

Are existing products doing a good job of satisfying user needs?

Do we have a viable alternative?

Step 5: Learn from, generalize the results

- improve the process
- apply the insights to other products

② PRODUCT DISSECTION

Motivation: Before we can create new products we need to understand the existing products

What does the product do? Function

How does it do it? Form

Step 1: Get familiar with the product.

- (a) "play" with it. use it
 - (b) internet research
 - (c) study documentation
- howstuffworks.com provides basic information

(2) Determine Function & Form

Function: verb-noun combination that indicates the purpose of the product

Example: Apple MacBook Pro Laptop

main function

Provide Mobile Computing

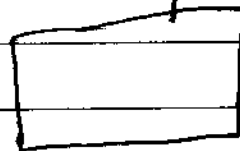
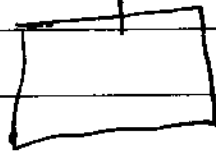
sub-
functions

Inputs
information

Processes
information

Displays
information

Provides
mobility



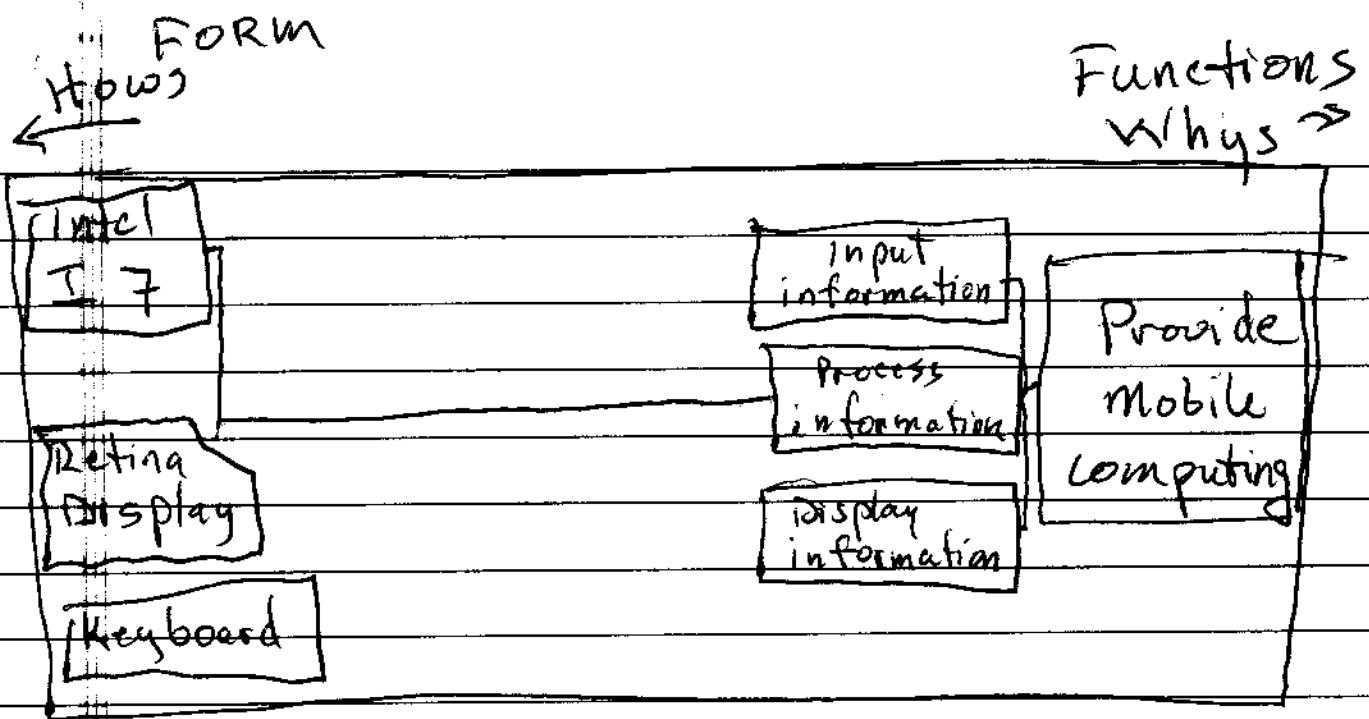
Form : Physical configuration of the product that realizes the functions

Examples for MacBook Pro :

Intel I7 processor
Retina Display
Aluminum Chassis
Lithium Battery
Key board

⋮

(3) Create a structured diagram of the relationships between the functions and the form (*realization") of the product.



FAST diagram

Function Analysis System Technique