

Idea Workshop – Week 2: Problem Selection & Specification

CMU

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9/6 & 8, 2016

Agenda

- **Tuesday:**
 - **Problem statement post & review**
 - **Individual Problem statement selection**
 - **Team formation**
- **Thursday:**
 - **Discussion of key topics**
 - **Identify selected problems & refine**
 - **Team planning and strategy**
 - **Review problem statement write-up**

Discussion on Key Topics

- Research methods
 - External analysis
- Affinity Mapping
 - Grouping and sorting
- Fishbone diagrams
 - Understand root causes
- GQM model
 - Goal/Question/Metric approach

Identify Problem Statements

- **Read the posted statements**
- **Create affinity with statements**
- **Place your selection options: 1,2,3 & name**
- **Teams assigned to topic areas**
- **Thursday:**
 - **Identify selected problem**
 - **Teams to create problem statements**
- **Begin drafting problem statement paper**

Top Problems Selected

1. Transportation Optimization 0/1/1 XXXX
2. Personal parking utilization – monetized xxxxxx
3. **Personal learning paths – content tree 6/7/5
4. Sustained engagement on learning platforms exper 3/3/0
5. Personal services provider (Task Rabbit...) XXXXX
6. Outsourcing “research-based” tasks 2/0/1 XXXX
7. **Positive Drones 8/4/3
8. Sensory solution added to #7 ^^^^^^^
9. “good food” consolidation finder 2/3/4
10. Traffic optimization by friend sharing XXXX
11. Address family support issues “sandwich” problem 2/2/5
12. Shopping experience xxxxxx

Teams for Problem Areas

Problem 1

Content

Learning:

Kobe

Lavanya

Clark

Varun

Edam

Problem 2

Integrated

Food Sys.

Elaine

Chiao Ni

Shin

David

Problem 3

Engagement

Learning

Tingting

Tina

Hector

Hubert

Kenji

Problem 4

Family

Support

System

Negin

Rahul #1

Rahul #2

Lin

Problem 5

Safe Drone

Shrey

Muthu

Angela

Sheryl

Aroshi

Ruby

Thursday, Session 2, Week 2,
September 8, 2016

Startup Assessment Task

Company Name	Ranking	Investment
Cleanify		
PiP My Pet		
Predikt		
Rentalutions		
Root		
Statim Health		
Staytuned		
Style Puzzle		

Team formation & activities

- Establish team meeting practices
- Establish team practices for team deliverables
- Identify team roles
- Identify team “high-performance” goals
- Create milestones/schedule that all share
- Within 48 hours of interviews, have team discussion on findings and update process/scripts/understandings
- Consider 2-member team interviews
- Consider “stand-up” meetings

Guidance

- Document your problem statement and discuss your proposed solution within your team
 - Reach team agreement. This will be updated over the weeks.
 - Use a decision-making technique to reach agreement. Define the value that could be obtained by solving the problem.
 - Reach agreement on a potential solution.
 - Create a document that describes problem, value, & solution
- Create your interview scripts
 - Define target interviewees (target personas), create interview scripts for each
 - Have a standard format for ease of integration (but it is not a mechanical interview)
- Create list of interviews, schedule, assignments, practice

Example for Problem Clarity

- Context of situation:

Consider a software development and hosted data services company that supplies products and services to wireless carriers.

They had issues deploying new software releases into the production environment. Deployment in this case is the work necessary for taking a production ready binary and installing, testing and releasing it into the production environment.

The company failed to deploy the releases on-schedule over 50% of the time.

Problem statement for Example

- We want all of our software releases to go to production seamlessly, without defects, where everyone is aware and informed of the outcomes and status. (**Expected state/ Vision**)
- Today we have too many release failures that result in too many rollback failures. If we ignore this problem; resources will need to increase to handle the cascading problems, and we may miss critical customer deadlines which could result in lost revenue, SLA penalties, lost business, and further damage to our quality reputation. (**Problem Statement**)
- We will use our Kaizen Blitz methodology in evaluating the last release to help us improve our processes. (**Method**)

Example 2: DreamSync

“Who you are - Who do you want to be”

PROBLEM

I am a developer;
actually, I want to be
a rockstar!

APPROACH

Realize your
dreams
We can help you
connect with
experts, like-
minded people
and friends

SOLUTION

A focused
networking
information
portal.
Partner with
Groupon,
Living Social,
etc.

Example 3: Park Smart

- The problem:

Finding a parking spot easily

- Market/Competitors:

SFPark, Garages

- The approach:

Understand technology – magnetic sensor

The solution:

Design solution – wireless communication/
solar powered devices

Steps to defining problem

- A problem does not exist on its own.
 - Usually a system in which it resides
 - Not considering the system results in pitfall of solving a symptom
- Root cause: understand the hierarchy and the system that frames the problem
 - Use the 5 Why's... keep asking, follow the trail
 - Don't get sidetracked by other problems - Fishbone
- Understand the scope: identify all the related issues to the root cause
 - Identify all the related problems to root cause and sort into logical groupings - Fishbone
- Determine initial solution: May be more than 1
 - Select the most appropriate – might mean pivoting
 - The “elegant” solution will address the system in which the problem resides.

Problem Definition

- A problem is the difference between the expected/desired state of affairs and the actual state of affairs.
- A problem statement is a concise description of the issue(s) that must be addressed.
- Most of the time, a problem is hidden.
- What is evident are the symptoms of the problem.
- Don't make hasty assumptions or solutions before having a clear understanding of the problem.
- What are your hypotheses?

A tool to get information

From Rudyard Kipling's "The Elephant's Child"
which opens with:

*I keep six honest serving-men
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who.*

Questions to address Problem Statement

- Who is affected by the problem?
- What are the causes of the problem?
- When does the problem occur?
- Where does the problem occur?
- How is the problem manifested?
- What is the impact of the problem?
- Why? Why? Why? Why? Why?

Apply this to your team problem

- **Create a problem statement/definition**
- **Identify what you need to know**
- **Create an approach/plan**
- **Identify types of people to interview**
- **Begin to Draft interview questions**
- **Practice on each other**

Problem Statement Development

- Define the issue.
 - Considered from the customer's point of view
- Clarify why the issue is important.
 - Numbers tell a story (% , \$\$, # , etc.)
- What assumptions are you making?
 - Don't jump to conclusions, list your assumptions & uncertainties
 - What is the value of the problem being solved?
- Create a concise description of the issue/opportunity you want to explore.
 - Not the solution
 - Limit jargon

Question the Problem and its Assumptions

- Do you all agree on the statement?
- What assumptions have you made?
- Do you agree on the assumptions?
- “Maybe it’s not a (blank) problem at all; maybe it’s really a (blank) problem, instead.”

Research!!!

- Interview users/customers
- Visit the library.
- Read.
- Search the Internet.
- Ask experts.
- Conduct experiments.
- Examine or Visit the competition, if any
- Read more.
- Assess previous assumptions & attempts
- Discuss what you know in your team
- Read again, share your thoughts
- ***A problem well stated is half solved, [Wally Davis](#)***

Look closely... The Blues' Ace



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