

Organizing & prioritizing customer needs

MEC 3002 Methods in Early Product Development

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Learning Objectives:

Learn to organize customer needs

Understand how to prioritize needs

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Agenda

Discussion of last lesson's homework

Organize needs into a hierarchy

Create need statements

Prioritizing customer needs

3

About the homework

Had 3 parts: Accuracy, Need Statements, A deeper method

Have started grading, will take a while to do well. Sorry and thank you for your patience.

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How accurate were you?

For task 1a, guessing what the driver was thinking, you can email Jie.Li@aalto.fi. She is my doctoral student doing research on empathic accuracy. I will not know what your score is.

Average empathic accuracy is about 30% and practically always under 50%.

- Do not be disappointed by your score, it is normal
- Remember this, we understand each other less than we think!
- And the more different we are from the user, worse the accuracy.

In product development, the accuracy is a measure that *might* be indicative of how well we define the needs. This is what we are researching. For grading purposes, your accuracy score is not used, only the need statements.

Jie would like to also look at your homework to advance her research. Your name & ID data is first removed. If you would like your data not used in her research, let her know. Your data is then deleted.

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Organizing customer needs

Affinity Diagram

- Do as a team
 - *Helps avoid any individual biases*
- Discuss along the way
 - *Part of the process*
 - *Helps interpret the needs*

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Process:

1. Gather customer needs/observations
2. Write 1 need per sticky note
3. Place 1 note on a large wall or large sheet of paper (if need to move elsewhere later)
4. Take a second note, if similar to the one before, place directly under the first one, if different, place next to it
5. For each subsequent note, place under a similar note already on the wall or alone adjacent to the others is a unique need
6. Move and regroup needs as needed
7. Once done, give each "pillar" a higher order name, but try to keep them specific.
8. These higher order names will form your list of customer needs
9. Take these needs back to your customers for prioritization

A way to receive messages discretely

A way to type / input with ease

A way to see the screen in sun light

I need to receive messages discretely

I cannot type with such small buttons

I cannot see the screen outside

I want to read messages so that others do not notice

Walks to shade to text

Covers phone with hand to block sun

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Task

Let's affinitize in MIRO

https://miro.com/app/board/o9J_ktflo2k=/

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Interpreting the needs

Create primary needs out of the high-level categories, express

- **in neutral terms**

Avoid “must”, “should” etc. that carry hints of importance

- **as an attribute of the product**

- **what is needed or what the product does, not how (no solutions yet!)**

Natural as part of discussion – Affinity diagram useful process

Careful of own interpretation!

- **too easy to reflect own views in customer needs**

- **having a team helps**

- **when prioritization is done separate, have a second chance to correct assumptions**

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Prioritizing customer needs

Two basic approaches (notice frequency is not recommended)

1. Rely on the collective team intelligence
 2. Go back to the customers
- **Ways to rank**
 - Multivoting
 - Assigning percentage (add up to 100%)
 - Ranking (#1 is most important, #2 2nd most important ...#n least important)
 - Assigning level of importance (e.g. 1-5, 5 being most important)

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Task 1 - Let's prioritize our needs

Two ways to approach users for prioritization

- 1) Safe commute, ask to rate importance 1-5
- 2) Safe commute, ask to rank order the needs

- 3) Safe driving, ask to rate importance 1-5
- 4) safe driving, ask to rank order the needs

<https://link.webpolsurveys.com/S/4BB510BF895B6CD7>

3. Please rank the following user needs for safe driving

The screenshot shows a survey interface with ten dropdown menus labeled 'DrivingNeed 1' through 'DrivingNeed 10', each with a 'Select' button. To the right is a grid titled 'Safe Driving in difficult scenarios' containing several user needs, each with a brief description and a small icon. The needs include: 'A way to find free parking spots in parking place without driving around', 'A way for a driver to avoid traffic jams by using a paid parking area', 'A way to detect and avoid obstacles on the road that can be dangerous', 'A way to detect and avoid obstacles on the road that can be dangerous', 'A way to detect and avoid obstacles on the road that can be dangerous', 'A way to detect and avoid obstacles on the road that can be dangerous', 'A way to detect and avoid obstacles on the road that can be dangerous', 'A way to detect and avoid obstacles on the road that can be dangerous', 'A way to detect and avoid obstacles on the road that can be dangerous', 'A way to detect and avoid obstacles on the road that can be dangerous'.

I created the survey yesterday before organizing the needs, so you need to match the needs in MIRO to "Need 1, Need 2 etc."

Summarized Commuter needs from MIRO

- Need 1: A way to inform customers the amount of passengers on the bus/subway in real-time to help people chose a safe commute time.
- Need 2: A way for a group of commuters to be placed next to each other during the ride to be able to talk without disturbing others
- Need 3: A way to commute hygienically for commuters that allow contactless.
- Need 4: A way to keep safe distance to other commuters while pandemic
- Need 5: A way to keep safe distance to other commuters while pandemic
- Need 6: A way to feel safe from the germs/virus and carry normal life
- Need 7: A way to follow the social distancing recommendations without having to exert effort for people who are busy and have more important things to do.
- Need 8: A way to avoid medicinal taste
- Need 9: A way to get reminded to use hand sanitizer after having a seat in buss/train to keep hands hygienic

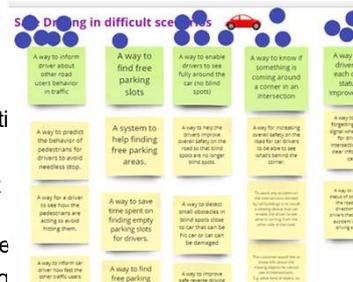


CommuterNeed prioritization results from in-class survey ranking and importance rating

CommuterNeed 	Average rank	% Ranked #1	Average Importance (1-5)	Median Importance
1: A way to inform customers the amount of passengers on the bus/subway in real-time to help people chose a safe commute time.	3,83	8,69 %	3,67	4,00
2: A way for a group of commuters to be placed next to each other during the ride to be able to talk without disturbing others	5,87	4,35 %	2,79	2,50
3: A way to commute hygienically for commuters that allow contactless.	4,04	17,39 %	4,13	4,00
4: A way to keep safe distance to other commuters while pandemic	3,78	17,39 %	4,00	4,00
5: A way to keep safe distance to other commuters while pandemic	5,48	13,04 %	2,83	3,00
6: A way to feel safe from the germs/virus and carry normal life	3,87	26,09 %	3,88	4,00
7: A way to follow the social distancing recommendations without having to exert effort for people who are busy and have more important things to do.	6,35	0 %	3,30	3,00
8: A way to avoid medicinal taste	6,74	4,35 %	2,17	2,00
9: A way to get reminded to use hand sanitizer after having a seat in buss/train to keep hands hygienic	5,83	4,35 %	3,43	4,00

Driving needs from MIRO (10 first ones only)

1. A way to inform driver about other road users behavior in traffic
2. A way to find free parking slots
3. A way to enable drivers to see fully around the car (no blind spots)
4. A way to know if something is coming around a corner in an intersecti
5. A way to get drivers see each others status to improve safety
6. a way to increase the reliability and consistency of the device so that drivers can trust and rely on the device to adapt their behavior to it
7. A way to improve vision in heavy rain in drivers that decreases accide
8. A way to detect the situation on a dark road when drivers are meeting each other with low-beam for the drivers to avoid hitting things during the short blindness period.
9. A way to detect in advance invisible black ice for drivers
10. A way to notice sharp metallic objects on the road



DriverNeed prioritization results from in-class survey ranking and importance rating

DrivingNeed 	Average rank	% Ranked #1	Average Importance (1-5)	Median Importance
A way to inform driver about other road users behavior in traffic	3,58	15,38 %	4,04	4,00
A way to find free parking slots	7,12	7,69 %	2,62	3,00
A way to enable drivers to see fully around the car (no blind spots)	3,50	34,61 %	4,38	5,00
A way to know if something is coming around a corner in an intersection	4,65	3,85 %	4,08	4,00
A way to get drivers see each others status to improve safety	5,65	11,54 %	3,35	3,00
a way to increase the reliability and consistency of the device so that drivers can trust and rely on the device to adapt their behavior to it	5,69	3,85 %	3,54	3,00
A way to improve vision in heavy rain in drivers that decreases accidents	5,00	11,54 %	4,04	4,00
A way to detect the situation on a dark road when drivers are meeting each other with low-beam for the drivers to avoid hitting things during the short blindness period.	5,85	7,69 %	3,46	4,00
A way to detect in advance invisible black ice for drivers	7,08	0 %	3,65	4,00
A way to notice sharp metallic objects on the road	6,88	3,85 %	3,04	3,00

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Task 2 - Let's prioritize our needs - again

Two ways to rely on collective intelligence for prioritization :



- 1) Safe commute, rely on collective intelligence
- 2) Safe commute, multivoting



- 3) Safe driving, rely on collective intelligence
- 4) safe driving, multivoting

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To do in Breakout rooms

In your breakout room, take the needs from the affinization process and prioritize them according to what task is given to your room (see table below).

Collective Intelligence				Multvoting (a.k.a. dot voting)			
Room1	Room2	Room3	Room4	Room5	Room6	Room7	Room8
Safe commute 		Safe driving 		Safe commute 		Safe driving 	
Discuss as a team				Each team member gets 6 votes total. You can use 0-6 votes per need, but no more than 6 total. Vote for what you think are most important needs.			
Record needs in order on the MIRO board		Record needs in order on the MIRO board		Record needs in order on the MIRO board		Record needs in order on the MIRO board	



Find a blue toned box with your breakout room number on it, record top 10 needs there. You can add other info, such as total points if you wish

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Commuter Need Team Prioritization

Breakout room 1 - Team discussion

- 1) A way to keep safe distance to other commuters while pandemic
- 2) A way to follow the social distancing recommendations without having to exert effort for people who are busy and have more important things to do.
- 3) A way to commute hygienically for commuters that allow contactless.
- 4) A way to get reminded to use hand sanitizer after having a seat in buss/train to keep hands hygienic
- 5) A way to inform customers the amount of passengers on the bus/subway in real-time to help people chose a safe commute time.
- 6) A way to feel safe from the germs/virus and carry normal life
- 7) A way for a group of commuters to be placed next to each other during the ride to be able to talk without disturbing others
- 8) A way to avoid medicinal taste

missing due to uncertainty: A way to have Small size of the product to carry easily while travelling

Breakout room 2 - Team discussion

- 1) 3: A way to commute hygienically for commuters that allow contactless.
- 2) 4: A way to keep safe distance to other commuters while pandemic
- 3) 6: A way to feel safe from the germs/virus and carry normal life
- 4) 9: A way to get reminded to use hand sanitizer after having a seat in buss/train to keep hands hygienic
- 5) 1: A way to inform customers the amount of passengers on the bus/subway in real-time to help people chose a safe commute time.
- 6) 2: A way for a group of commuters to be placed next to each other during the ride to be able to talk without disturbing others
- 7) 7: A way to follow the social distancing recommendations without having to exert effort for people who are busy and have more important things to do.
- 8) 8 : A way to avoid medicinal taste
- 9) 5: A way to have Small size of the product to carry easily while travelling

Breakout room 5 - Multivoting

- 1) A way to commute hygienically for commuters that allow contactless.
- 2) A way to keep safe distance to other commuters while pandemic
- 3) A way to inform customers the amount of passengers on the bus/subway in real-time to help people chose a safe commute time.
- 4) : A way to avoid medicinal taste
- 4) A way to feel safe from the germs/virus and carry normal life
- 6) A way for a group of commuters to be placed next to each other during the ride to be able to talk without disturbing others

Breakout room 6 - Multivoting

- 1) 4 votes: A way to feel safe from the germs/virus and carry normal life
- 2) 2 votes: A way to get reminded to use hand sanitizer after having a seat in buss/train to keep hands hygienic.
- 3) 2 votes: A way to inform customers the amount of passengers on the bus/subway in real-time to help people chose a safe commute time.
- 4) 1 votes: A way to commute hygienically for commuters that allow contactless.
- 5) 1 votes: A way to keep safe distance to other commuters while pandemic
- 6) 1 votes: A way to have Small size of the product to carry easily while travelling
- 7) 1 votes: A way to follow the social distancing recommendations without having to exert effort for people who are busy and have more important things to do.

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<h2 style="color: #800080;">Driving Need Team Prioritization</h2>			
<p>Breakout room 3 - Team discussion</p> <ol style="list-style-type: none"> 1) A way to increase the reliability and consistency of the device so that drivers can trust and rely on the device to adapt their behavior to it 2) A way to enable drivers to see fully around the car (no blind spots) 3) A way to inform driver about other road users behavior in traffic 4) A way to know if something is coming around a corner in an intersection 5) A way to detect in advance invisible black ice for drivers 6) A way to get drivers see each others status to improve safety 7) A way to detect the situation on a dark road when drivers are meeting each other with low-beam for the drivers to avoid hitting things during the short blindness period. 8) A way to improve vision in heavy rain in drivers that decreases accidents 9) A way to notice sharp metallic objects on the road 10) A way to find free parking slots 	<p>Breakout room 4 - Team discussion</p> <ol style="list-style-type: none"> 1) A way to enable drivers to see fully around the car (no blind spots) 2) A way to improve vision in heavy rain in drivers that decreases accidents 3) A way to inform driver about other road users behavior in traffic 4) A way to detect in advance invisible black ice for drivers 5) A way to know if something is coming around a corner in an intersection 6) a way to increase the reliability and consistency of the device so that drivers can trust and rely on the device to adapt their behavior to it 7) A way to detect the situation on a dark road when drivers are meeting each other with low-beam for the drivers to avoid hitting things during the short blindness period. 8) A way to get drivers see each others status to improve safety 9) A way to notice sharp metallic object on the road 10) A way to find a free parking slot 	<p>Breakout room 7 - Multivoting</p> <ol style="list-style-type: none"> 1) A way to inform driver about other road users behavior in traffic 2) A way to enable drivers to see fully around the car (no blind spots) 3) A way to detect in advance invisible black ice for drivers 4) A way to get drivers see each others status to improve safety 5) A way to know if something is coming around a corner in an intersection 6) a way to increase the reliability and consistency of the device so that drivers can trust and rely on the device to adapt their behavior to it 7) A way to improve vision in heavy rain in drivers that decreases accidents 8) A way to find free parking slots 9) A way to detect the situation on a dark road when drivers are meeting each other with low-beam for the drivers to avoid hitting things during the short blindness period. 10) A way to notice sharp metallic objects on the road 	<p>Breakout room 8 - Multivoting</p> <ol style="list-style-type: none"> 1) A way to enable drivers to see fully around the car (no blind spots) 2) A way to know if something is coming around a corner in an intersection 3) A way to inform driver about other road users behavior in traffic 4) ...increase the reliability and consistency of the device so that drivers can trust and rely on the device to adapt their behavior to it 5) A way to improve vision in heavy rain in drivers that decreases accidents 6) A way to detect the situation on a dark road when drivers are meeting each other with low-beam for the drivers to avoid hitting things during the short blindness period. 7) A way to detect in advance invisible black ice for drivers 8) A way to get drivers see each others status to improve safety 9) A way to notice sharp metallic objects on the road 10) A way to find free parking slots



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Reflection

- **How did the different methods work? Why are results different?**
- **How to ensure you do not lose contextual information?**
- **How do you ensure you do not lose the connection from your statements to your needfinding insights?**
- **How many need statements should I create?**

Note: The book has a great example of developing hierarchies of needs when you have a lot of needs.

Next step – turn needs into measurable target specifications. See Friday's activity packet. It is a Team assignment. I have created random teams for this one. For the later team assignment, you can choose your teams.

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Learning Objectives:

Learn to organize customer needs

Understand how to prioritize needs