

## TIM 105/205, LECTURE #2 (10/1/13)

Agenda:

- Review of Lecture 1
- HW #1 (due Thursday)
- Project teams  
(Preliminary Project Proposal due Thursday)

## HW # 1

### Preliminary Instructions:

1. Create a plan for ... doing the homework → must be submitted
2. Use the structured problem-solving approach on every homework problem & on the project deliverables  
(Make everything you do transparent)

### Useful implementation tip: ↙

- (a) Download a copy of the structured p.-s. approach from the class web-site
- (b) Cut & paste this copy into the solution of every problem.

## Problem # 1

"Improve existing cell-phones"

### Step 1 : Define the problem

- Establish needs that all cell-phones should satisfy
- Assess existing cell-phones products (and technologies) to determine how well they satisfy these needs
- Identify (generate) ways (or solutions) to improve existing cell-phone products with respect to satisfying needs
- ••• } ? (other problems)
- ••• }

## 2. Create a plan

### (a) Assumptions 1

Who am I? : perhaps an engineer  
or product manager at  
a cell-phone company

Who is your audience? : for the new  
product development  
team

What cell-phones should  
you focus on? } : obvious

(b) What information do I need  
— how cell-phones work

sub-problem 1 : Establish needs . . . . .

How ?

- internet research
- (from how cell-phones work)

Sub-problem 2 : Assess how well existing cell-phones satisfy needs

- your own experience
- internet consumer research
- consumer survey

Sub-problem 3 : Improve . . . . .

How ?

- research
- brain-storming

How should I present my results :  
probably a Table

### 3. Execute the plan

⋮

Needs	Assessment	?	?

Table: how to improve cell-phones

### 4. Check your results

### 5. Learn & Generalize

## Project : Preliminary Project proposal

### Define the problem :

How do we (project team) determine a "high-level" idea for our team project

You want to think of the team as working inside a medium-sized company (annual revenue: \$100M - \$500M) developing a new product

### Plan :

1. Identify 15-20 customer/societal needs using Structured Brainstorming
2. Use suitable criteria [Tech. risk, commercialization risk] to choose 2-3 societal needs from step 1
3. For each societal need from step 2 generate 15-20 ideas to satisfy that need.
4. Using suitable criteria narrow down the ideas from step 3 to 2-5 ideas for new product development.

# Societal needs

