

# Workbook for

# Inclusive, Human-Centered

# DESIGN



“The contents of this workshop were developed, in part, by the Wireless RERC and RERC TechSage under grants from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant numbers 90RE5025-01-00 and 90RE5016-01-00 respectively). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this workshop do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government.”



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DESIGNING  
INCLUSIVE  
SOLUTIONS  
TO IMPROVE  
THE LIVES  
OF PEOPLE

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# DESIGN PROCESS



- 1** MEET YOUR TEAM
- 2** EMPATHY BUILDING
- 3** PROBLEM STATEMENT
- 4** DESIGN A CONCEPT
- 5** PRESENT YOUR RESULTS



# MEET YOUR TEAM

**1**

## FORM A TEAM

Each member should then introduce themselves.

- Title and Affiliation (*i.e. RN, Atlanta CareStrong*)
- One sentence to describe your primary expertise (*e.g. a researcher designing technological innovations to benefit people with disabilities*)
- Print your name on the Team Member list

**2**

## DESIGNATE A SCRIBE

This person will capture important ideas and get them on paper. Scribe is responsible for capturing the thoughts that will be presented in the final presentation.



## CHOOSE A *TEAM NAME*

# EMPATHY BUILDING



The goal of this exercise is to put yourself in someone else's position and empathize with that individual and feel their conflict.



## CREATE A NOTE CARD

Write down a problem or conflict you may have experienced on the notecard. *(Examples: challenges experienced with technology, travel, or anything you may have struggled with)*

**1**

## SWAP NOTECARDS

Exchange these notecards with another group and randomly pick from the notecards presented to you after this exchange.

**2**

## DISCUSS SOLUTIONS

Take turns to read your new notecard to your group, as if the problem presented in that card is your own. After reading it, spend 1 minute discussing solutions and advice toward that problem.



# DEFINE THE PROBLEM

## 1 TEAM ACTIVITY

Pick a problem area and write it on your flip chart.

## 2 INDIVIDUAL ACTIVITY

Brainstorm different challenges within the selected challenge area.



## WRITE ON STICKY NOTES

## 3 CHOOSE ONE PROBLEM

Which problems would benefit most from new technology-based solutions? Discuss the problem(s) with the team and determine where there is an opportunity to design Technology-enabled solutions.

- What is the problem and where is the need?
- Why is this problem relevant?
- Who has this need? (*They will be the users*)

# DEFINE THE USERS



In a human-centered design process, it is important to not only identify the users, but to also identify the different user attributes and characteristics that will affect the design requirements.

## 1 CONSIDER

Will differences in age, technology acceptance, ability, or the health of individuals impact your design?

## 2 TEAM ACTIVITY

Complete the User Attributes Worksheet to define the different user attributes you need to consider, such as: age, gender, perception, function, etc.



# DESIGN REQUIREMENTS

1

## DEFINE KEY ELEMENTS

Define the most important elements required to address the needs and abilities of your users.

*(Example: If you determined that your users have low vision, how will your design adapt to account for this?)*

Remember, this is **not** the solution, but the **minimum requirements** that every solution should include.



## ***FINAL REQUIREMENTS***

E.g. For medication management, this might include:

- Being user friendly
- Being acceptable for use in the home
- Alert the user when it's time to take medication
- Dispense medications on at a specific time
- Not allow for overdose

# CONCEPT DESIGN



**1**

## INDIVIDUAL ACTIVITY

Brainstorm up to three solutions to your problem.



## WRITE ON STICKY NOTES

**2**

## TEAM ACTIVITY

Discuss the individual ideas and organize these on the FlipChart. As a team, brainstorm further:

- i. Combine different ideas
- ii. Build on existing ideas.
- iii. Modify current solutions that exist in the market.

**3**

## CHOOSE ONE SOLUTION

Some solutions may meet more design requirements than others. Reject those that don't meet the requirements and combine the element into one final concept.



# CONCEPT DESIGN

## 1 TEAM ACTIVITY

Develop your solution further. Work as a group to refine and improve all aspects of the solution. Remember to design for the needs of the user(s).

## 2 CREATE A VISUAL

If applicable, work toward a visual representation (sketch) of all the elements considered. Write a short description of your concept in the Flipchart. Sketch your ideas along the way.

Think back on the user needs and design requirements defined earlier for the problem. Does this solution meet those?

# PRESENTATION



For your presentation, use the flipcharts to showcase your work through the process. Be sure to include the following:

- A** Project name
- B** Your design problem description
- C** User and design requirements
- D** A visual representation and description of your solution
- E** Team member names

Please photograph your materials, but leave them on your table. We will photograph and share with group members in case you would like to continue your discussions. After we document items, we can return the originals to you.









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