

Social Interaction with respect to mobility issues among elder people

Submitted for the course project for Design Thinking- 1 & 2
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Problem Statement

Propose solution for *limited Social Interaction of elderly people, who have mobility issues*



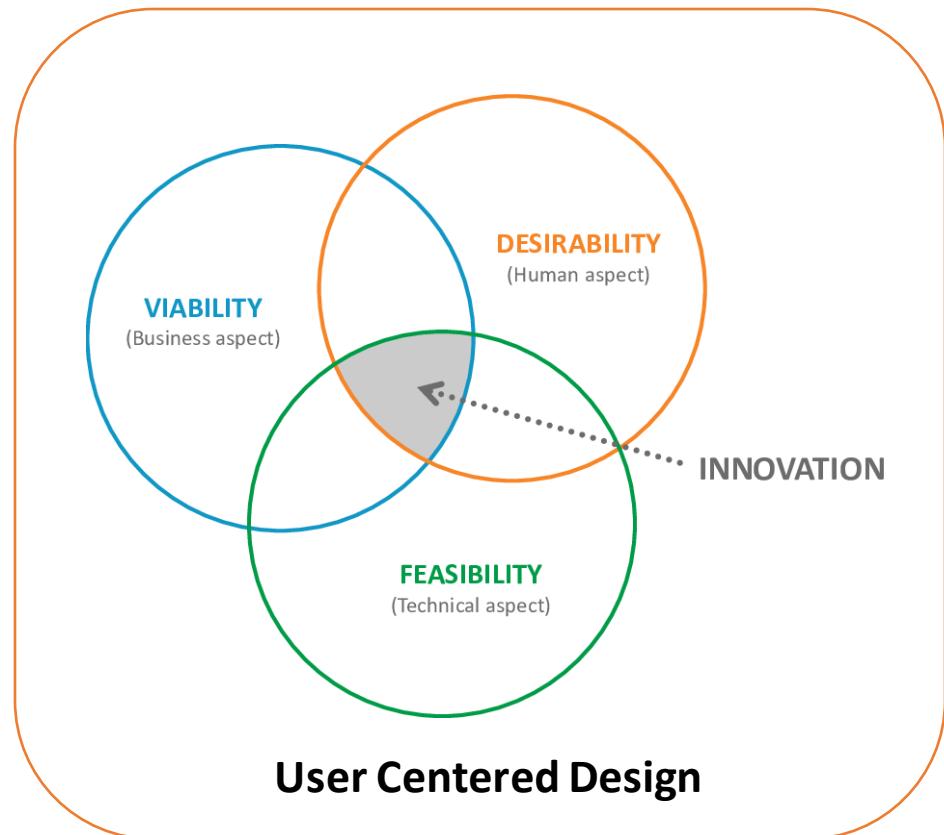
Research Objectives

- What is Social Interaction for Elderly people ?
- What are different ways of Social Interaction ?
- What are mediums of Social Interaction ?
- What are different groups of Social Interaction ?
- What are different types of need/requirements of Social Interactions ?
- Which factors affect Social Interaction ?
- What are the problems/issues with existing modes of social Interaction ?
- How can we overcome barriers of social interaction ?
- What are benefits of Social Interaction for elderly?

Initial HMW

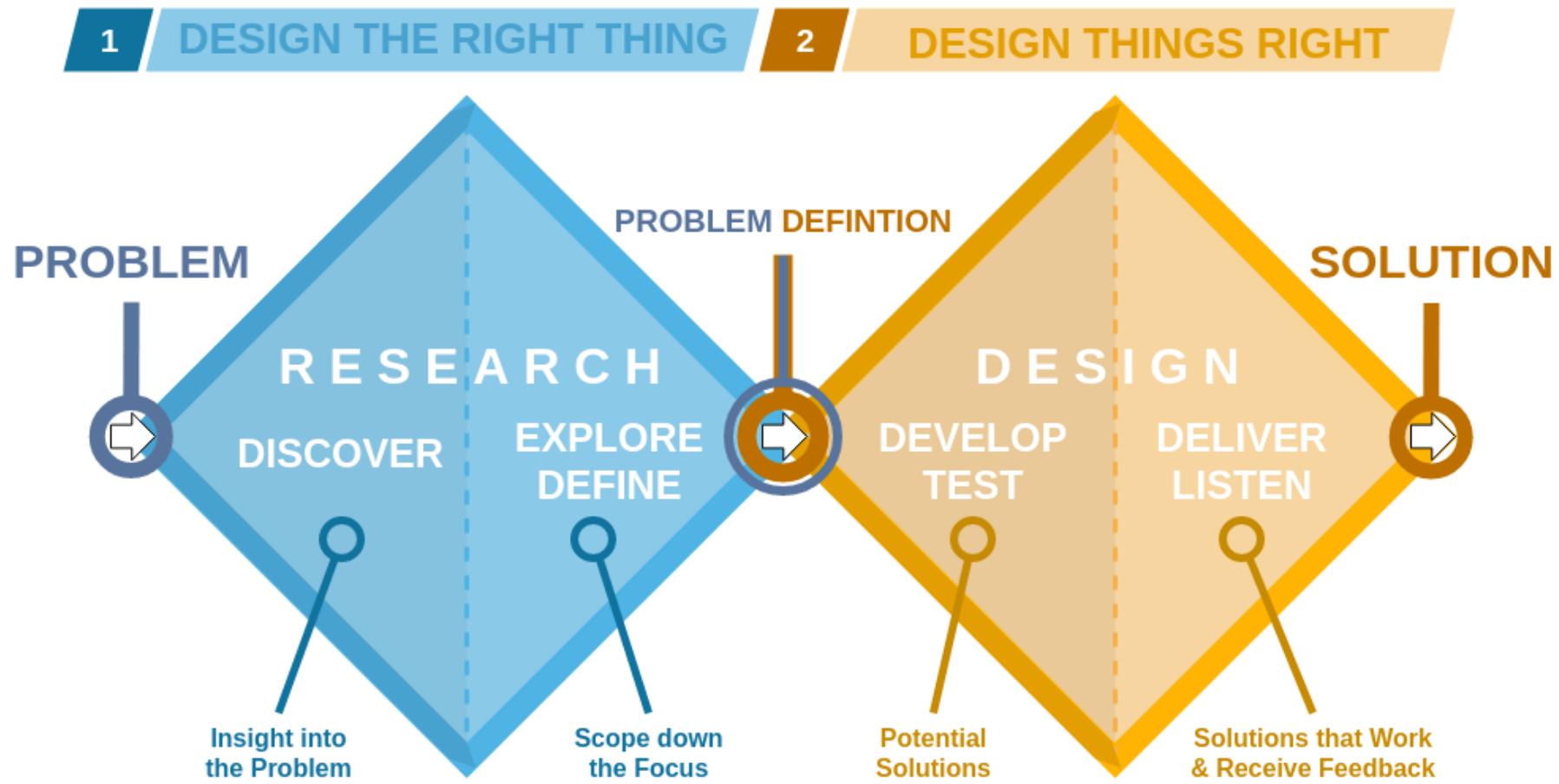
How might we enable social interaction for the elderly so that they have a better social life and feel independent

Research Process

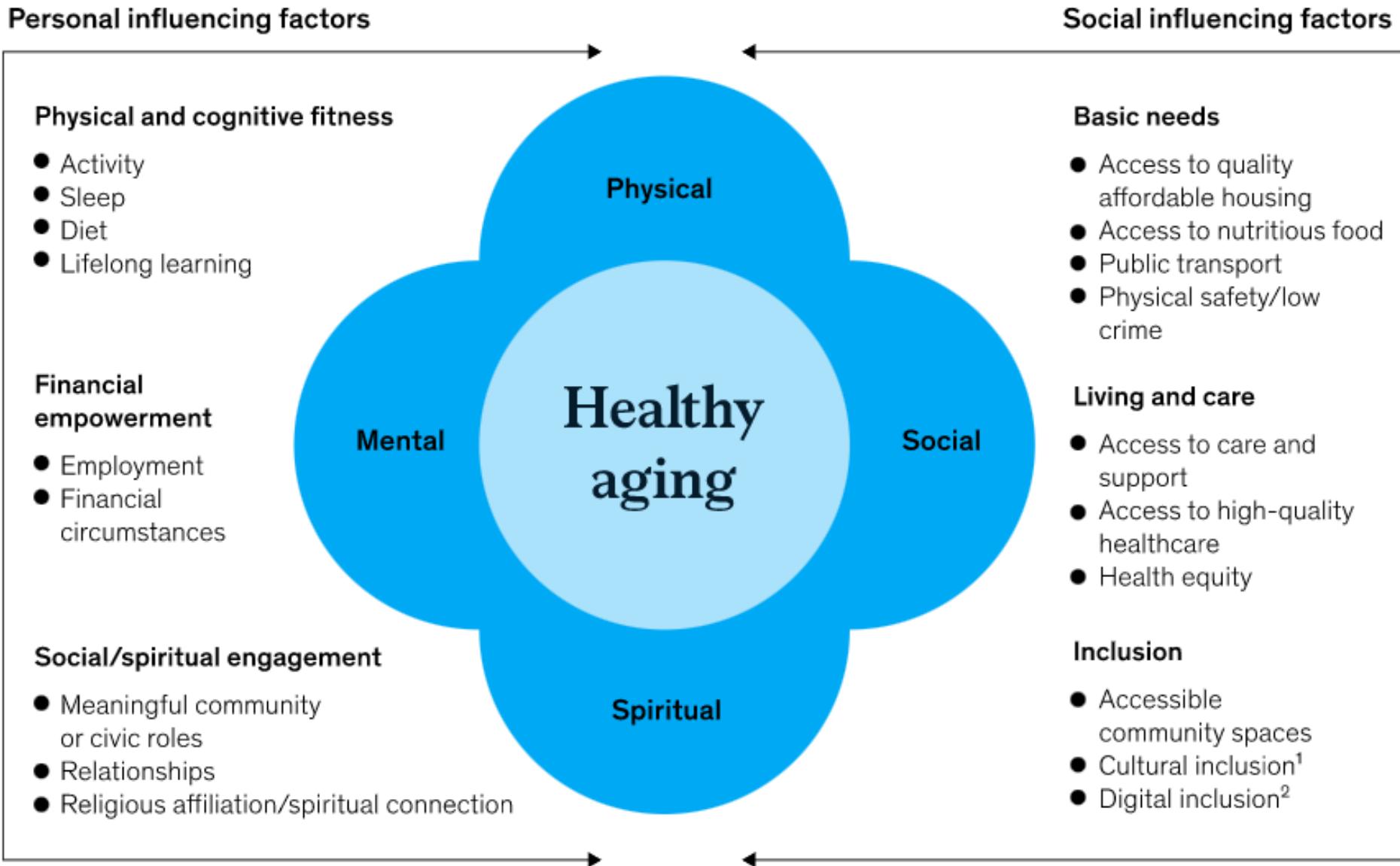


A right map should be between customer's needs (customer's pains to customer's delight) and customer value.

So, a good product design should match user's needs (desirability) with what is technologically feasible and a Viable business.



McKinsey Health Institute healthy aging framework



Reference: [Healthy Aging framework](#)



Literature review

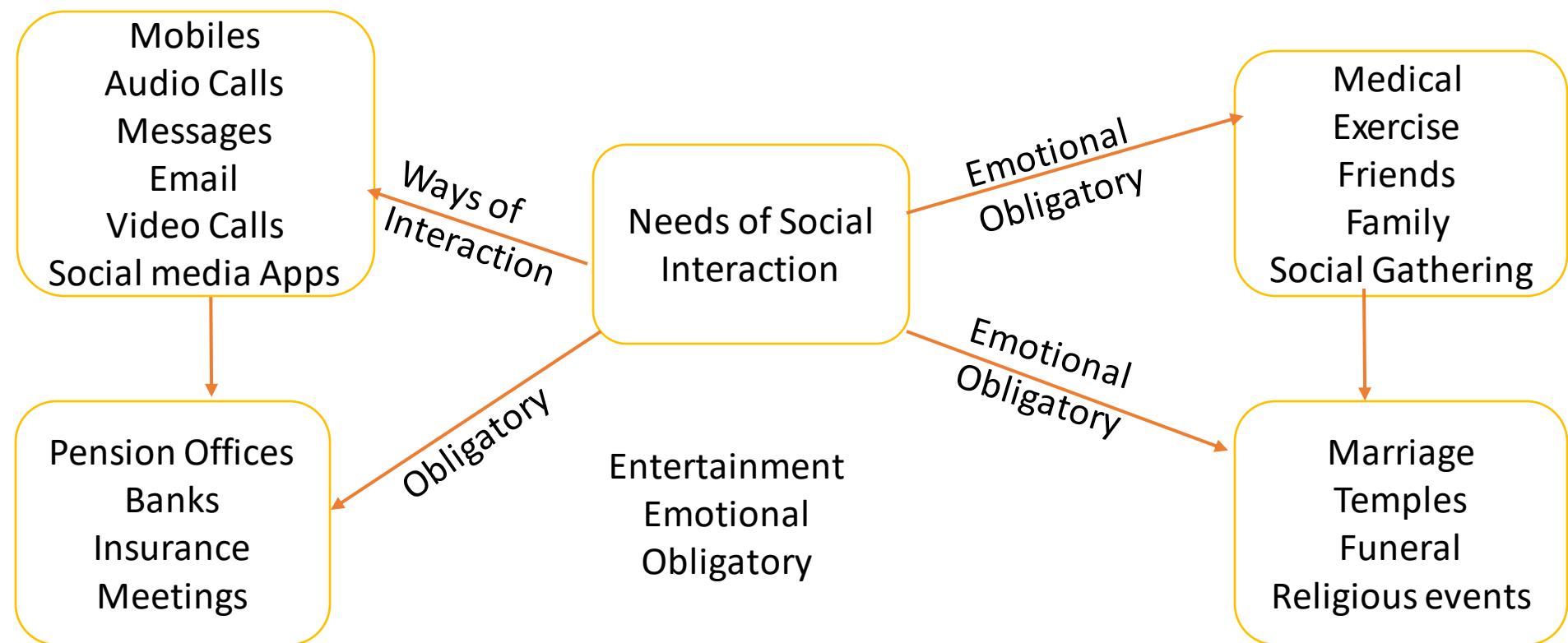
Reference: [Importance of Social Interaction for Seniors](#)

Take aways from Literature review

- **Social interaction** is more important than you think; it *has substantial benefits for your health and well-being*. Besides helping to create social connections with those around us, it can help to strengthen your immune system and lengthen life expectancy.
- Socialization is **vital for older adults**; it provides several mental and physical health benefits. People usually socialize with family or close friends. Unfortunately, many seniors live alone or have lost friends and family, and this isolation can affect them negatively.
- How Social Interaction Helps ? It provides,
 - A Sense of Belonging
 - Physical health: By Staying Active
 - Psychological Benefits:
 - Less Stress
 - Increased Happiness
 - Improved Cognitive Function
 - Lower Risk of Mental Health Issues

Insights from review: Social Interaction Needs

- Social needs are important basic human needs. When social needs are not satisfied, this can lead to mental and physical health problems..
- Where does Social Interactions happens - In-door and Out-door
- Types of Interactions - Personal and Professional
- Ways of Interaction - In-Person and Technology





Factors Affecting Social Interaction

Age group, economic dependency, education, sex, and living arrangements play an important role in the health status of the elderly

According to HRQOL factors such as ADL, mobility, IADL, pain, and depression, 8.5% of the elderly do not have self-care. 65.3% cannot move, 22.3% cannot engage in their usual activities, and approximately 40% suffer from pain, and 30% of the elderly suffer from depression. Test results suggested that elderly with more ADLs, IADLs, and Mobility difficulty had higher odds of depressive symptoms and limited Social Interactions



Health-related quality of life (HRQoL)
ADL (self-care, bathing, eating),
IADL (usual activities, shopping, meal preparation, and housekeeping)

Take aways from Literature review



Literature review

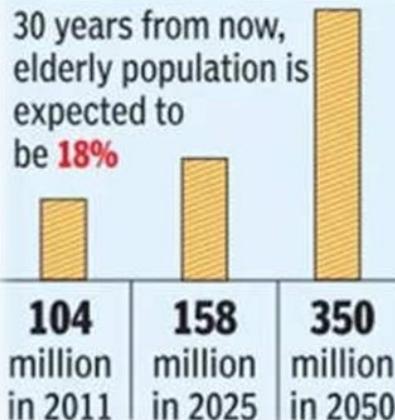
Reference:

- [Mobility issues](#)
- [Gov policies](#)

- The *major hindrance* for social need is difficulty in movement and dependency - ***"Mobility Issues"***
- Mobility Issues have been increasing rapidly among older adults affecting about 35% of people aged 70 and affecting the majority of people who are over 85 years.
- Common factors that affect mobility include age, low physical activity, obesity, impaired strength and balance.
- Gov have taken various initiatives, the Rashtriya Vayoshri Yojana (RVY), launched in 2017, and implemented by the Union Ministry of Social Justice and Empowerment, for providing assisted-living devices like walking sticks, elbow crutches, walkers, hearing aids, wheelchairs, artificial dentures, and spectacles to senior citizens belonging to the below poverty line (BPL) category.

Challenges...

HEALTHCARE, LOGISTICS SUPPORT A MAJOR CONCERN



Biggest challenges
30% of the calls helpline numbers get are for information

15% of the calls for help related to legal and pension issues

5% of the calls for emotional support and logistical issues

Growing elderly population and *limited resources/expertise* to tackle problems creates crucial need to find innovative solutions..

LACK OF EXPERTISE WORRYING

► In 2011 census, the 60+ population accounted for 8.6% of India's population (103 million)

► Growing at around 3% annually, the elderly population will rise to 319 million in 2050

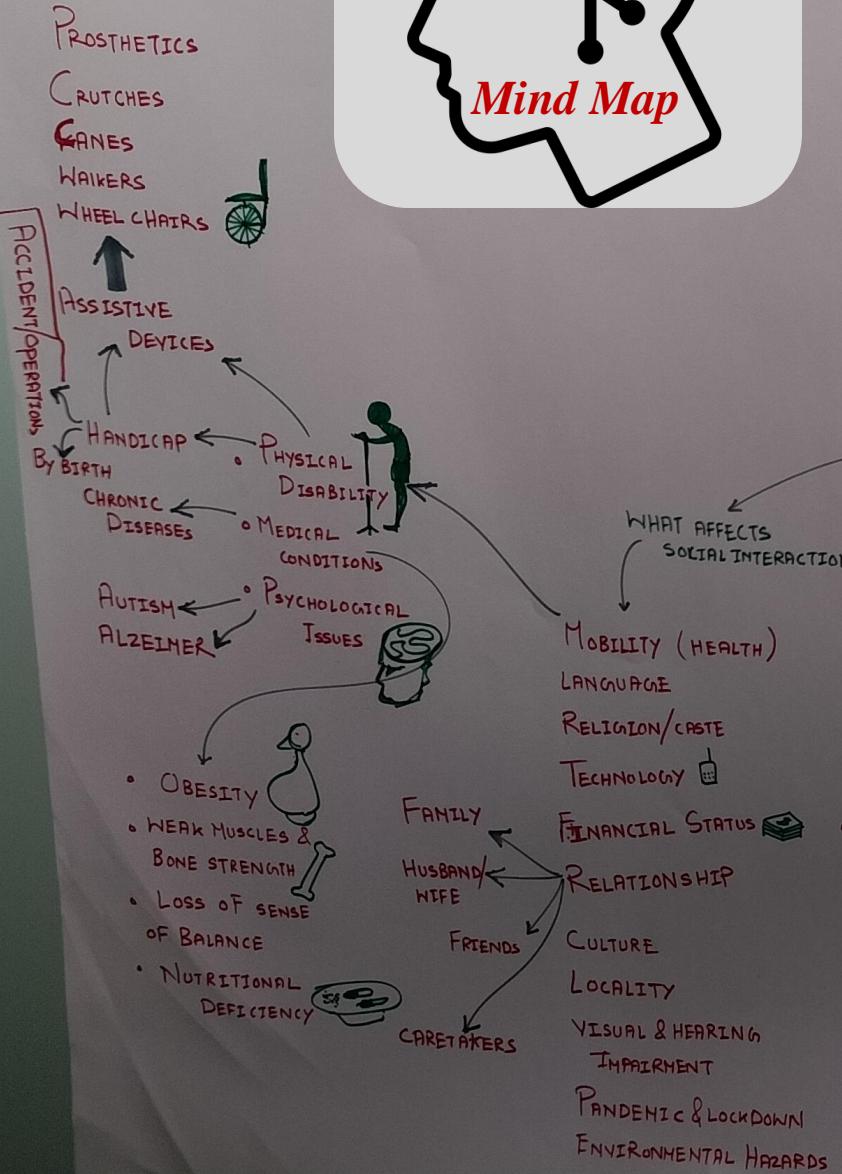
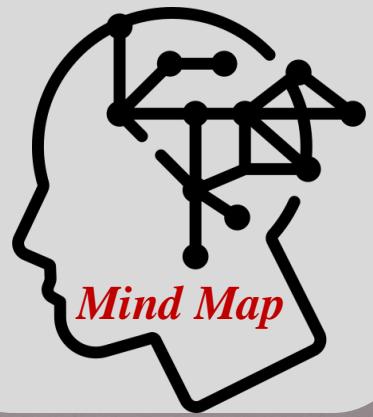
(Source: The Longitudinal Aging Study in India)



75%
of the elderly people suffer from some or the other chronic disease

40%
of the elderly people have some form of disability

20%
have issues related to mental health



TO SEEK HELP & SUPPORT.

CONFIDENT, INDEPENDENT
To feel happy, CONNECTED, HEALTHY
SAFE, SECURE

BENEFITS
(WHY IS THE NEED
OF SOCIAL INTERACTION)

WHAT DOES
SOCIAL INTERACTION
MEANS?
FOR ELDERLIES

WAYS OF
INTERACTION

PSYCHOLOGICALLY
PHYSICALLY
IN PERSON

- TECHNOLOGY
- CALLS
- SMS
- INSTAGRAM
- FACEBOOK
- CHATS
- EMAIL
- VIDEO CONFERENCE
- DATING
- BLOGS

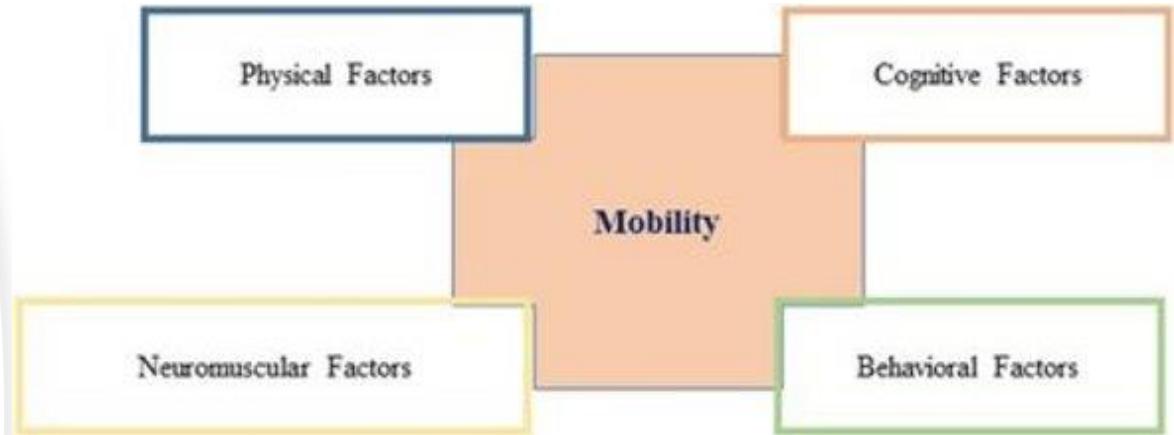
WHERE DOES
IT HAPPEN?

INDOOR

OUTDOOR

- FAMILY
- FRIENDS
- WORK
- EVENING/ MORNING WALK
- EXERCISE
- GAMES
- Pension OFFICE
- BANK*
- PART TIME JOBS
- PICK UP & DROP
- HOUSEHOLD SHOPPING
- Work MEETINGS*
- HOSPITALS
 - DOCTOR VISITS
 - TEST LABS
- SOCIAL GATHERINGS
 - MARRIAGE
 - KITTY PARTIES
 - BIRTHDAY CELEBRATIONS
 - FUNERALS
- CULTURAL EVENTS
 - MUSIC ART
- SPIRITUAL EVENTS
 - TEMPLES

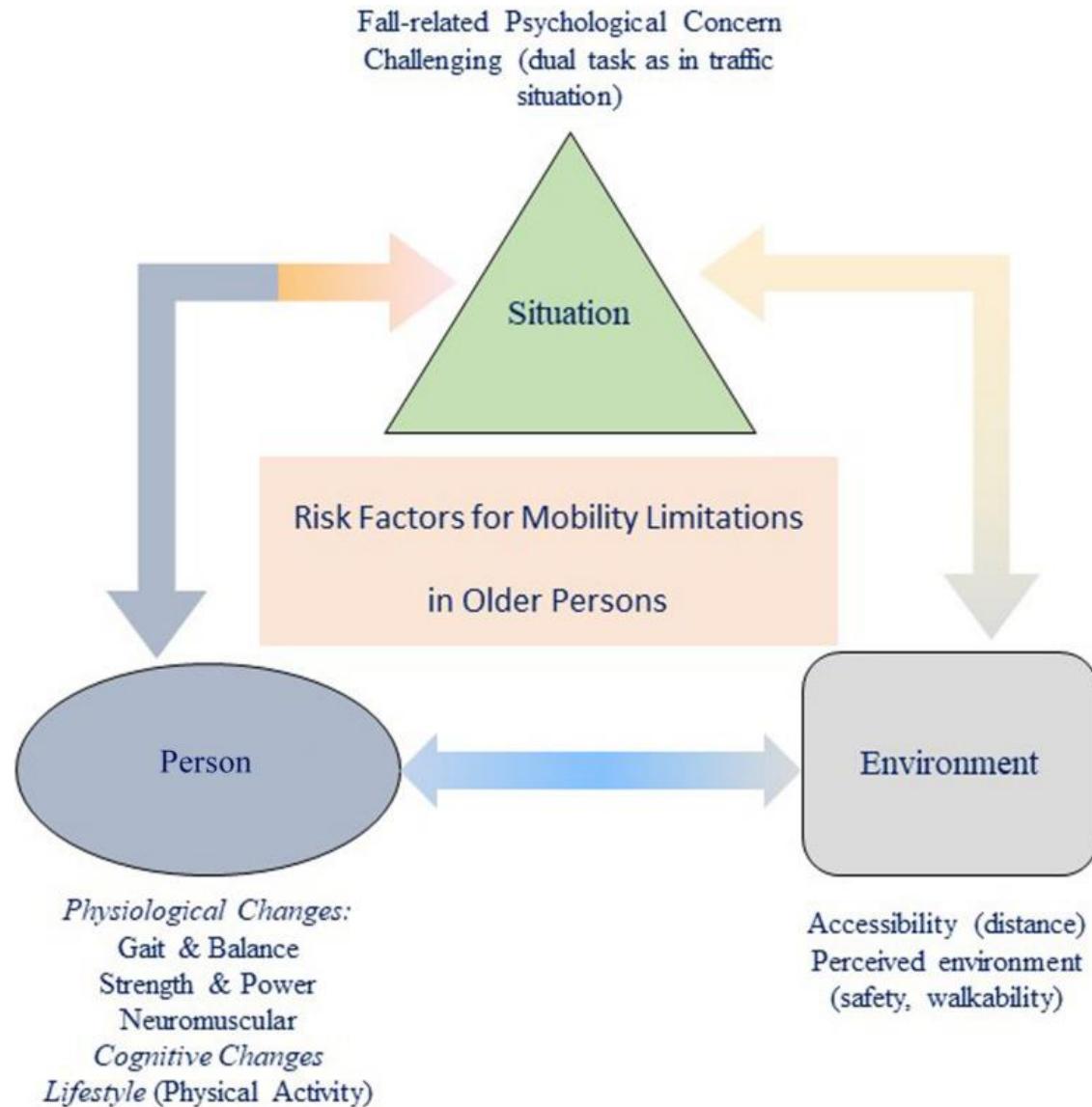
Factors affecting Mobility



Mobility includes several domains ranging from physical, cognitive, and neuromuscular to psychological domains.

Factors affecting Mobility

Medical, social, and psychological research is needed for mobility research under the approach of **healthy aging**.



Reference: Mobility risk factors

What are the causes of Mobility issues ?

- Medical issues: Obesity, Weak muscle and bone, etc.
- Psychological Issues: Depression, etc.
- Physical disability
 - Born handicapped
 - Accidents

What are the type of Elderly, who have Mobility issues ?

Elderly who need support to walk

Elderly who are bed ridden, due to chronic issues

Elderly who are physically healthy, but have mental health issues(depression, etc.)

Mobility Research

What are existing solution being used by users, to Handle mobility issues ?

MOBILITY AIDS FOR THE ELDERLY

walking canes

- For individuals that require minimal support
- Easy to manoeuvre in tight spaces



quad sticks

- More stable and provides more support compared to walking canes



walking frames

- For those who have balance issues and need support on both sides
- Lightweight



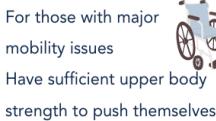
rollators

- For those with limited upper body strength
- Easy to manoeuvre around tight corners



standard wheelchairs

- For those with major mobility issues
- Have sufficient upper body strength to push themselves



mobility scooters/electric wheelchairs

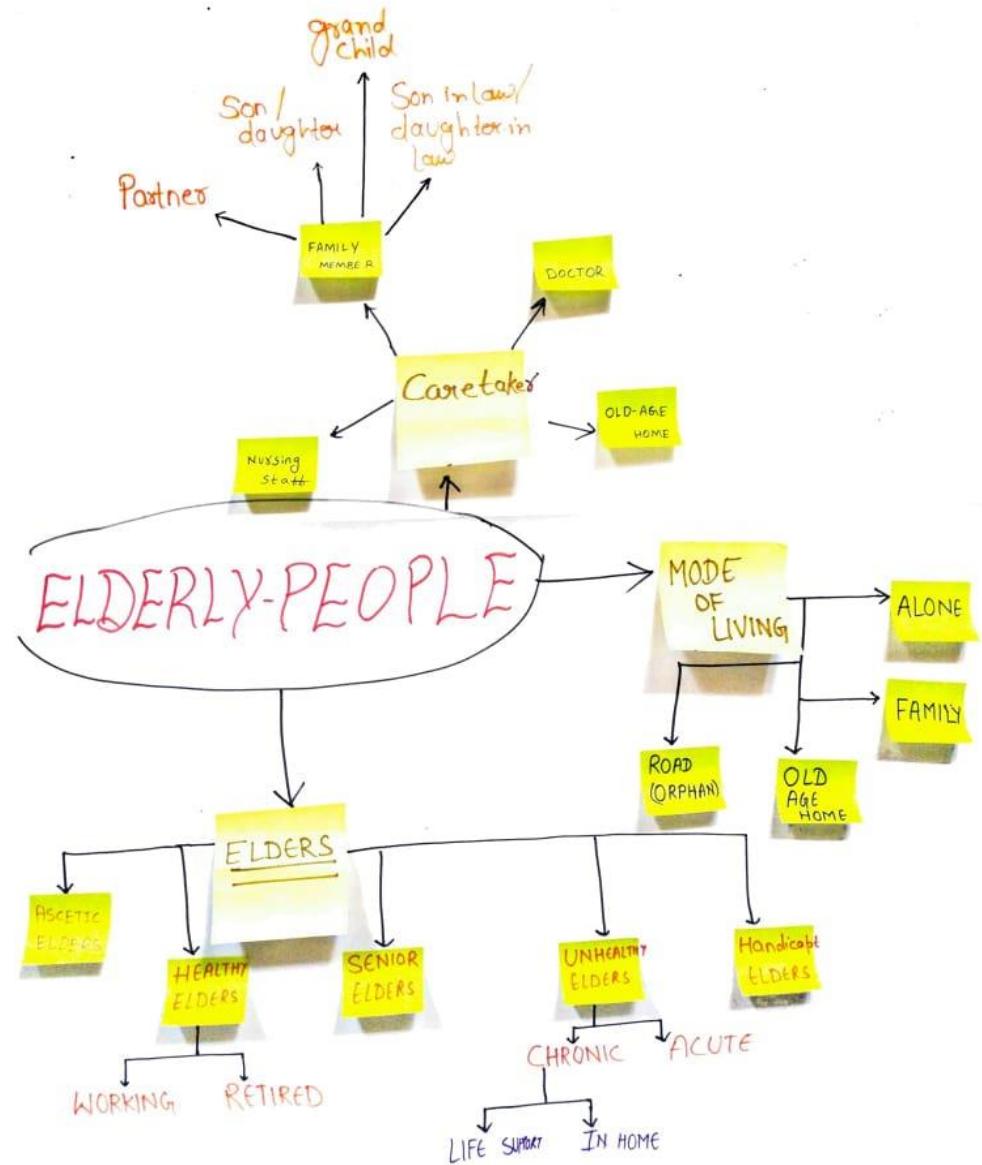
- Less physically demanding than standard wheelchairs
- Easy to use and does not require a license



Homage

Reference: [Mood , Mind and Mobility](#)

User Analysis



We identified 2 segments of elders (Healthy, Unhealthy)

- A lack of physical activity or exercise can make it more likely that a person will experience loss of mobility as they age.
- Elders who are unhealthy are mostly due to lack of mobility and eventually ending up in bedridden state due to various factors.
- Elderly bedridden patients are usually preceded by disabilities due to chronic diseases (stroke, diabetes, cancer or heart disease)
- In fact, the two main causes of the elderly being bedridden are stroke and broken bones . As such, ***early efforts to reduce bedridden among the elderly should focus on the prevention of these two medical conditions.***

Hence, we target those elders who are not bedridden and through mobility and social interaction can avoid such conditions.

References

- [Bedridden Elderly: Factors and Risks](#)
- [Maintain mobility](#)
- [Importance of Physical activity](#)

Insights From Literature Review

Factors Affecting Social Interaction

Types of Social Interaction

Need of Social Interaction

Benefits of Social Interaction

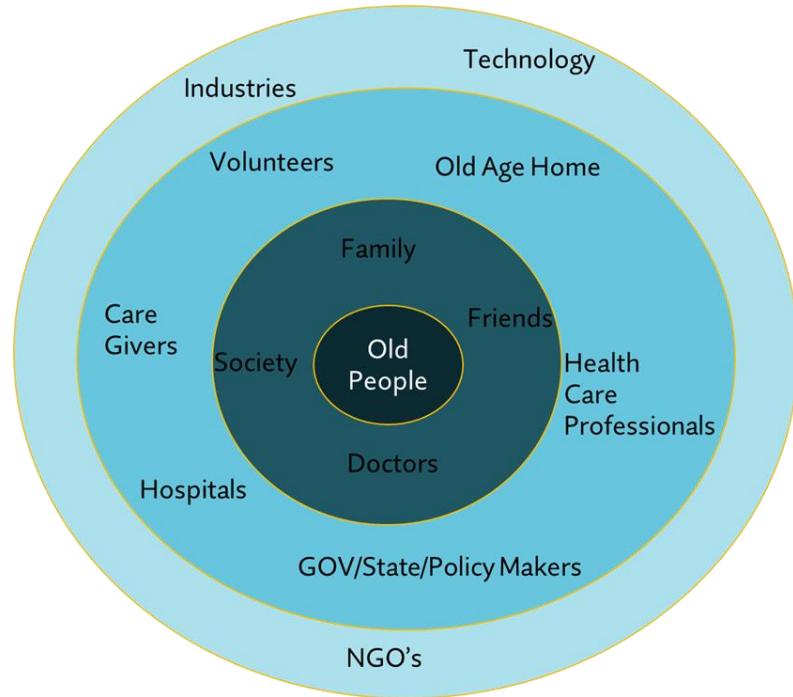
Identify Users who need Social Interaction, but limited by Mobility Issues

- Elders who are living in urban cities , have physical disability and depend on care takers and wheelchair to fulfill their mobility needs.
- User living alone at their home or in old-age home, suffer from loneliness and depression eventually limited mobility and critical health conditions.

Core Stakeholders



Elderly people are the core users whose problems we need to target. These users face challenges in many domains, and **existing solutions doesn't suffice their needs**



Critical Stakeholders

These stakeholders who are crucial for the main cause will be **caretakers/family members/doctors** etc.

They try to provide as best possible assistance to Elderly, yet **they face various limitations(time/health/finance)** or are unhappy with the ineffective results of existing process/products.

Research Tools



CONTEXTUAL
ENQUIRY



PHOTO
JOURNAL



OBSERVATION



EXPERT
INTERVIEWS

Contextual Enquiry

In our study, when considering the Primary stakeholders, context will be the place of living.

For some it will be their home, and for some it will be old-age home. Asking questions in this context will be beneficial for our research.

Photo journal

In our study, we have used photo journal to understand people on old age home with respect to what they are doing in the photo , how they are doing that task and why they are doing that task? Through this task we were able to how they are using a product? (for eg: a stick)

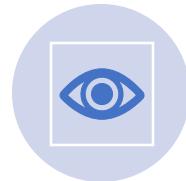
Research Tools



CONTEXTUAL
ENQUIRY



PHOTO
JOURNAL



OBSERVATION



EXPERT
INTERVIEWS

Observation

In our study, we have used observation to understand our users and empathize with their experience , understand their context and uncover their hidden needs.

Expert Interviews

Expert interview helped us to answer questions regarding how elderly people suffer from mobility issues and how loneliness can cause mobility issue



Daily with whom all do you interact?



Do you go out? If you go out, where do you go? Do you walk or utilize public transport?



If you are purchasing vegetables, do you feel uncomfortable while speaking with the vegetable vendor?



Do you feel uncomfortable while walking? If you feel uncomfortable, do you use sticks while walking?



How safe do you feel when you walk on the road?

Questionnaire for Elderly

Questionnaire for Expert Interview

- What do you think about patients who have mobility issues but still they refrain from using any assistive devices?
- According to you what is the main reason people refrain from using assistive devices?
- How essential is social interaction for elderly people?
- Do you think there is any dependency between social interaction and mental health issues in elderly people?
- Does social interaction eliminate any of the medical conditions that elderly people are facing currently?



Questionnaire for caretaker

- Apart from taking care of the elderly how do you spent your day?
- What you think about the challenges that you face while taking care of them? If there are any challenges, how do you overcome those challenges?
- What are the common problems that you encounter everyday which they are facing?

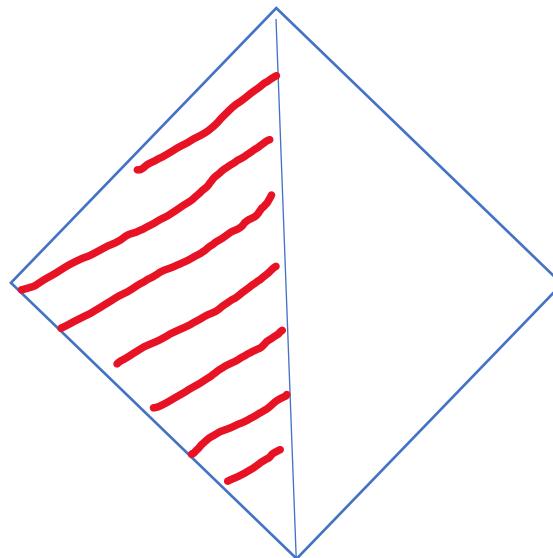
Reference Articles

- [Aged Care Services in India: Challenges and Opportunities](#)
- [Pattern of Self-perceived Health, Immobility and Hospitalization among Elderly in India](#)
- [Relationship between Falls/Injuries and Quality of Life among the Elderly in India](#)
- [Designing Urban Public Spaces for Walkable Mobility of Elderly Residents](#)
- [Association between physical limitations and depressive symptoms among Indian elderly: marital status as a moderator](#)
- [Marital Status, Sex and Utilisation of Healthcare Service Among the Older Adults in India](#)
- [Work done by Gov](#)

Insights and takeaways from Research Phase:

Research objectives:

- What is need of social interaction w.r.t elderly people.
- How Mobility is supporting the interaction
- Ways of Social Interaction
- Cultural limitation effecting the social interaction



- Financial constraints and other dependencies
- Frequency of Social interaction
- Psychological and physical issues affecting interaction.

- Social isolation among the elderly typically comes about for reasons such as lack of transport options in the area, a lack of a sense of purpose and living alone in an unsuitable and isolated environment
- <https://www.nia.nih.gov/news/social-isolation-loneliness-older-people-pose-health-risks>

How social interaction can be promoted in elders

- 
- Hobbies
 - Visit to spiritual/ religious place
 - Social groups

What is need of Social Interaction?

- For mental peace
- To tell their caretaker and people what they need

Observed Mode of Physical Interaction among elders:

- With family members
- Doctor's visit
- Physical exercise
- Family gathering
- Part time work
- Spiritual events or places



Name	Mr & Mrs Bansal
Age	75 & 76
Occupation	Retired Sales Exec &
Housewife	
Location	Khurja, UP
Living With	Family

About the user

- They are nervous to use a walker because they feel that Utilizing a walker will make them feel more dependent on it

Problems

- They think that using walker will make them dependent and it will become a habit for them, and all their attention will be only on their walker

Personality

- Social & Religious
- Extrovert
- Fun loving
- Caring
- Understanding

Influencer

- News paper
- Television

Goals and needs

- To feel safe while using walker
- To walk freely with walker on roads



Name	Mr. Ravindranath Merugu
Age	68
Occupation	Retired Service man
Location	Warangal
Living With	Family

About the user

- He is not technology savvy and hence he finds it difficult to use WhatsApp for calling purpose
- He wishes to have more friendly boarding arrangements for people who are on wheelchair support in public transport

Problems

- He is not able to make a call WhatsApp to their grandchildren , because he is not technology savvy
- One of his friend wife who is in wheelchair support, finds it difficult to take his wife out on public transport because the entry points of public transport is not suitable for wheelchair boarding

Personality

- Religious
- Ambivert
- Fun loving
- Caring
- Intelligent

Influencer

- Newspaper
- Television
- Radio/FM

Goals and needs

- To design more easy/user friendly WhatsApp interface
- Proper boarding arrangements in public transport



About the user

She belongs to a Marathi family. Although she is the healthiest woman at home, she still suffers from loneliness and craves for someone to talk to.

Problems

- Her daughter is married and after losing her husband, her daughter left her at the old age home
- Now she craves to have someone to talk to in old age home
- She belongs to a Marathi family, and in old age home all people speak in Telugu, hence she has no one to talk to
- She has been diagnosed with neck issues due to sitting idle throughout the day without any physical activities

Name	Mrs. Deshmukh
Age	65
Occupation	Housewife
Location	Pune
Living With	Old Age Home

Personality

- Religious
- Introvert
- Caring
- Beautiful

Influencer

- News paper
- Television

Goals and needs

- Needs someone to talk to

She has been diagnosed with cervical(neck) issues, due to sitting idle throughout the day, without any physical activity her body turned weak, and many other physical ailments have been started(joint pain, back ache, etc.). Because of limited access to people and social activities she feels depressed and wish for love and care, which can eventually make her healthy and happy.



Name	Mrs. Reddy
Age	71
Occupation	Housewife
Location	Hyderabad, Telangana
Living With	Old age home

About the user

- She suffers from leprosy, and she utilizes a walker to support her mobility needs

Problems

- She has a missing toe, and all her fingers don't work so she needs someone for balance while she is walking

Personality

- Religious
- Introvert
- Caring

Influencer

- Television

Goals and needs

- Although she uses walker to support her mobility needs but she needs more support to balance herself



Name	Ms. Garud
Age	65
Occupation	School Teacher
Location	Pune, MH
Living With	Old age home

About the user

- She was a schoolteacher, and she lost her job during COVID, her brother has left her at the old age home, and she wishes that her brother will come soon to take her home
- She is not married because of her height

Problems

- Despite of being a literate and she can take a job, because of old age home policies she is not allowed to sign for a job

Personality

- Extrovert
- Fun loving
- Caring
- Understanding

Influencer

- Newspaper
- Television

Goals and needs

- Finds advertisements on newspapers because she wants to take up the job of a teacher since she loves teaching



Name	Mr. Yadav
Age	72
Occupation	Retired Security Guard
Location	Hyderabad, Telengana
Living With	Old age home

About the user

- He takes care of everyone at the old age home when owner is not around

Problems

- He has breathing issues and hence he needs different bed for sleeping

Personality

- Fun loving
- Caring
- Understanding

Influencer

- Newspaper
- Television

Goals and needs

- Require different bed for sleeping



Name	Dr. Lata
Age	70
Occupation	Retired Gynecologist
Location	Faridabad
Living With	Family

About the user

- She has trouble in seeing and hearing things but she believes that as you grow old your body starts getting weak

Problems

- Her friends are not using walker even though they need it, because they think that using walker is a stigma

Personality

- Fun loving
- Caring
- Understanding

Influencer

- Newspaper
- Television

Goals and needs

- Have trouble in hearing and seeing things
- Her friends are not using walker even though they need it



Name	Mrs. Shauntala Devi
Age	79
Occupation	Housewife
Location	Faridabad,
Living With	Family

About the user

- She takes care of her 87-year-old husband, who is suffering from paralysis , her son sends her some money, but she feels that amount of money received from her son is not enough
- She herself is very weak

Problems

- Since her husband is suffering from paralysis, most of her day is spent taking care of her husband, giving him medicine on time
- Before sometime when her husband was doing well, she used to go for a morning walk with her husband but now most of her day is spent taking care of her husband and because of that she is not able to interact with other people

Personality

- Social
- Fun loving
- Caring
- Understanding

Influencer

- News paper
- Television

Goals and needs

- She needs time to interact with people and take care of her health



Name	Mrs. Indra Rani
Age	74
Occupation	not working, widowed
Location	Faridabad
Living With	Family

About the user

- She is diabetic and has hypertension , she has joint pain from past 38 years , she is dependent on government medical hospitals and pension for survival.
- She has a habit of speaking to herself at night

Problems

- She is not able to spend time with her friends because all her friends are on deathbed

Personality

- Fun loving
- Caring
- Understanding

Influencer

- Newspaper
- Television

Goals and needs

- She wishes to spend time with her friends



Name	Mr. Kapil
Age	70
Occupation	Retired teacher
Location	Hodal, Haryana
Living With	Family

About the user

- He was diagnosed with lung cancer 2 years back, he is on wheelchair support from the past 3 years, his son is a primary school teacher, and he is dependent on his son for his treatment

Problems

- His son faces a lot of issue (when he is taking him to hospital, for treatment) while boarding public transport with his father, because there are no proper boarding arrangement for people who are on wheelchair support

Personality

- Fun loving
- Caring
- Understanding
- Introvert

Influencer

- Newspaper
- Television
- Radio

Goals and needs

- There is a need for him to visit AIIMS Delhi, every once in a 3 months for his treatment
- His son takes him to hospital by public transport facilities



Name	Mrs. Muthulaxmi konar
Age	69
Occupation	Housewife
Location	Mumbai
Living With	Family

About the user

- from the past 4-5 years she is suffering from joint pain , she can travel in plane, but she refuses to travel in trains alone
- She says that if someone else is travelling with her and if they hold her hand while boarding trains then she can travel by train, else she prefers to travel by flight because there is wheelchair facility available

Problems

- She is on medication, and due to that she feels dizzy sometime, she is afraid to go out alone, and her daughter accompanies her.
- She takes short breaks while walking but she says sometimes in the middle of the road there is nothing that she can sit on and take rest for a while
- Even though she has mobility issues she refrains from using stick because she feels that will make her dependent on it

Personality

- Fun loving
- Caring
- Understanding
- Introvert

Influencer

- Television
- Radio

Goals and needs

- She cannot go out for walk alone; she needs any one of her family member to accompany her while going for a walk



About the user

- She lost her husband 10 years ago and from then she is living with her parents , she takes care of her dad who is suffering from paralysis
- She runs a milk store , and she goes to work early in the morning and comes home at 9 am, after coming home her entire day is spent taking care of her parents.

Problems

- Since most of her time is spent taking care of her parents , she is not able to spend time for herself like going for a walk and interact with the people
- She herself has knee pain and doctor has advised her to walk daily but she is unable to do so.

Name	Mrs. Essakiammal konar
Age	50
Occupation	Business
Location	Mumbai
Living With	Family

Personality

- Fun loving
- Caring
- Extrovert

Influencer

- Television
- Radio
- Newspaper

Goals and needs

- She cannot stay at her relative's house or go and attend a long day function because she needs to take care of her father who is suffering from paralysis

About the user

Her only son lives in US with his family. She has nothing to do much. Her husband passed away last year during second wave of covid. After his death she felt lonely.

Problems

- She lives alone and feels lonely
- She has nothing much to do
- Due to sitting idle for long hours she starts having joint pain

Name	Mrs. Arpita
Age	72
Occupation	Housewife
Location	Hyderabad
Living With	Alone

Personality

- Social & Religious
- Understanding
- Good Cook

Influencer

- Television

Goals and needs

- Some activities that keep her engaged

Name: Ravi

Place : Faridabad

Age: 69

Telephone interview

He was previously working as a salesman at nearby shop. But during covid he lost his job. Since then he was staying in home due to which his physical activeness started going down. He still feels physical active, but his body does not support him. He wants to do some work so that he can get rid of his boredom.



Name	Mr. Kamlesh
Age	69
Occupation	Retired Chemical Engineer
Location	Hyderabad, Telangana
Living With	Family

About the user

- His knee pain started in 2007 and he got his knee replacement surgery done in 2015
- when he had knee pain, he avoided going to family functions because whenever he used to visit family functions , by observing his walking patterns everybody used to ask him what happened to his legs and he wanted to avoid answering that question

Problems

- The accelerator of manual cars are very hard to press and whenever he used to press the accelerator that would put pressure on his knee and caused him knee pain

Personality

- Fun loving
- Caring
- Understanding
- Introvert

Influencer

- Newspaper
- Television
- Radio

Goals and needs

- He is not able to press the accelerator of manual cars with his legs and hence he uses automatic cars for travelling,he prefers to have a less weight accelerator in manual cars

Persona name: Care take Anupama

Inspired by interviews of: Mrs Shauntala devi, Essakiammal konar

Persona name: Techsavvy Ramesh

Inspired by the interviews of: M. Ravindramath M

Persona name: Joyloving savithri

Inspired by the interviews of: Mrs Deshmukh, Mrs Arpita

Persona name: Be bold Mrs sawant

Inspired by the interviews of: Mrs Muthulaxmi konar, Mr & Mrs Bansal

Persona name: Freedom lover Mr. Sawant

Inspired by the interview of: Mr kapil



Name: Caretaker anupama

Age:79

Education:Graduate

Hometown:Faridabad

Occupation:Housewife

“Most of my time is spent on taking care of my husband who is suffering from paralysis,I do not get any time for social interaction”

Goals

- Due to commitment of taking care of her husband who is on bed , she does not gets time to go out and interact with people but she wants to interact with people,share her stories and listen to their stories

Frustrations

- Most of her day is spend taking care of her husband , giving him medicines and food on time, checking his temperature reguraly.
- Because of these commitments she is not able to go for a morning walk and interact with people and she is not able to take care of herself

I am taking care of my 87 years old husband who is suffering from paralysis. Before my husband's illness, I used to go on a morning walk with my husband but now most of my day is spent giving medicines and taking care of things. I don't get much time to interact with people.



Name: Tech savvy Ramesh

Age: 68

Education: 6th class

Hometown: Bhopal

Occupation: Retired service man

"I am not able use smatphone smartly to make video calls "

Goals

- when I am alone in home, I wish to make video calls to my grandchildrens, my son, but the technology is so confusing that I am not able to make a video call through whatsapp

Frustrations

- I am not able to make a whatsapp call using smartphone, whenever I open the mobile phone I am not able to see the whatsapp icon, and sometimes I manage to open whatsapp but I don't know where to click in order to make a video call

I am a retired service man, some days ago my son gifted me a smartphone, he said that I can make video calls using this smartphone, but whenever I try to use the smartphone, I am not able to do it, sometimes the icons appears very small, and sometimes I am not even able to start the phone



Name: Joy loving Savithri

Age: 65

Education: Graduate

Hometown: Pune

Occupation: Housewife

"I want someone to talk with"

Goals

- I need someone from my culture to interact with them and escape from loneliness

Frustrations

- I come from a maharastrian background , and in old age home all the people speak in telugu language and I am not able to interact with them, and I feel lonely .
- Doctor has advised me to go for a walk daily for atleast 30 minutes, but I have no friends with who I can go for a walk , hence I skip walking and because of that I face lot of health issues

I joined old age home. My husband died recently, and my daughter left me here. I suffers from loneliness and craves for someone to talk to. I belongs to Maharashtra, but I moved to Telangana after my marriage. Doctor advised me to walk daily for at least 30 minutes but I have no friends in old age home and I am afraid to go alone for a walk .



Name: Freedom lover Mr. Kapil

Age: 71

Education: 12th

Hometown: Hyderabad

Occupation: Middle class Retired
Service Man

"I do not feel comfortable while travelling with wheelchair in public transport because there are no proper boarding arrangements, and my family members have a tough time to take me along with them in public transport"

Goals

Boarding arrangements should be made available for people who are on wheelchairs so that his family members can board him easily inside a public transport vehicle

Frustrations

- Since he is on wheelchair support his family has a tough time to take him along with them when they are travelling in public transport because there are no proper boarding arrangements and hence, he feels dependent, nervous
- He feels nervous because he cannot travel alone or move in city roads

He cannot travel alone using a wheelchair on a moving city road because he feels nervous



Name: Wanna be bold Mrs. sawant

Age:68+

Education:5th standard

Hometown:Mumbai

Family:

Occupation:Housewife

"I do not prefer using walkers because I feel that my whole attention would be on that stick and I fear that some vehicle will run over me"

Goals

- Even though there are large number of walkers available in the market and but she does not feel very confident while using them.

Frustrations

- She feels that if she uses walker then she would feel nervous and she would fall down
- If she starts using walker then she feels that her whole attention would be on the walker and she would not be able to pay attention to vehicles travelling on the road, which could result in accident

Even though there are large number of walkers available , and also, she has mobility , but she does not wish to use walker instead she takes break while walking or asks her daughter to accompany her

Persona:

Goal: To reach market to purchase vegetables without using stick/Walker

ACTION	Get ready to go to market	Wait for her family member	Reach Market
TASK LIST	1. Take all essential things like shopping bag, vegetables list, money purse which are essential to take along when visiting the market	1. After obtaining all the essential items which are necessary to be carried to the market, she waits for her daughter to come home from work so that her daughter can accompany her to the market , because she herself is very weak	1. She is accompanied by her daughter to the market, as market is located at a walkable distance ,they decide to walk but she takes short breaks to sit after covering half distance, but sometimes she does not find any place to take rest
FEELING ADJECTIVE	<ul style="list-style-type: none">Independent	<ul style="list-style-type: none">DependentWorried	<ul style="list-style-type: none">DependentTiredUnhappy
IMPROVEMENT OPPORTUNITIES	None	Someone able to reach her quickly and help her	Place to find rest

Persona

Goal: To interact with people in old age home

ACTION	Wakes up in the morning	Tries to interact with other people	Gets ready to go out
TASK LIST	1. She wakes up early in the morning, brushes her teeth, takes bath , have her breakfast and gets ready for the day in the old age home	1. when she observes other people mingling with each other, she tries to join them, but all of them speak Telegu, and she belongs to a Maharashtrian family , she is unable to understand what they speak, and they are not able to understand what she is speaking.	1. Due to sitting idle in one place for a large amount of amount she experiences neck pain so she decides to go out for a walk, but since she is alone, she is scared that she would fall in the middle of the road and there would be no one to help her
FEELING ADJECTIVE	<ul style="list-style-type: none">Independent	<ul style="list-style-type: none">DependentAloneWanting to speak to someone	<ul style="list-style-type: none">DependentAloneNervousWanting someone to accompany her for walk
IMPROVEMENT OPPORTUNITIES	None	Translator	Better Way Finding

Persona: Mr. Kapil

Goal: To reach the hospital in City by train on his wheelchair for his Cancer treatment.

ACTION	Reach Train station	Buy Tickets	Reach platform	board inside train	Exit from the train and train station.	Take auto and reach destination.
TASK LIST	<p>1. Find auto to drop him to train station.</p> <p>2. Son and auto wala bhaiya gives support to enter the auto and exit the auto at train station.</p>	<p>1. Wait outside the station when son go to buy tickets.</p>	<p>1. There is no lift or escalator at the train station, so his son takes him at the end of the platform with wheelchair and then take him at correct platform since climbing stairs is not possible for him.</p>	<p>1. Along with son and takes the help of fellow travelers to enter inside the train.</p>	<p>1. Son along with help of travelers takes him out of the train.</p>	<p>1. Son again arranges auto to reach the hospital.</p> <p>2. Again autowala bhaiya and his son helps him to enter and exit auto.</p>
FEELING ADJECTIVE	<ul style="list-style-type: none"> Dependent 	<ul style="list-style-type: none"> Nervous Anxious 	<ul style="list-style-type: none"> Dependent Excluded 	<ul style="list-style-type: none"> Dependent Excluded 	<ul style="list-style-type: none"> Dependent 	<ul style="list-style-type: none"> Dependent
	Availability of support at the	None	Availability of lift	Availability of help at	None	Availability of support at the

Action	Reach Bus Stop	Board Bus	Exit from the bus and reach station	board inside train(Disability coach)	Exit from the train and train station.	Take auto and reach hospital.
	1. Find auto to drop him to train station.	1. When the bus arrives, tell the conductor to open	1. Ask the conductor to again open the ramp so that he can exit from the bus.	1. Along with son and takes the help of fellow travelers to enter inside the train.	1. Son along with help of travelers takes him out of the train.	1. Son again arranges auto to reach the hospital. 2. Again autowala bhaiya and his son helps him to enter and exit auto.
	Reach Bus Stop	Board Bus	Exit from the bus and reach station	board inside train(Disability coach)	Exit from the train and train station.	Take auto and reach hospital.
	1. Find auto to drop him to train station. 2. Needs someone to give support and enter auto and exit from the auto at the bus station	1. When the bus arrives, tell the conductor to open the ramp, so that he can get inside the bus 2. If the conductor is not aware about how to open the ramp then figure out someone who knows how to open the ramp 3. Once entered into the bus find place where the wheelchair can be placed	1. Ask the conductor to again open the ramp so that he can exit from the bus. 2. His son takes a lift to reach at the end of the platform with wheelchair and then take him at correct platform	1. Along with son and takes the help of fellow travelers to enter inside the train. 2. Finds it very difficult to board the train, as the train halts for only one minute	1. Son along with help of travelers takes him out of the train. 2. At the city train station there is lift present, so his son takes him out through lift.	1. Son again arranges auto to reach the hospital. 2. Again autowala bhaiya and his son helps him to enter and exit auto.

Existing products



Tynor Walking Stick L Type



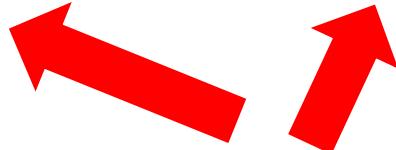
Hard anodized to ensure long life



Comfortable grip



light weight body



Anti-slip pr



Walking stick with seat



Walking stick with umbrella



Hiking Sticks



Think about the Cost for our wheelchair solutions and have reasoning about it's affordability

%age of ppl who can't afford Finance range defining what section of middle class.

Handle support to drive

Breaks that can be used by the Care takers

Existing Product testing and Analysis



Safety Belt, to avoid fall



Cost - 46970

So, there are wheelchairs with advance technology But they are expensive and can't be used by the middle-class people.



Comfotable



Hand sup

Small wheels, enables more speed

Foot support

Cost 101



Gap between the train door and platform and height of door from platform makes it difficult to climb on the train

Bus doors and stairs makes it difficult for old people with joint issues or stick/wheelchairs to enter the bus.



[Reference: wheelchair users find it difficult to use buses](#)

Existing Solution



Point of Intervention- Boarding arrangements in train/ buses. Wheelchair arrangements.

Left Indian Railways, Right Delhi Metro- Indian Railway you still requires help and Metro Railway it doesn't require anybody help.

The wheelchair is provided free of charge on **online booking, depending on the availability on a first-come-first-serve basis with a booking voucher**. The wheelchair(s) will be collected from and returned to the collection center at the Railway station. The passenger/attendant needs to **deposit Rs 500 in cash** and a **valid government-approved identity card**, which shall be returned on the return of the wheelchair.

All this process is very tedious and creates issues for the person using wheelchair

Transport Service for Wheel chair users

- As there are restrictions for elderly who wants to travel in city, due to inaccessible and supportive public transports, we provide specialized, redesigned, transport services(CAR).
- This Car has ramp and Lift system for the elderly to –inboard and space adjustment for them to comfortably be in Car without being worried of seat re-arrangement or lift and sit on car seats

<https://mobility-india.org/programmes/education/taxi-for-wheel-chair-users/>

Other stakeholders views/comments

- Doctors view:
 - Interview questions link
<https://www.betterteam.com/geriatrician-interview-questions>
- Care takers view
 - Interview of Old age home care taker
 - Interview of Family member

Issues with existing sticks

- Not a good design, just serving purpose
- To make it cheap it has been designed poorly
- It's have been made a social stigma
- Elders feels dependent, neglected and old
- Elders gets back ache

What we want to improve

- A high enough walker so that posture is kept properly
- Attractive enough to carry every where
- They can sit on them when they are tired portable chair
- It can carry stuff portable package
- Make it a status symbol
- A stick that you yourself can use as an adult, that will remove the social stigma

What they say

I'm old. I need walker but if I use it, I wouldn't able to pay attention to outside world because I will have to pay attention to the walker all the time.

I'm a housewife.

What they think

Nervous about using a walker because it makes them feel more dependent on it.

Would like to use a walker and don't loose connection with outside world at the same time.

What they do

I still walk on road without a walker. After I walk for few distance, I take a break and then resume the activity. Since walker is not available with me, I take my daughter along with me.

What they feel

Nervous.

Worried about safety when commuting alone on busy roads.

Worried about the safety about my daughter too.

PAIN

Unable to pay attention on multiple things

GAIN

If walker help me walk and enables me to pay attention to the outside world, I'm good to go

What they say

Proper boarding arrangements should be made available for people who are on wheelchairs so that my family members can board me easily inside a public transport vehicle

What they think

I do not feel comfortable to use assistive device because I feel that it will make me dependent on others

What they do

I'm a retired service man and I spend my time mostly with friends.

I take help of my family.

What they feel

Uncomfortable while using assitive device.

Nevous while travelling alone

PAIN

GAIN

Inconvenient boarding arrangements

If proper boarding arrangements are available, I'll not need help of my family members

<p>What they say</p> <p>Language is the barrier for her to communicate. If she had someone who can talk to her in a language she knows, she could have been happy.</p> <p>She feels she needs a job to feel useful and keep her mind healthy, so that she can avoid fights with other elderly at old-age home</p>	<p>What they think</p> <p>She thinks other elders are discriminatory towards her. She thinks others try to irritate and annoy her, because she is well educated.</p>
<p>What they do</p> <p>We observed that she is aware of the common language, but she doesn't involve herself in communication.</p> <p>She said she is teacher, but she finds it hard to cope up with other fellows. We observed that she has habit of controlling and to wish for things as she wants.</p>	<p>What they feel</p> <p>She feels lonely, and sad that she cannot mix with other folks.</p> <p>She feels the need of someone to share and talk.</p> <p>She feels that no one likes her, she can help and teach others.</p> <p>She can help to manage the workings of orphanage.</p> <p>Both feel alone and depressed because of isolation.</p>
<p>Pain:</p> <p>Unable to get along with people with whom they stay</p>	<p>Gain:</p> <p>If I can get well with others, I will be happier, have Feeling of needed, respected, connected and less sad and depressed</p>

Insights

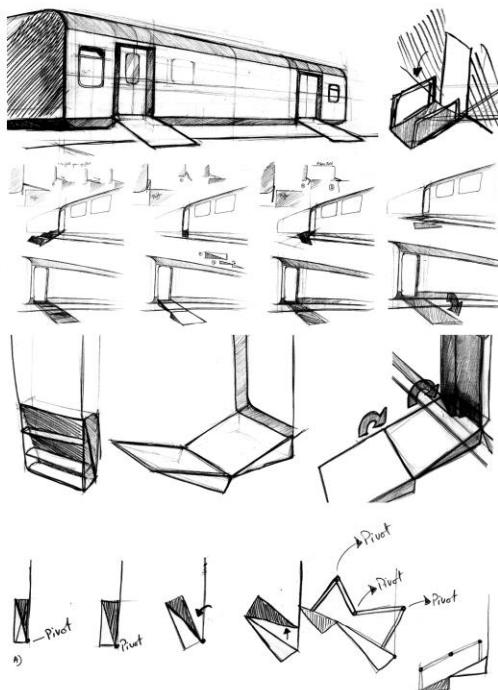
- Many elders feels **mental issues** due to aging memory and due to staying alone.
- Elders who are bedridden are **dependent** on their caretaker for making them sit on the bed/ to the wheel-chair, take them to the washroom or to any desired place.
- Since elders are dependent on their caretaker to take them to their desired place and sometimes to explain their feelings and emotions to other people, they feel **social excluded**.
- Financial dependency
- Some elders feels **age gap with their caretaker** and face issue in telling them their issues.

- Even if elders can walk by themselves with the help of assistive devices, they face **infrastructure issues** like not proper **footpaths**, and they face difficulty in crossing road themselves on crosswalks. There also not proper arrangements to **get into train and buses through wheelchairs** for them.
- Elders generally have many **other health issues** like **Diabetes**, **Hypertension** taking many medicines which adversely affect their physical health.
- More than 60% of Elders have **nutritional deficiency** due to which they have joint pains and thus face balancing issues.
- Women who had early pregnancy and frequent pregnancy faces more joint issues.

User	Need	Insights
Middle class elderly people using wheelchair living in sub-urban or urban cities	Travel to the required places like hospitals, pension office, banks, etc in cities with public transport like bus, railway on their wheelchair independently.	It's a difficult task to enter inside bus or train with wheelchair. They are always dependent on their attendant or fellow passengers. It's not safe and make them feel embarrassed and dependent.

**HOW MIGHT WE (enable onboarding arrangements in public transit) Intervention
FOR (middle-class sub-urban elderly people, who are using wheelchair and travel through public transit)
SO THAT (they can get into public transports easily, without feeling burdened on others) Research**

Ideation



**OUR (solution of adding a ramp in a train coach) Solution
HELPS (wheelchair using elderly) User
Who wants to be (able to enter train easily and comfortably)
By (avoiding need of others to pick and carry them inside train)
And (making them independent)
Unlike (existing ramp services by gov, which are not readily available to use.)**

**HOW MIGHT WE (provide wheelchair friendly transportation service) Intervention
FOR (middle-class sub-urban elderly people, who are using wheelchair)
SO THAT (they can travel easily, without feeling restricted and burden on others)Research**



**OUR (transport providing service) Solution
HELPS (elderly, who use wheelchair) User
And Who wants to be (able to enter travel easily and
comfortably)
By (avoiding feeling of embarrassment)
And (making them independent, comfortable and
confident)
Unlike (existing services, which are costly and create stigma
of disability and embarrassment)**

Ad-lib Statements

OUR (solution of adding a ramp on railway platform) Solution
HELPS (wheelchair using elderly) User
Who wants to be (able to enter train easily and comfortably)
By (avoiding need of others to pick and carry them inside trains)
And (making them independent)
Unlike (existing ramp services by gov, which are not readily available to use.)

OUR (redesigned wheelchair, which has ramp embedded in base) Solution
HELPS (wheelchair using middle class elderly) User
Who wants to be (able to enter public transport (bus or train) easily and comfortably)
By (avoiding need of others to pick and carry them inside public transport(bus or train))
And (making them independent)
Unlike (existing ramp services by gov, which are not readily available to use.)

OUR (solution of adding a ramp on bus stand) Solution
HELPS (wheelchair using elderly) User
Who wants to be (able to enter bus easily and comfortably)
By (avoiding need of others to pick and carry them inside trains)
And (making them independent)
Unlike (existing ramp services by gov, which are not readily available to use.)

OUR (solution of adding a ramp in a bus) Solution
HELPS (wheelchair using elderly) User
Who wants to be (able to enter bus easily and comfortably)
By (avoiding need of others to pick and carry them inside bus)
And (making them independent)
Unlike (existing ramp services by gov, which are not readily available to use.)

How many elders need this?
How many travel alone?
Reported accidents ?
Existing solution ?

HOW MIGHT WE (add sensors into the wheelchairs) Intervention

FOR (wheelchair using middle class elderly)User

SO THAT (they can raise SOS signals, in case of emergency or fall)Research

HOW MIGHT WE (add lift system in wheelchairs) Intervention

FOR (middle class elderly)User

SO THAT (they can get into buses easily, without any external support)Research

HOW MIGHT WE (add foldable and re-adjustable seats in cars) Intervention

FOR (middle class elderly, who own a car)User

SO THAT (they can get into the car easily, without any dependency on others)Research

User	Need	Insights
60+ high class urban elders who need a stick to walk	A stick with good aesthetic, which he can take everywhere without embarrassment, and which would be considered as a status symbol not a stigma	The normal stick in market is poorly designed and it makes them feel dependent and socially excluded, using this stick makes them feel they can't walk properly and embarrassed.

HOW MIGHT WE (remove the stigma of using a walking stick) for (60+ high-class elder people who need stick support to walk) so that (they don't feel embarrassed and feel socially included).

OUR (walking stick) Solution

HELPS (people who needs support while walking) User

Who wants to (go outdoor without feeling embarrassed),

By (providing them with a device which is esthetically appealing)

And (make them feel confident)

Unlike (existing poorly designed walking sticks)

HMW:

HMW designed a walking stick for all the people so elderly won't feel excluded or stigma by using that stick.

Ad-libs:

Our (hiking stick) helps (the elderly) who wants (to be independent and socially included) by (avoiding stigma) and (make them socially included) unlike (existing solutions).

Our(hiking stick) helps (young to elderly(people of all ages)) who wants (hike/trek/ be independent) by (providing the new advancements in stick designing) and (make them happy and independent) unlike (poor existing stick)

Ad-libs:

Our (redesigned wheelchair) helps (all wheelchair users) who want to (choose the public transport) by (making themselves able to get into bus or train without others help) and (crossing the barrier of traditional wheelchair) unlike (existing wheelchair).

User	Need	Insights
Elders living alone or in old age home and feels lonely who can do some amount of physical activity	Events which promotes social interaction and some physical activities (body movements).	Elders who live alone or in old age home don't do much physical activities, which with time effects their physical and mental health, which in long term hamper their social interaction and disconnects them from the society.

How Might we create a social Group service which can help in organizing events for healthy elders living alone or in old age homes and suffering from loneliness so that they can have a healthy social life and feel connected with the society

- We will organize social and religious events in old age home
- We will map old healthy elders of different old age home together so that they can talk and discuss
- We will enable part-time work like weaving woolen cloths, cooking food, handicraft. Psychologically happy and can earn extra money

POV needed

OUR (Sankalp service) Solution
HELPS (healthy elders) User
Who wants to be (socially connected)
By (organizing social and religious events)
And (making them socially included)
Unlike (social group apps)

OUR (Sankalp Call) Solution
HELPS (healthy elders feeling lonely) User
Who wants to be (psychologically healthy)
By (providing employment)
And (making them independent and socially engage)
Unlike (social group companies)

<https://thecsrjournal.in/the-nifty50-companies-spent-rs-7795-98-cr-on-csr-in-fy22/>
<https://thecsrjournal.in/top-100-companies-india-csr-sustainability-2021/>
<https://www.avinashchandra.com/list-of-csr-activities-in-india>

Ad- Lib statement

our (solution/product / services/system)

helps (customer segment (who)

who wants to be (jobs to be done)

By (^{your} own verb e.g reducing avoiding user pains)

AND (——— e.g increasing, enabling user gains)

UNLIKE (competing value proposition)

Solution

Future scope

- Emotional needs
- Cultural
- Housewife with special need husband

Elderly wives caring for disabled husbands have special needs and problems. Through interviews it was discovered that morale scores of disabled husbands and their wives were associated. Isolation, loneliness, economic hardship and role overload were the most frequently mentioned problems of the low morale wife.

Interview of caretaker

Entities

Old age home

Companies

CSR companies

NGO

Gets funding
to Sankalp

Plan- 1
**Social
community for
elders**



- Register under Section 8 of the Companies Act, 2013
- Certificate 80G registration (Provides 50% Income Tax exemption to the donor)
- Certificate 12A registration (Tax-free income for NGO),
- NGO Registration certificate

Events

Games

Workshop (Handicraft)

Hobby classes

Yoga camp

Plantation drive

Story telling

Any one of your choice



Plan- 2

Financial employment for elders

Mrs. Savitri Knows about Sankalp through the handicraft workshops she attended last week at nearby old age home.

Mrs. Savitri calls Sankalp



1.

2.

3.

4.

Sankalp maps Mrs. Savitri to Sankalp Handicraft/ Sankalp Kitchen based on her key skills.



Sankalp Handicraft



Sankalp sells the handicraft product on its ecommerce platform

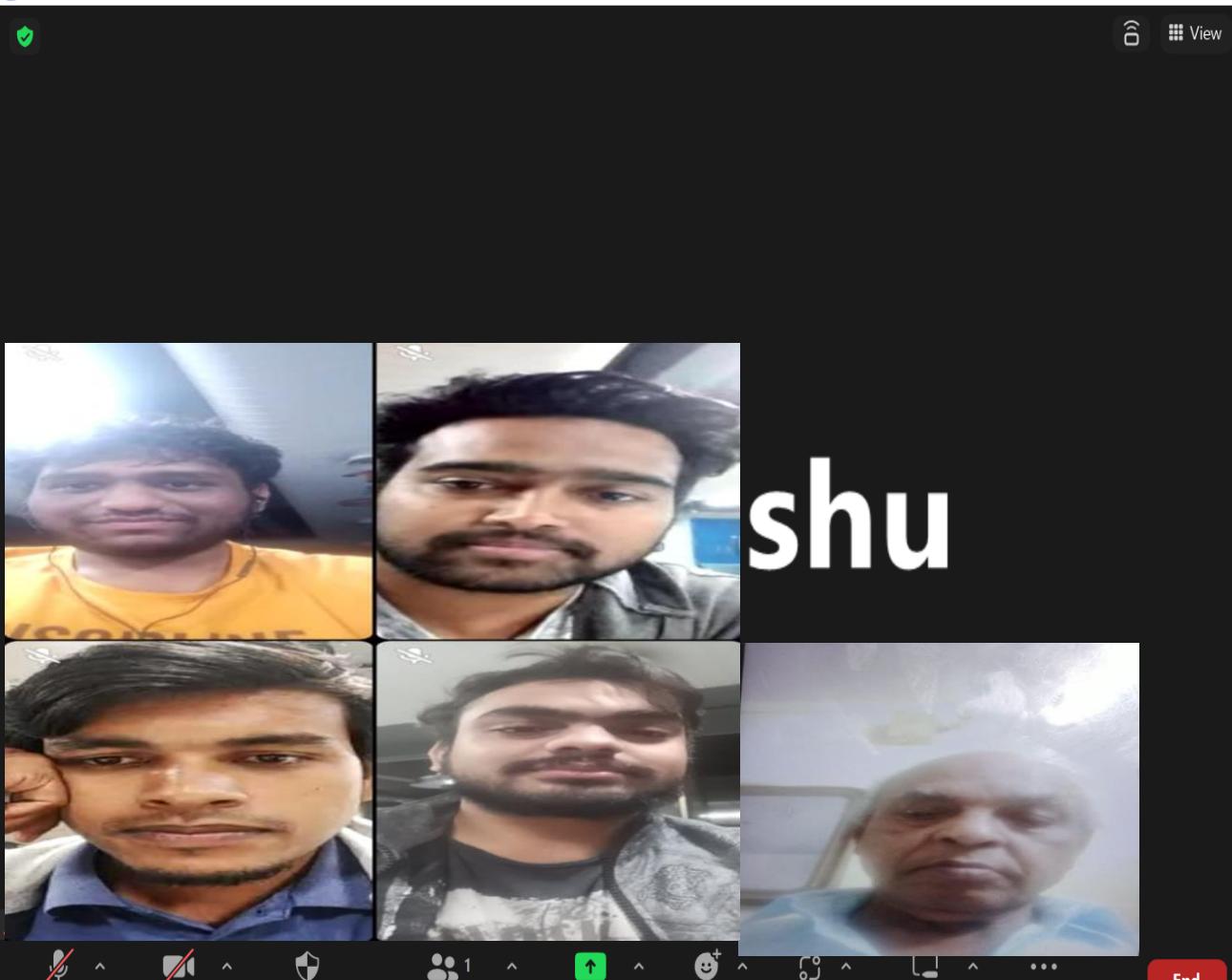


Money is directly given to the Mrs. Savitri

Plan 3: Sankalp Travel Accessibility service



shutterstock.com · 1809166273



Participants (1)



Deepanshu (Host, me)



References → Karthik

- [1] <https://www.verywellhealth.com/how-to-safely-stand-up-from-a-chair-2696666>
- [2] <https://onlinegrad.baylor.edu/resources/mobility-exercises/>
- [3] <https://www.frontiersin.org/articles/10.3389/fphys.2020.00881/full>
- [4] [Two questions can reveal mobility problems in seniors - Harvard Health](#)
- [5] <https://www.healthimaging.org/tools-and-tips/caregiver-guide-mobility-problems>

Interview with Mumbai Aunty

- Age: 68
- Name : Kiran Deshmukh
- Interview :

We observed that there are ramps and lift systems in some buses, do you use them when you travel ?

Ans: I tried to use, however, it seems very dangerous, as the bus conductor don't know how to help us to use the lift. Also, as Mumbai buses are always crowded, I find it difficult to adjust for lift platform. Sometimes I fear of push and fall.

If we train the staff, do you think it will be helpful.?

Not sure, as the issue is not only the staff but also the people. Sometimes people are in-considerate, they occupy space which are for elderly, like some days my husband(73, yrs old) need to stand, because other young people have occupied it. And every 2-3 days we feel embarrassed because people quarrel as we take too much time to get down from bus. I know they are getting late for their offices or school, but we can't do much and just feel sorry for ourselves.

Hmmm That's bad, by the way have you ever used local trains for travel, there is dedicated coach for specially abled people ?

Hahaha, yeah that's an irony of the local trains. Do you know the health time of any local train ? Its just less than 1 minute. Do you think a person with wheelchair can take a ramp climb the coach and return the ramp in that time :D

Yeah true :D, What about taxi services ? There are many door-step services. Have you tried them ?

Hmmm, they have their own issues, first of all affordability and then courtesy of the driver to help us for on-boarding. Their also we faced issues because un-trained drivers and way of driving.