

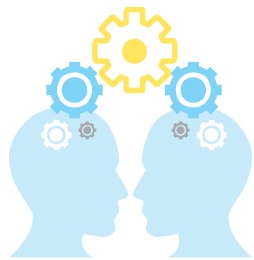
DESIGN THINKING

DIFFERENT STAGES OF DESIGN THINKING



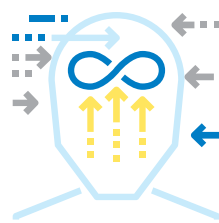


THE FIVE STAGES OF DESIGN THINKING



Stage 1

EMPATHIZE
(IDENTIFY)



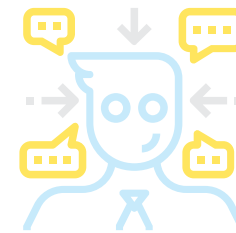
Stage 2

DEFINE



Stage 3

IDEATE



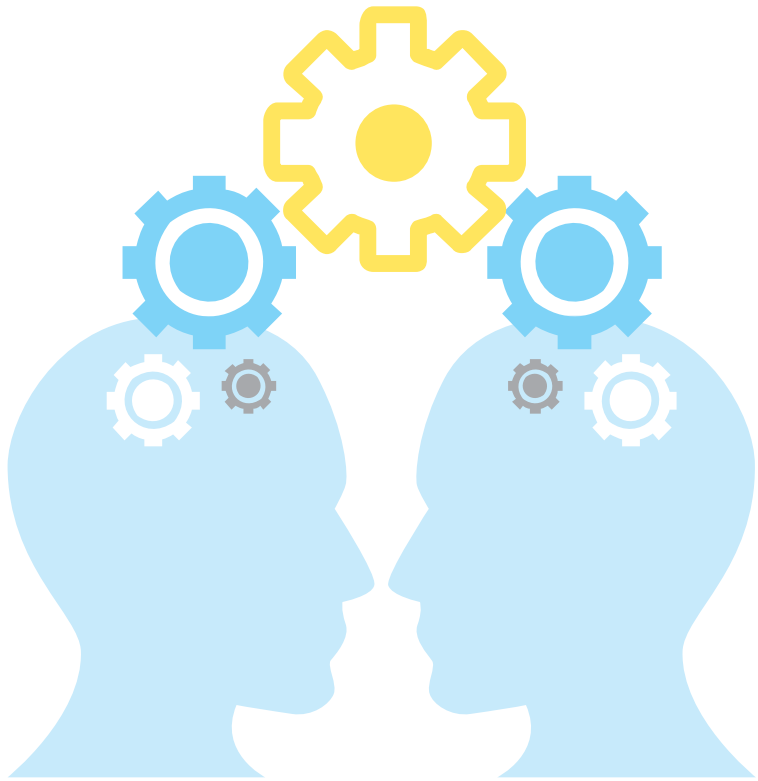
Stage 4

PROTOTYPE



Stage 5

TEST



Stage 1

EMPATHIZE

- **WHAT IS EMPATHIZE?**
- **WHY EMPATHIZE?**
- **HOW TO EMPATHIZE**





WHAT IS EMPATHIZE?

To identify or understand what others see, feel and experience.



In order to relate to the problems that others might be facing.

You have to understand a problem before you can solve it.





WHY EMPATHIZE?

Observing what people do and how they interact with their environment gives you clues about what they think and feel.


It also helps you learn about what they need.






HOW TO EMPATHIZE?


Observe

- View people and their behavior
 - Notice any disconnect between what someone says and what they does
- 

Engage

- Talk to people about their problems to help you relate to the issue.
 - Always ask “Why?” to uncover deeper meaning
- 

Watch and listen

- Have them physically go through the steps, and talk you through why they are doing what they do
 - Ask them to vocalize what’s going through in their mind
- 



ACTIVITY : SCENARIO 1

Mr. Rao* is an old man who reaches home late in the evening after work. He stays in an apartment on the 1st floor. When he starts early in the morning, it is still dark and he finds it difficult to go down the stairs to reach the gate. By the time, he reaches home after his work, its usually dark again and climbing up to reach his apartment on the first floor is again a challenging task for him. Is there some way in which we can help Mr. Rao?





What are the emotions your user might be feeling?

1. Insecurity

2. Helplessness

3. Fear

4. Unhappy

5. _____

What does He/She say or do ?

1. I am so fed up !

2. It's so dangerous to climb the stairs

3. in the dark

4. I really need some help

5. I am afraid of falling and injuring myself

6. _____

What are some advices/comments that the user gets from his friends or relatives?

1. Why do you suffer like this?

2. Why don't you complain to the owner ?

3. Shift your residence. Why complain always ?

4. Ask the owner for a lift facility

5. _____

What does he/she see ?

1. Darkness

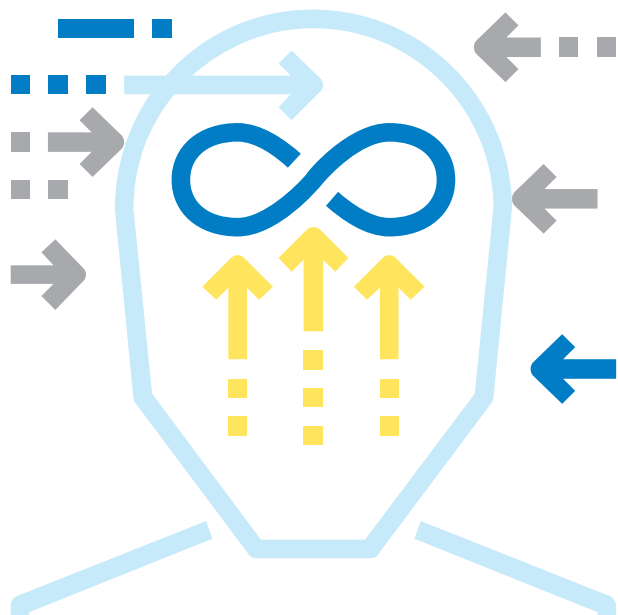
2. Staircase

3. His room

4. Other Buildings

5. _____

Empathy Map



Stage 2

DEFINE

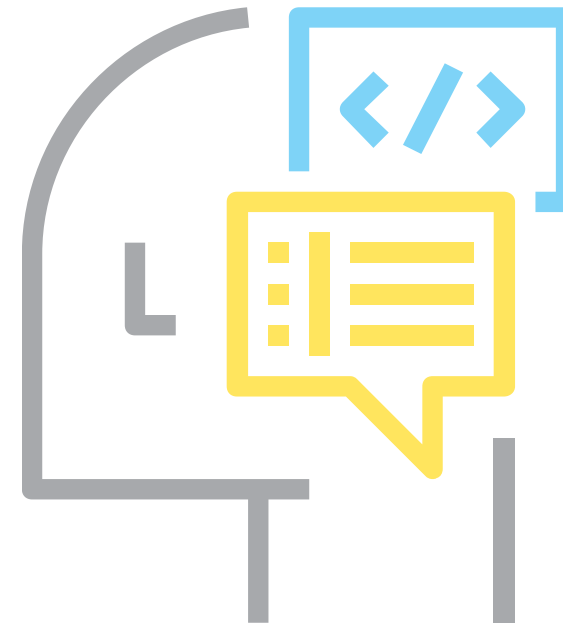
- WHAT IS DEFINE?
- WHY DEFINE?
- HOW TO DEFINE





WHAT IS DEFINE?

Analyze and create your observation of the user from the 'Empathize stage'



Define to craft a meaningful and actionable problem statement



WHY DEFINE?

The Define stage is critical to the design process because it results in your point-of-view (POV), the explicit expression of the problem you are striving to address





HOW TO DEFINE?

Identify your Audience

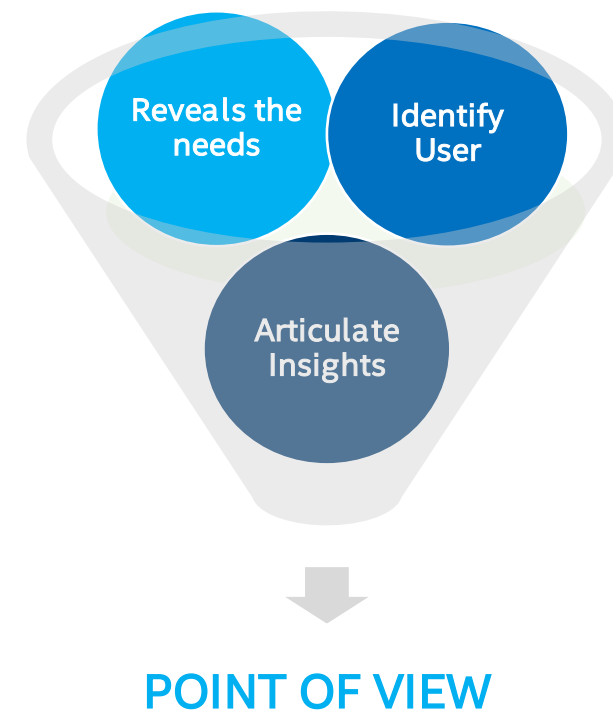
Develop an understanding of the type of person you are designing for – your Audience.

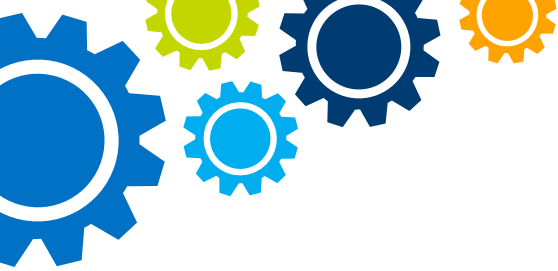
Reveal Needs

Create and select a limited set of NEEDS that you think are important to fulfill

Articulate Insights

Work to express INSIGHTS you developed through the information gathered through empathy and research work





ACTIVITY : CREATE A POV STATEMENT

Audience Need Statements	POV Statement
"I am seven-years-old and I hate doing homework because it takes me forever to finish."	How can we create a way for this student to do his or her homework more efficiently?
I am a college student and I hate folding laundry because I can't seem to fold it the right way.	How can we create a tool to help the college student fold laundry?
I am the mother of five-year-old twins who hate vegetables of all kinds. I am worried about their nutritional needs.	How can we help the mother succeed in getting her children to eat vegetables?



ACTIVITY : SCENARIO 1 CONTINUED

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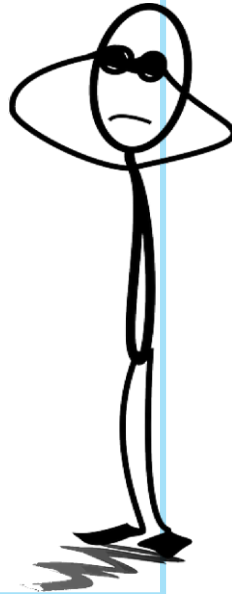




Research / Observe

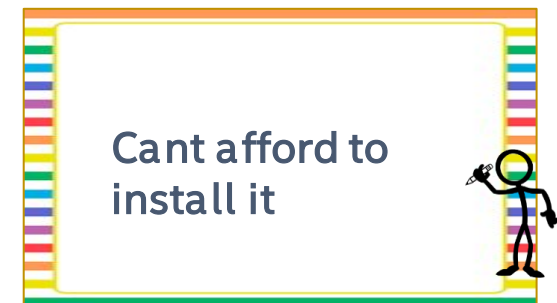
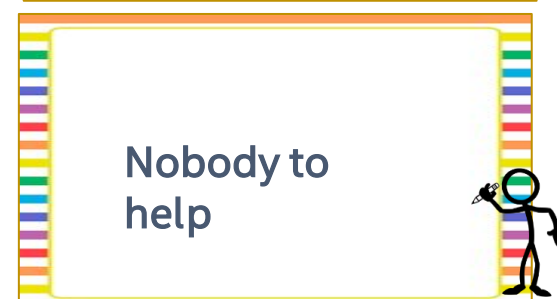
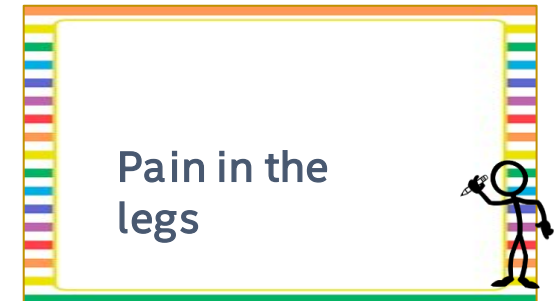
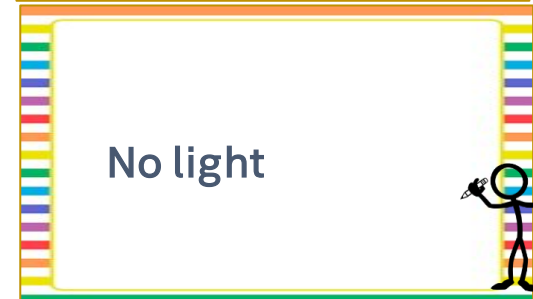
List the main facts , data and background information of relevance here.

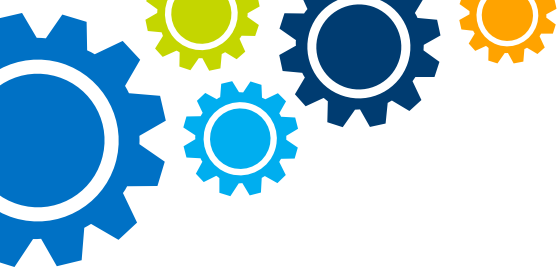
1. Old Man
2. Steep staircase
3. First floor residence
4. Difficulty in climbing
5. No way to see properly in the dark
6. No light
7. Need to be careful
8. Old man's helplessness
9. Old man's fear of injury
10. Remote village
11. Poor infrastructure
12. Building was not well planned



Design Challenges

Write down all the problems you can think in the boxes provided ?

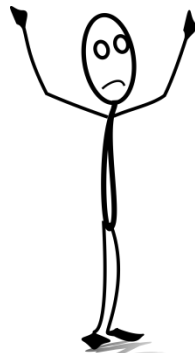




I am an Old
man



I am trying to
reach home
safely



But I am
struggling to
climb the stairs
in darkness



Because of
the darkness I
am afraid of
falling



Which makes
me feel helpless
and
insecure

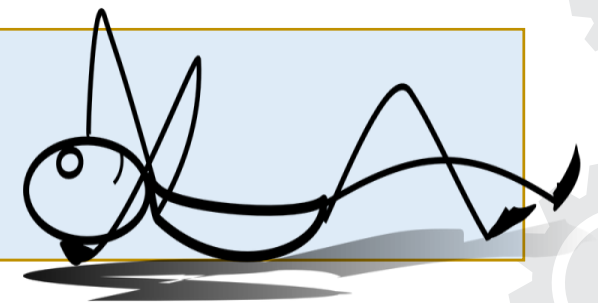
Describe the problem
you have selected and
the reason why you have
chosen to focus on this ?

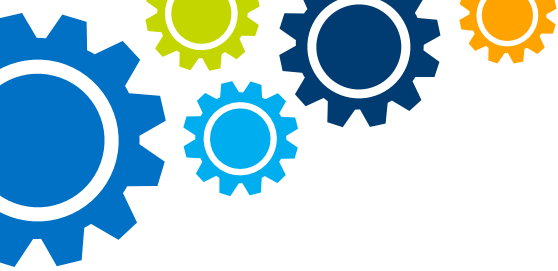
The problem is
the lack of light
in the passage as
it does not let
the old man
reach his room
safe

Point of View Statement

Formulate one very precise sentence that summarizes exactly the problem you want to solve

How might we solve the problem of lack of safety in climbing the stairs faced by the old man ?





Stage 3

IDEATE

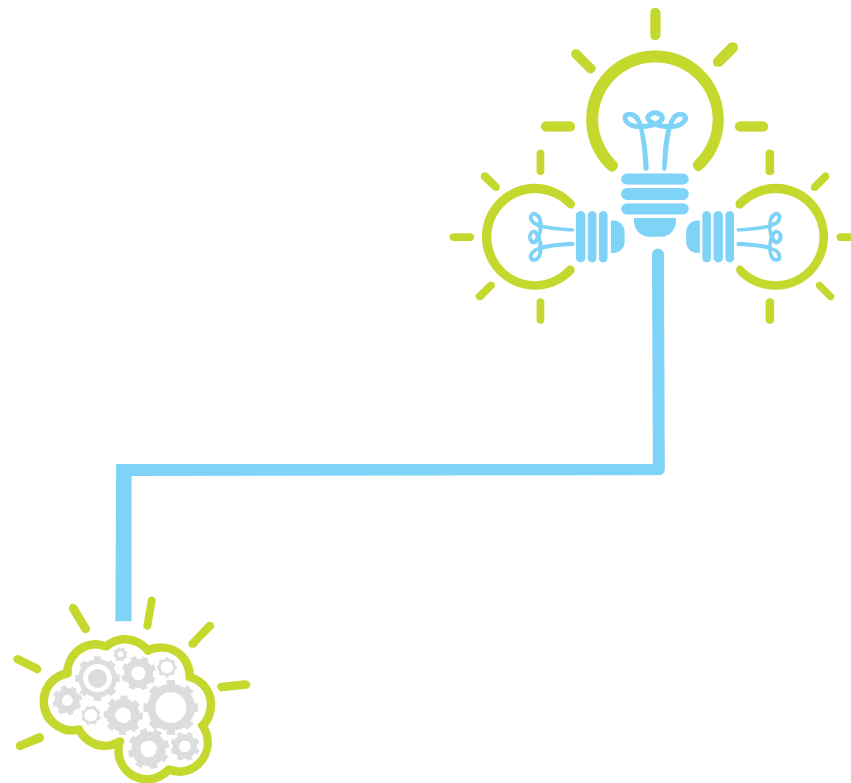
- WHAT IS IDEATE?
- WHY IDEATE?
- HOW TO IDEATE





WHAT IS IDEATE ?

The third stage of the design process in which you concentrate on idea generation





WHY IDEATE ?

To step beyond obvious solutions

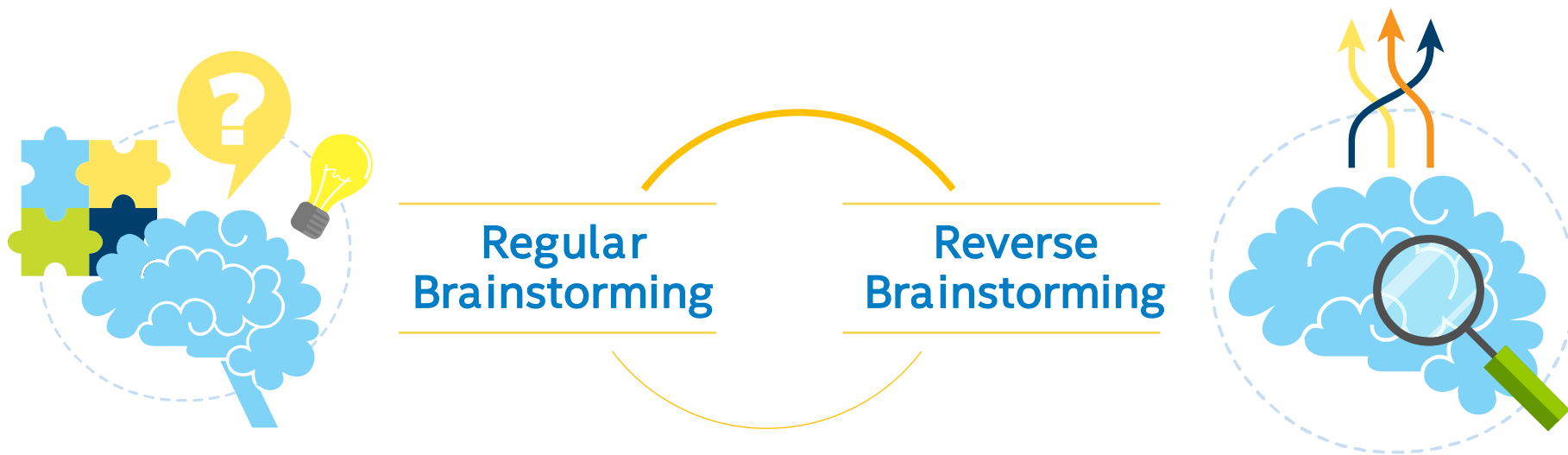
To connect the collective perspectives

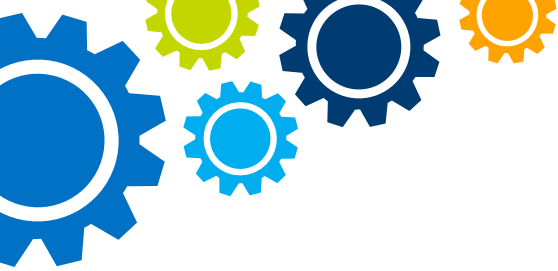
To uncover unexpected areas of exploration

To create easy and flexible innovation options



HOW TO IDEATE?

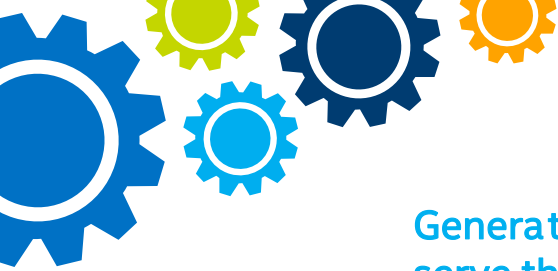




ACTIVITY : SCENARIO 1 CONTINUED

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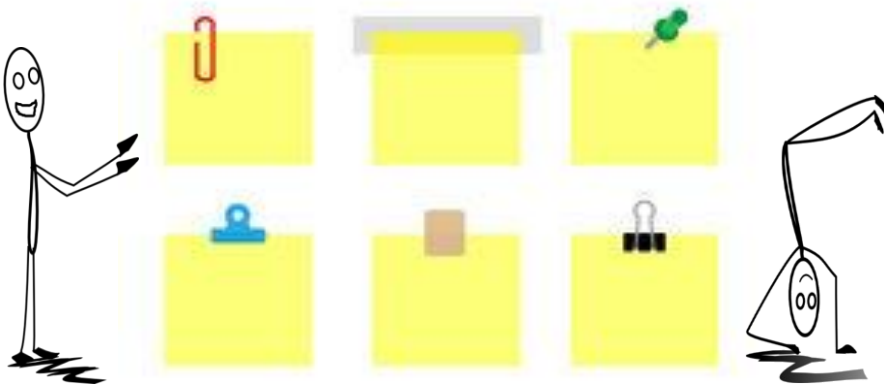
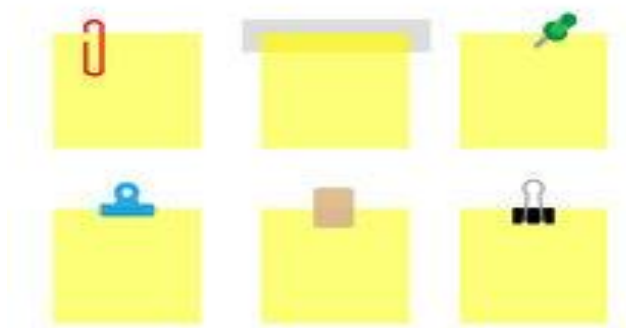




Generate as many ideas as possible to serve these identified designed needs



Arriving at the right design



Ideas Generated	Novelty	Ease of use	Ease of design	Durability	Feasibility
Carry Torch	✓	✓	✓	X	✓
Carry Match Box	✓	✓	✓	X	X
Suggest the owner to build the lift	✓	✓	X	✓	X
Change the residence	X	X	X	✓	X
Come home early	X	X	X	X	X
Build a 2-way switch	✓	✓	✓	✓	✓



Stage 4

PROTOTYPE

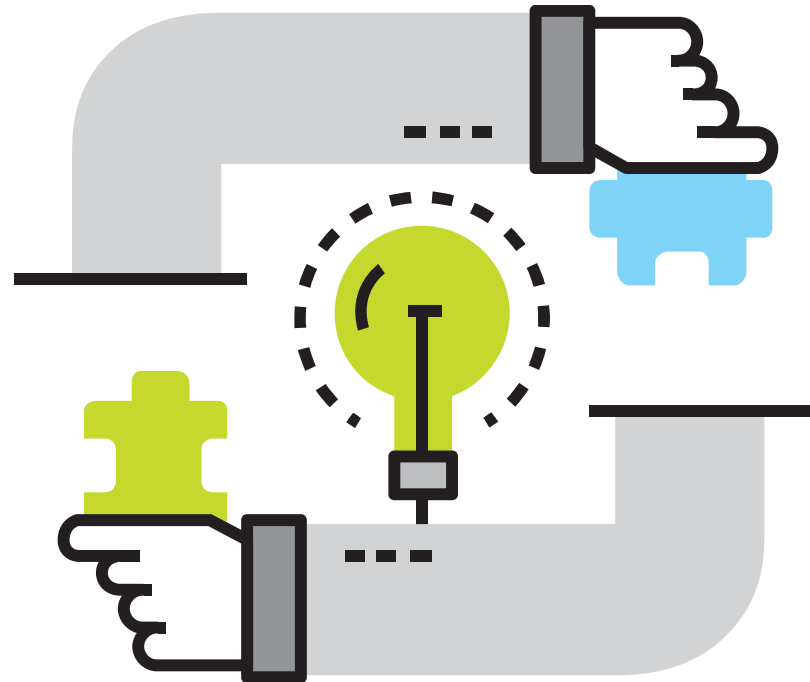
- WHAT IS PROTOTYPE?
- WHY PROTOTYPE?
- HOW TO PROTOTYPE





WHAT IS PROTOTYPE?

Prototyping is a rough and quick portion of the design process





WHY PROTOTYPE?

1. To test possibilities
2. To fail quickly and cheaply
3. To break a large problem down into smaller, testable chunks





HOW TO PROTOTYPE?



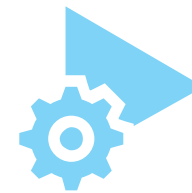
Build with the
user in mind



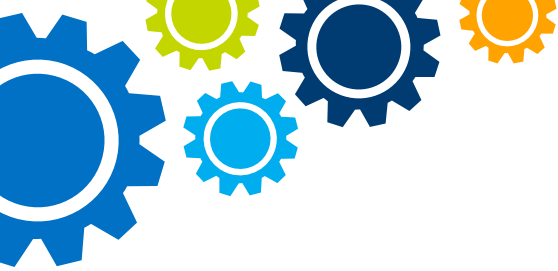
Identify what's
being tested



Don't spend
too long



Start
building

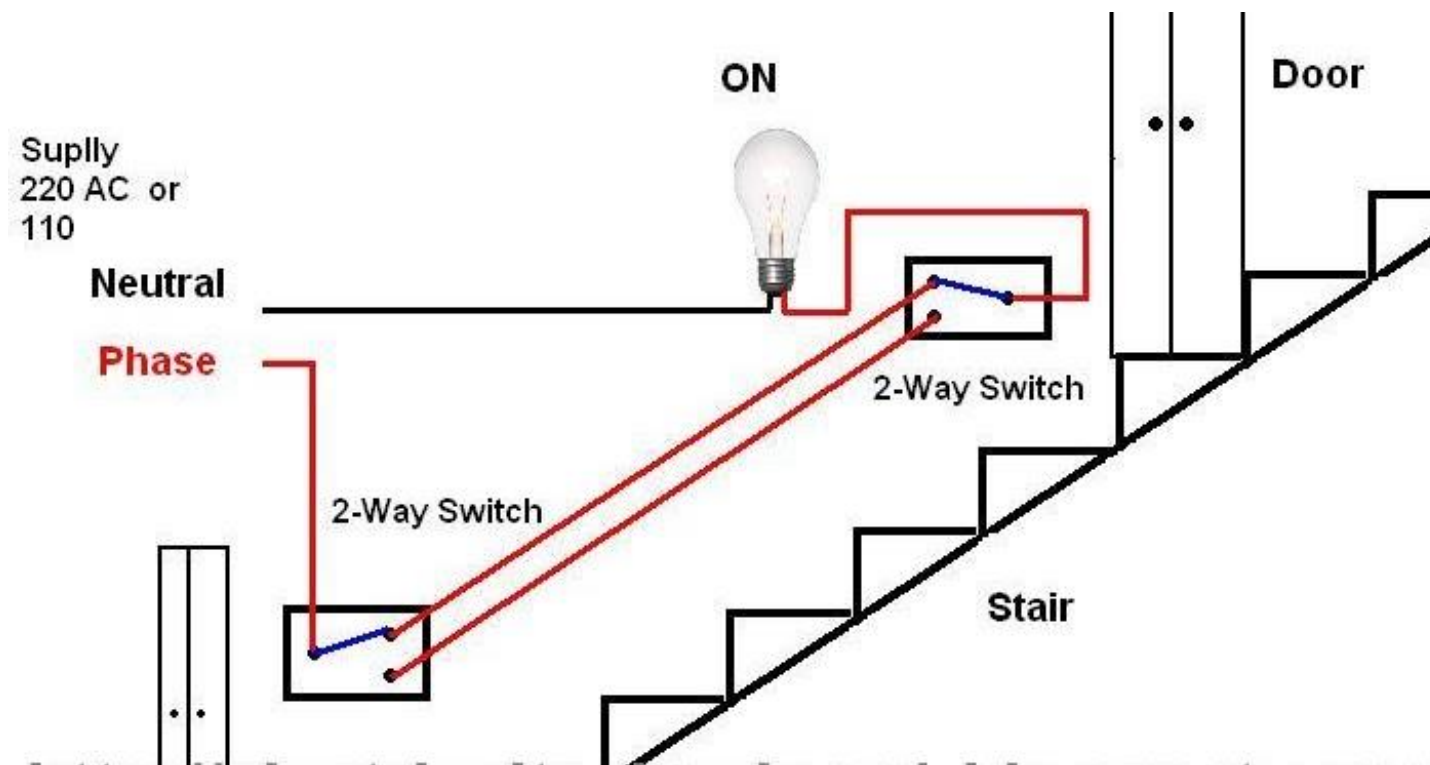
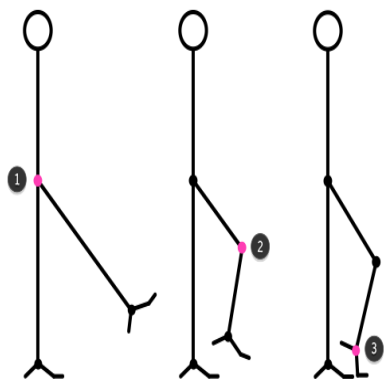


ACTIVITY : SCENARIO 1 CONTINUED

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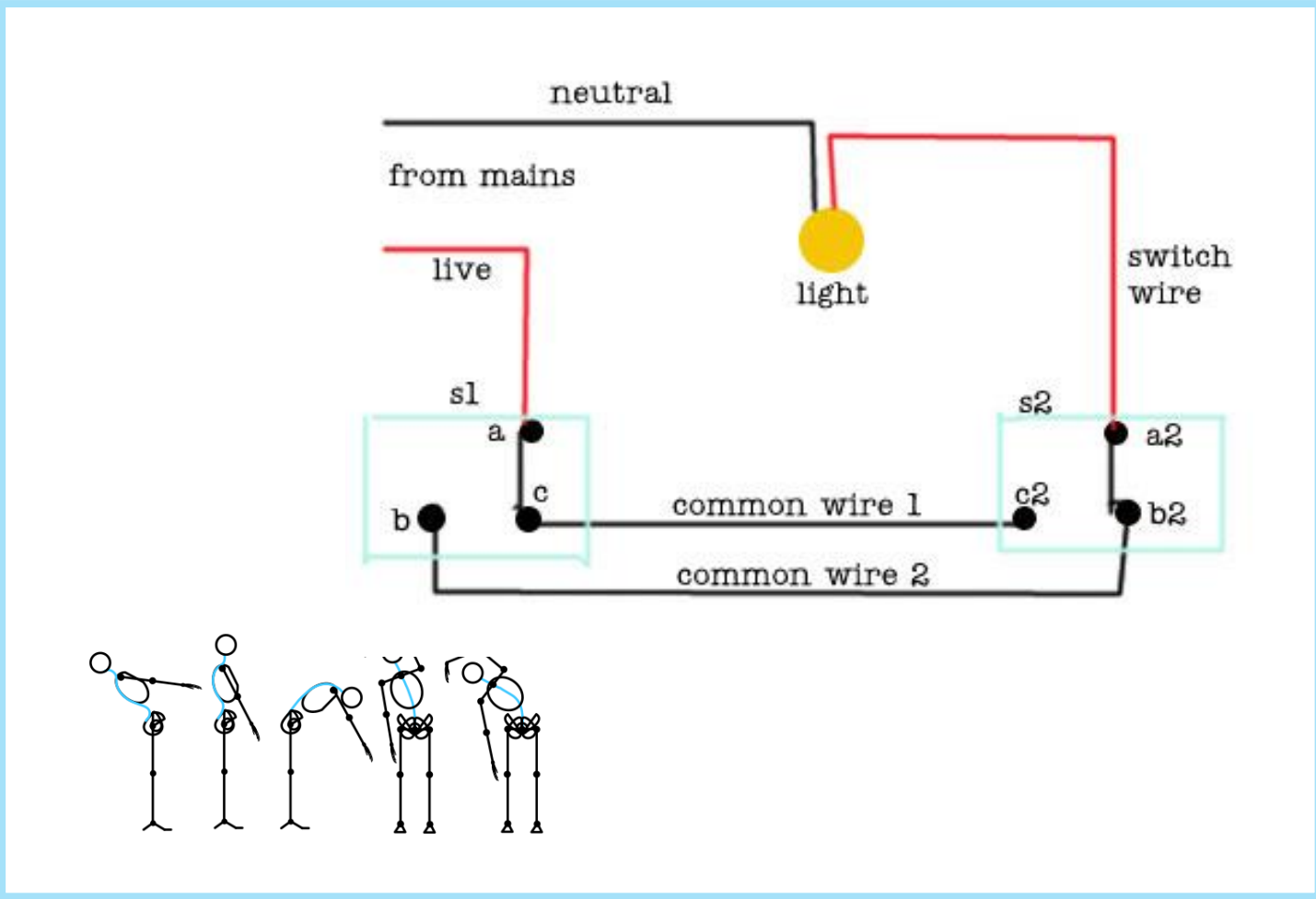


ABSTRACT - Rough Sketch of the Prototype



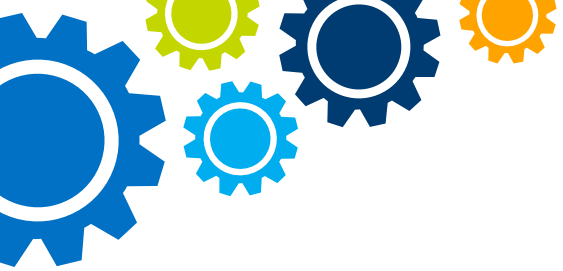


CONCRETE - Detailed Sketch of the Prototype



Materials Required

- 1. Lamp.....
- 2. Battery Holder...1.....
- 3. Two switches (2 way).....
- 4. Supply Wire...Red,Blue,Yellow...
- 5. Neutral.....
- 6. AC connection.....
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.



Stage 5

TEST

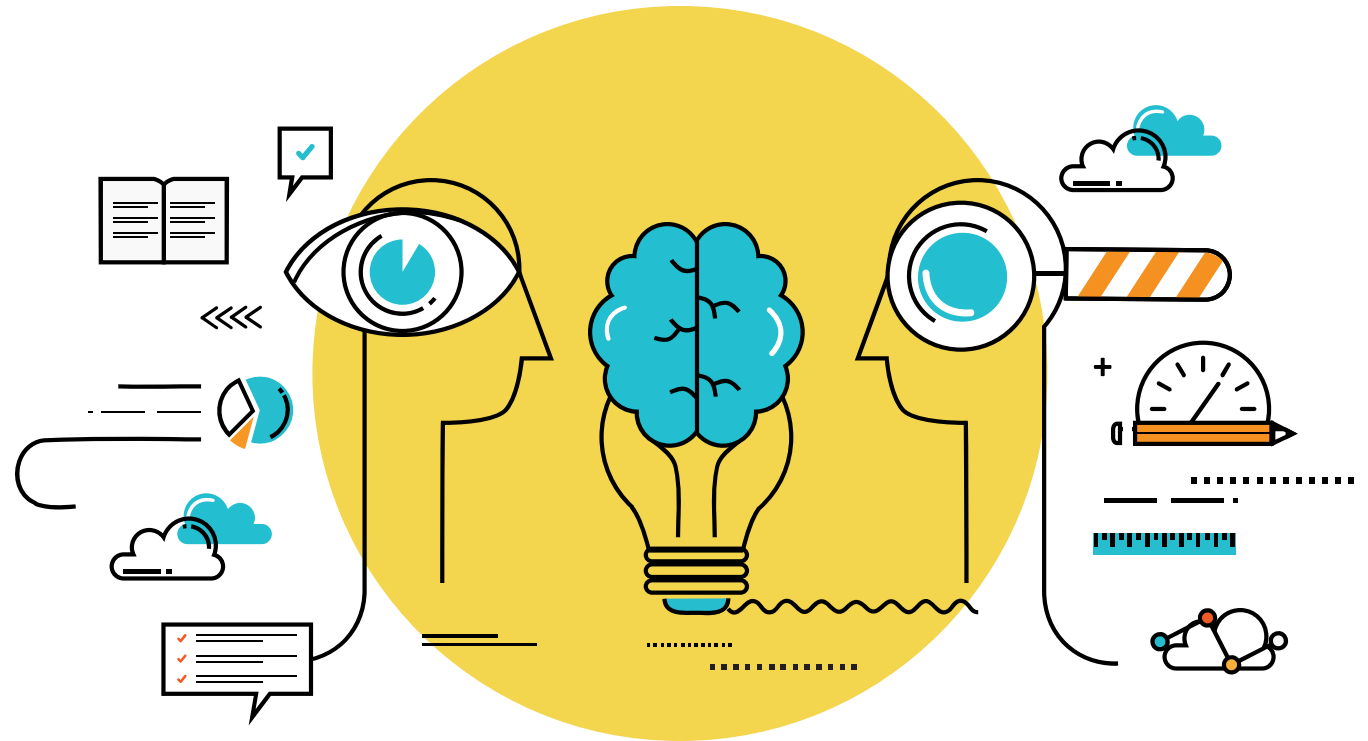
- **WHAT IS TEST?**
- **WHY TEST?**
- **HOW TO TEST**





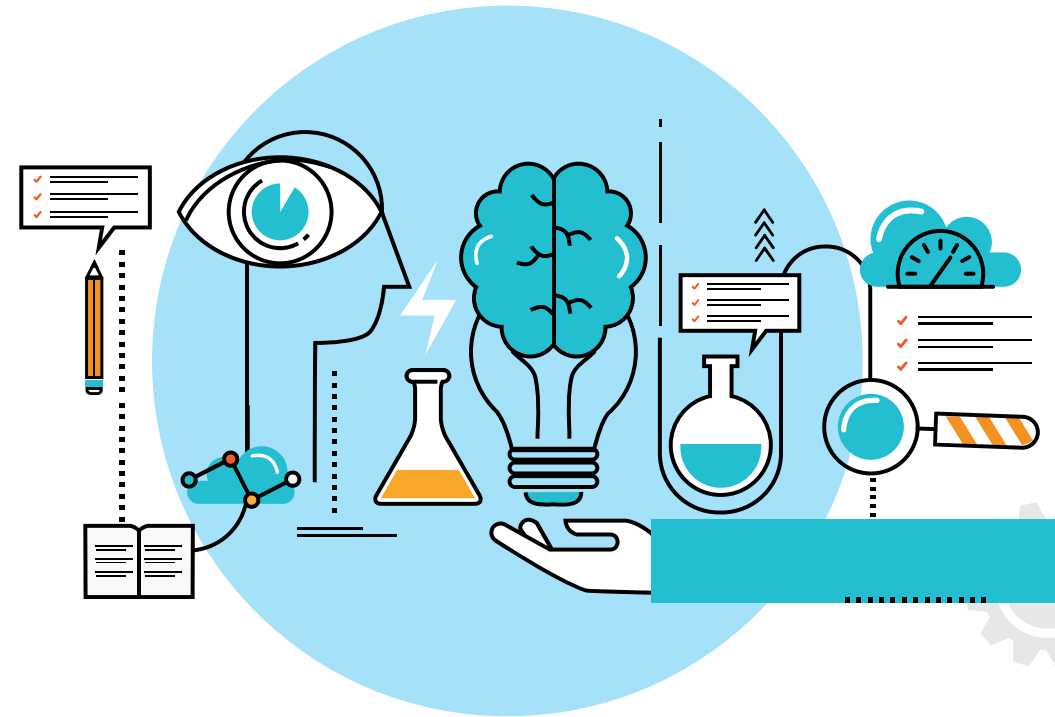
WHAT IS TEST?

Solicit feedback, about the prototypes you have created from your audience.



WHY TEST?

1. To refine prototypes and solutions
2. Informs the next iterations of prototypes
3. To refine your POV (Point of View)
4. Yields unexpected insights



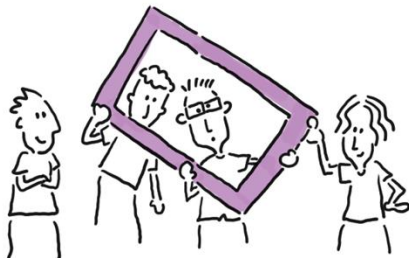
HOW TO TEST?



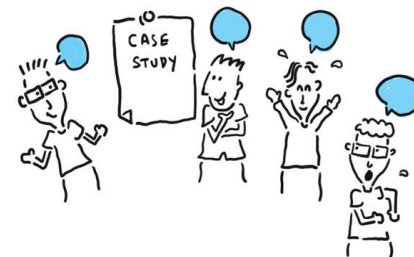
Ask users to
compare



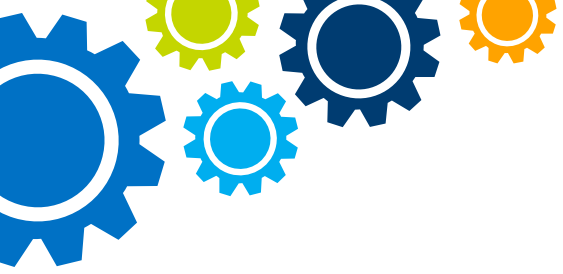
Watch how
they use



Show
don't tell



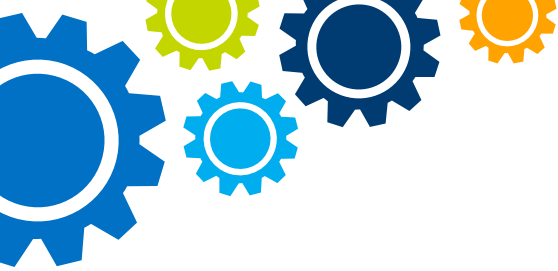
Create
Experiences



ACTIVITY : SCENARIO 1 CONTINUED

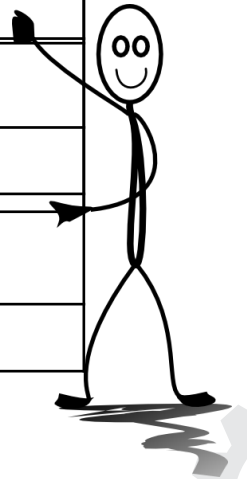
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TESTING QUESTIONS

Sl.No	User Testing Questions	Remarks
1.	What do you like and dislike about this product?	What I like is that it provides light
2.	What do you think this product should do?	It should work at all times
3.	What could be done to make you want to use this product more?	I would like to have it all automated i.e it should switch on if somebody comes near the stairs.
4.	What do you think of the way this product looks (the aesthetics)?	I think the look of the switch is boring.
5.	Is this product efficient, safe, and comfortable to use? If not, how could it be improved to make it more ergonomic?	Yes, it is comfortable to use. Can it be made more beautiful ?
6.	What do you see as some problems with this product?	
7.	What can be done to solve these problems?	





TESTING OBSERVATIONS

Observations

1. What does the user do with this product?

2. What are the user's perceptions of the product?

3. How successful or unsuccessful does the user think the product is?

4. How does it meet or fail to meet the user's needs?

5. How safe is the product?





THANK YOU

