

UNECLAC

Training Session

Increasing access to technology for Persons with Disabilities



UNITED NATIONS

ECLAC

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PAST

NOW

FUTURE

Agenda

Overview

- Opening Session
- Introduction to ICT Accessibility
- Break and Demo Display
- Universal Service Funds
- LUNCH and Demo Display
- Pitching Session
- Disability inclusive development
- Group exercise
- Wrap-up and closing remarks

Opening Session



Opening Remarks



Catarina Camarinhas,
Social Affairs Officer
Subregional Headquarters for the Caribbean

Introduction of Instructors



Lead Instructor

Shawn Melville

Managing Director,
Ipsum Technologies

Meet the Instructors

Our team is dedicated to improving the quality of life for persons with disabilities



Shawn Melville
Lead Instructor



Candice John
Demonstrator



Marlon Parieaho
Accessibility Technologist



Asenath Mc Ewen
Policy and Legislation

Learning Objectives

- understand the different types of disability and disability models
- know the latest accessible ICTs and assistive technologies
- be confident in your ability to write winning project proposals and manage projects effectively
- have improved on the project proposals which were submitted (via Google Forms prior to) and worked on during the workshop
- understand the application form and evaluation criteria used by the USFs



Tell us about you?

What are your expectations for today's training?



Ice Breaker Activity

10 MINUTES

Instructions

Find a partner (anyone in the room) and ask them questions for 1 minute then move on to someone else. Try to recall what you learned about each individual as you go from one conversation to the next.

Questions

- Describe what you do in one sentence?
- Tell me something interesting about you?
- What are you passionate about?
- What do you love most about your work?
- What does success mean to you?
- How are you feeling today?
- Tell me one thing you would change about the world if you could?
- What do you think the future will be like 50 years from now?

ICT Accessibility

An introduction to ICT
Accessibility



Overview

This module provides an overview of ICT accessibility concepts and covers the following topics:

- What are ICTs and what are the various fields of ICT Application?
- What is ICT Accessibility and why is it important?
- What are the various types of disabilities and disability models?

Overview

- Introduce the UN definition of disability and the UNCPRD
- Overview of ICT Legislation, Standards and Policies
- Assistive technologies and accessible ICTs that are commonly used
- Advancements in assistive technology and accessible ICTs



Problem

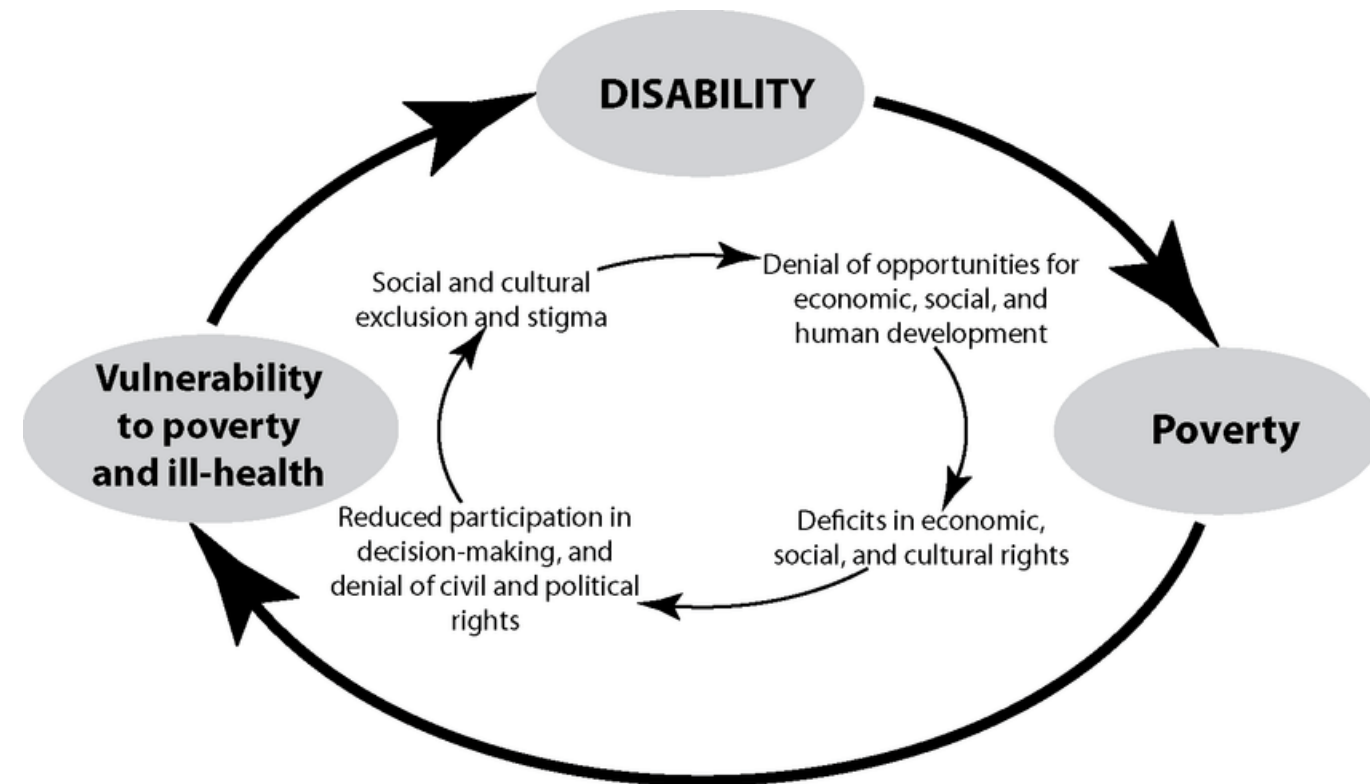
Persons with disabilities are particularly vulnerable to unemployment and poverty.

- **15%** of the world's population has some form of impairment, which equates to **470 million** people of working age.
- There are at least **50 million** disabled people in Latin America & the Caribbean (LAC) or approximately, **10 percent** of the region's population.
- About **80-90 percent** of disabled people in LAC are unemployed or outside the workforce. Most of those who have jobs receive little or no monetary remuneration.



The Cost of Exclusion

Economic losses related to disability are large and measurable, falling into a band between 3 and 7 percent of GDP.



Disability has a significant **economic and social impact** on persons with disabilities and their families, as well as on their communities and society.

Employment rates are lower for men and women with disabilities than their peers without disabilities.

Disproportionately, persons with disabilities can be **paid less, hired without a formal job description, forced to take jobs that don't fit their interests or aspirations**, and even engaged in undignified or dangerous work.

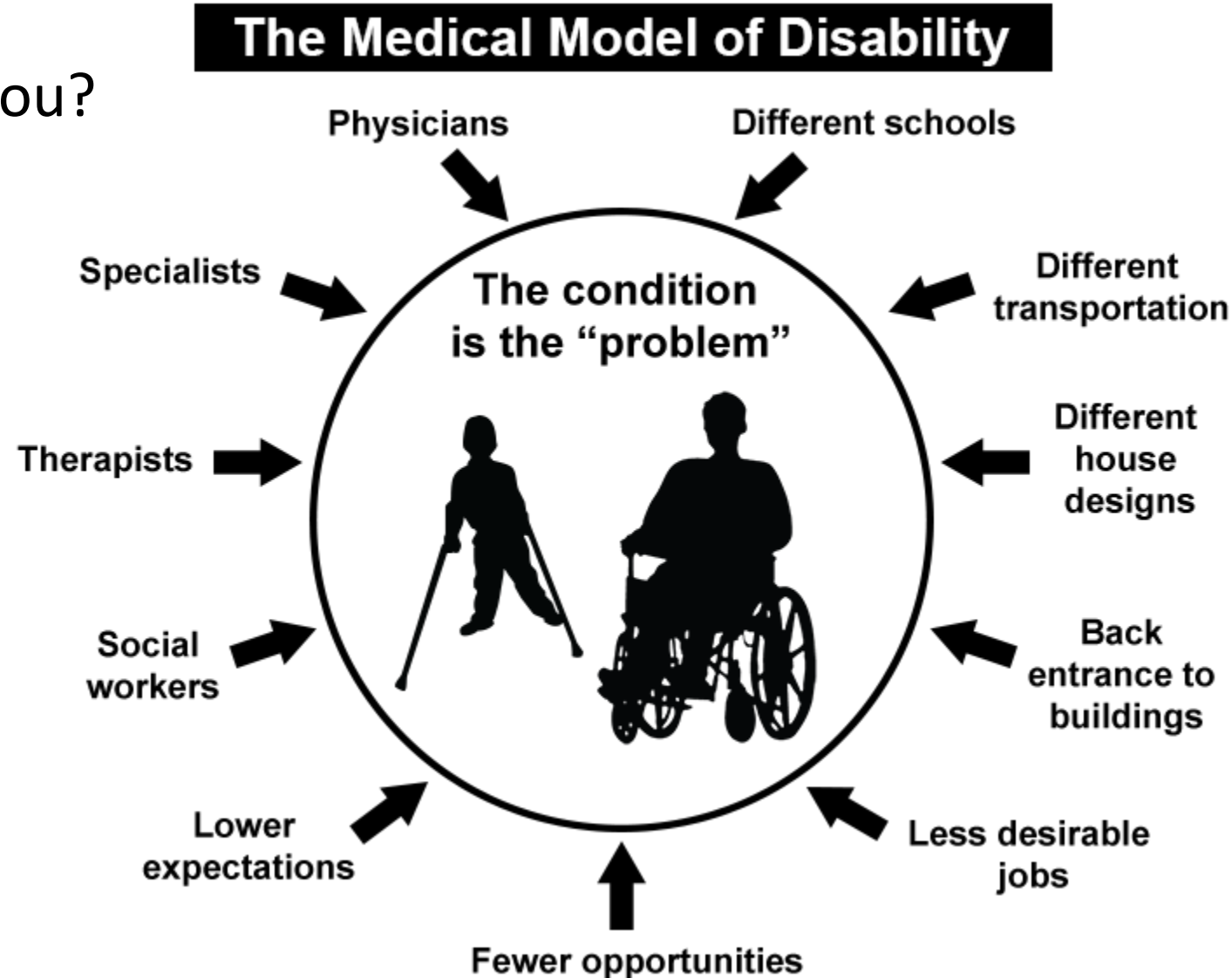
UN Definition for disability and UNCPRPD

- Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.
- UN Convention on the Rights of Persons with Disabilities
 - Article 9: Accessibility

Theoretical Models of Disability

What does disability mean to you?

- Medical Model
- Social Model
- Functional Solutions Model
- Social Identity Model
- Charity/Tragedy Model



What does digital accessibility mean to you?

What Is Digital Accessibility?

- “Digital accessibility” refers to the practice of building digital content and applications that can be used by people with disabilities. This can apply to websites, mobile apps, desktop apps, video games, electronic documents, and more.
- People with disabilities often use different types of assistive technology (AT) to navigate sites and applications, so a lot of accessibility work is simply making sure your interface can be navigated by different kinds of assistive technology.

Why Accessibility Matters?

People with disabilities should have equal rights and equal access: it's simply the right thing to do.

- There are over 56 million people in the United States and over 1 billion people worldwide who have a disability, and that number is growing.
- In 2017, more than 800 US federal lawsuits were filed against allegedly inaccessible websites. That's more than 14 times as many filings as there were in 2015.
- **Accessibility benefits users of all abilities**, it encourages good coding practices, it can help boost your SEO, and it provides an **unprecedented level of independence** to people with disabilities.

Categories of Disability

The 5 major categories of disability are:

Visual – Example: blindness, low-vision, color blind

Hearing – Example: deaf and hard of hearing

Motor – Example: not having the use of certain limbs and paralysis

Speech – Example: people who are not able to speak or who have a speech impediment

Cognitive – Example: dyslexia, autism, ADHD

Types of Assistive Technology

- In many (but not all) cases, people with disabilities will use some kind of Assistive Technology to navigate their computer, mobile device, and their many applications.
- For example, people with visual disabilities may use a screen reader to navigate their computers and mobile devices.
- They may or may not use a braille keyboard. If they have low vision, they may use software and devices to increase the size of text and applications on the screen.

Types of Assistive Technology

- For people with motor disabilities, they may not be able to use a mouse and instead perform all navigation via keyboard or a device with keyboard-like inputs.
- They could use dictation software. People with cognitive disabilities may be able to use a mouse, a keyboard, and a monitor, but they may run into barriers with certain user interfaces or design components.

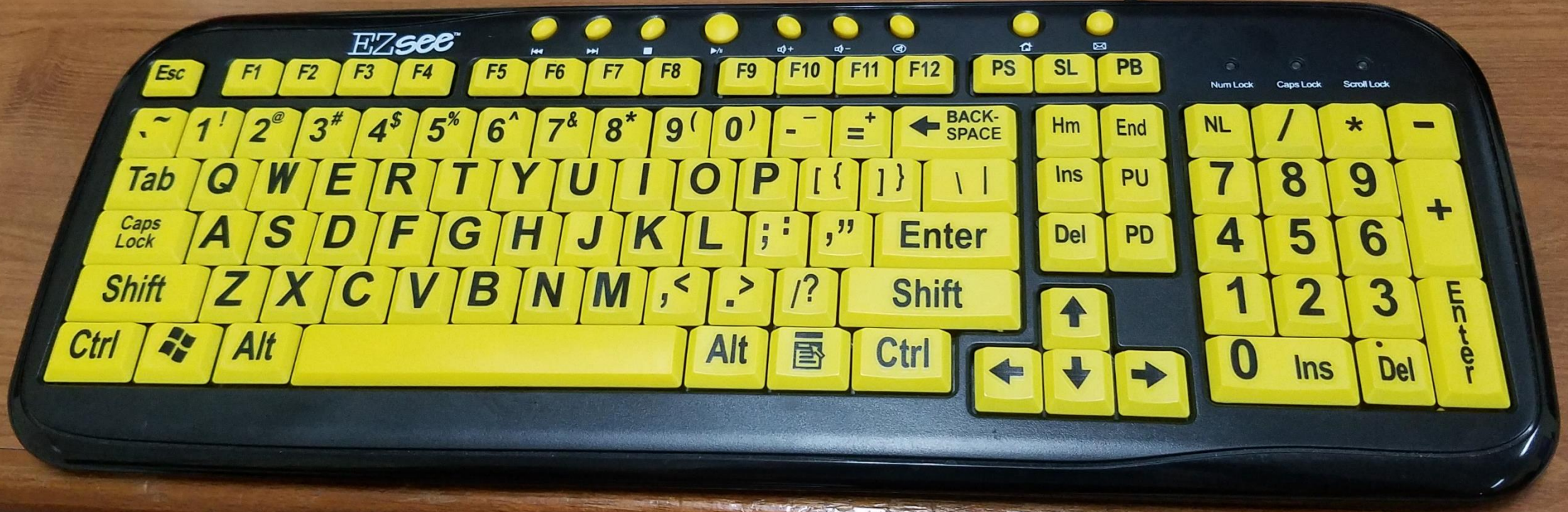
Zoom Max



Eye Gaze Edge



Large Print & Color Contrast Keyboard



Trackball Mouse



Foot Mouse



Joy Stick



So Many Terms So Many Perspectives

One Size Fits One

- Accessibility
- Inclusion
- Diversity
- Universal Design
- Compliance
- UX

The Usual Expectation

- Technology beyond the capabilities of persons with disabilities
- Assistive versus Mainstream



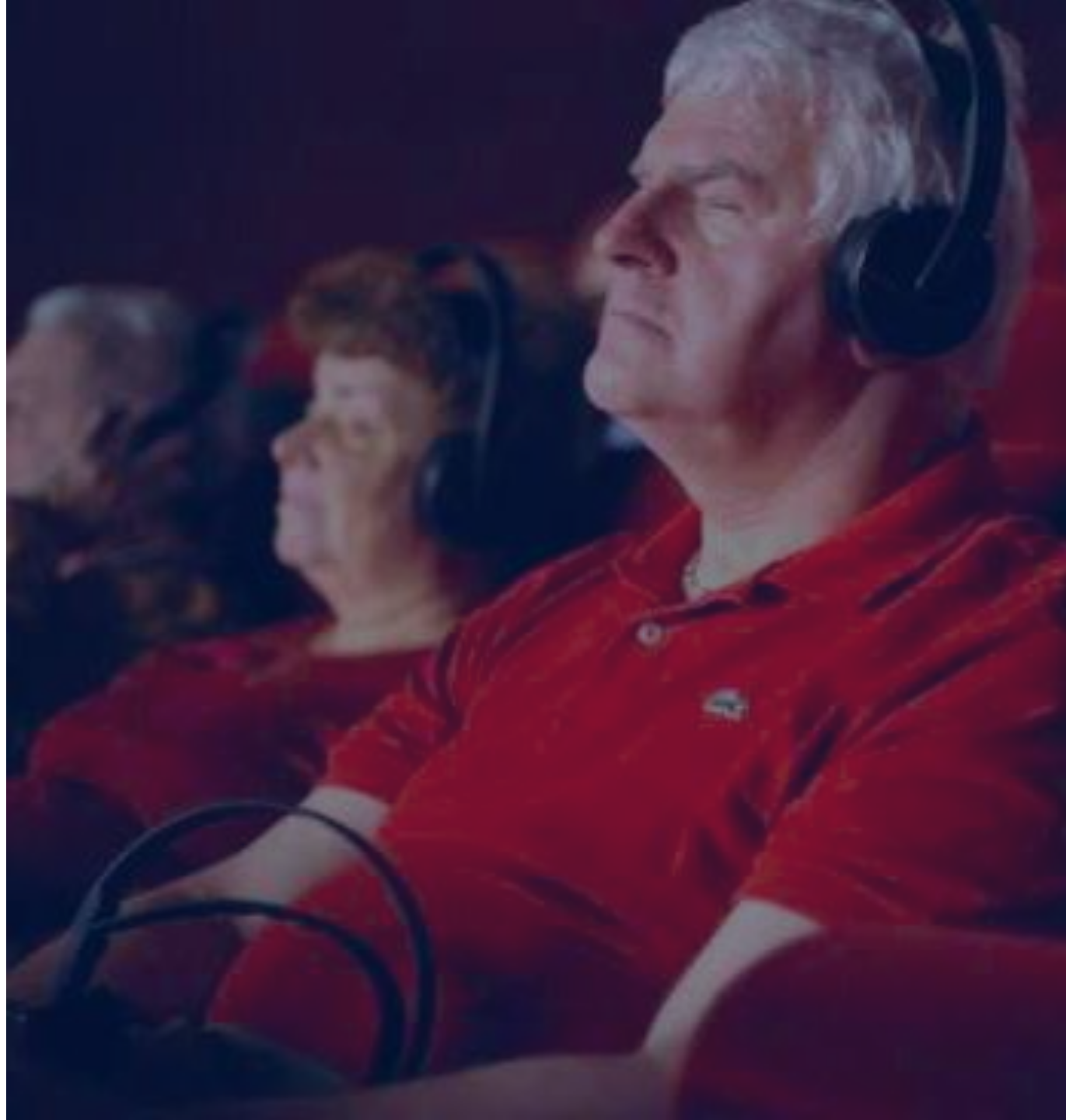
Devices

- Computers
- Mobile/Cellular Phones
- Tablets
- PCs
- Hearing aids, mobility aids, etc.
- Braille Display



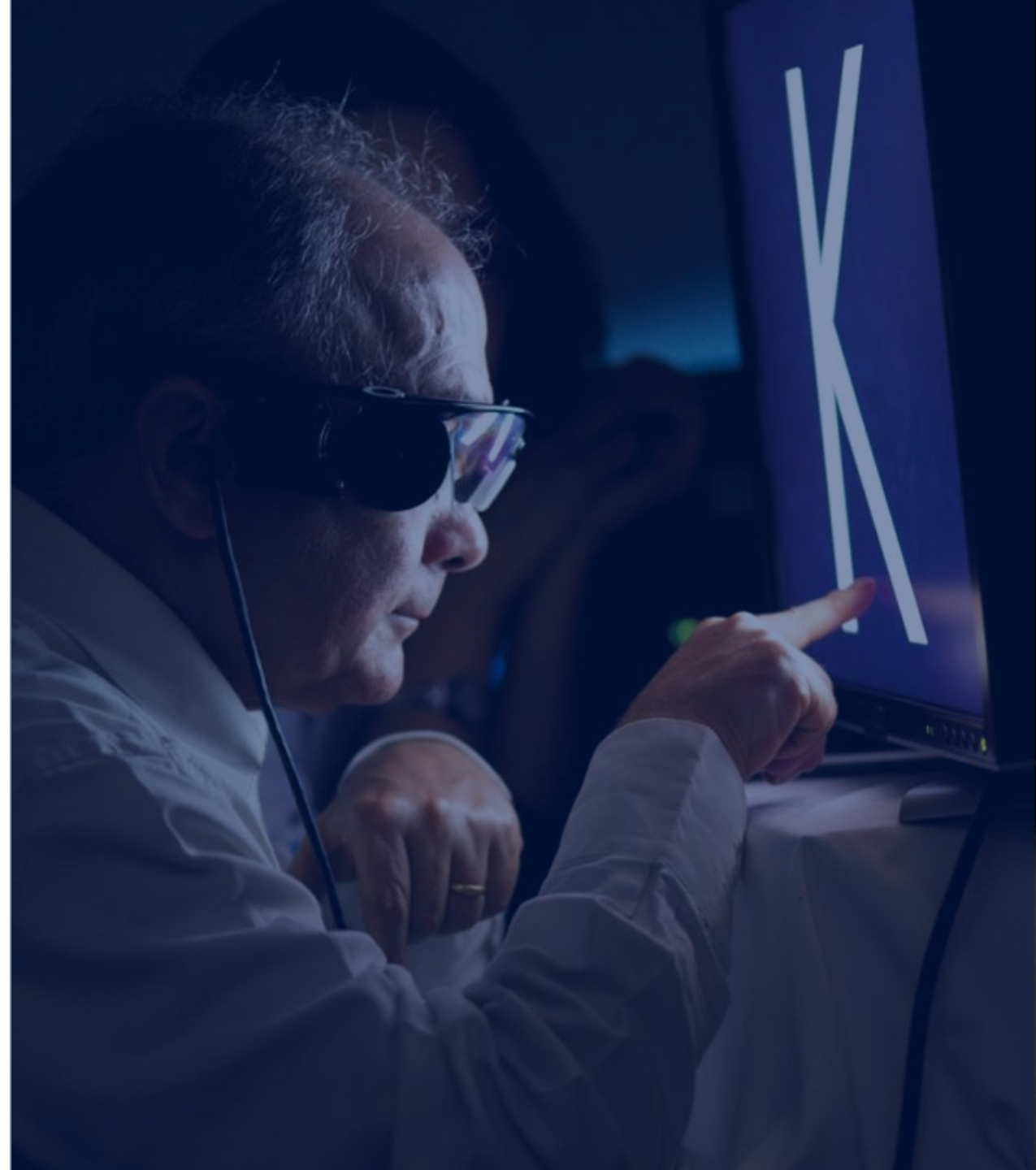
Types of ICTs

- Productivity: Word processing, OCR
- Lifestyle: Calendars, Identification, Social Media
- Entertainment: Movies, Literature, Games



Productivity

- Pages, Numbers, Keynote, Word, Excel, PowerPoint
- Text Expander
- Grammarly
- KNFB Reader, Docuscan, Abby Fine Reader
- Screen Readers: voiceover, NVDA, JAWs
- Education: Kurzweil 3000
- Speech Recognition: Dragon Naturally Speaking
- Screen Magnifiers



JAWs Demo



Lifestyle

- Seeing AI
- Currency Identifiers
- Fantastical, Due
- Most Social Media Platforms



Entertainment

- Audio described content
- Closed captioning
- Podcasts
- Games: Adventure, Strategy



Navigational Apps

No solution exists that solves the problem of detecting and identifying obstacles, providing character recognition and knowing exact location.

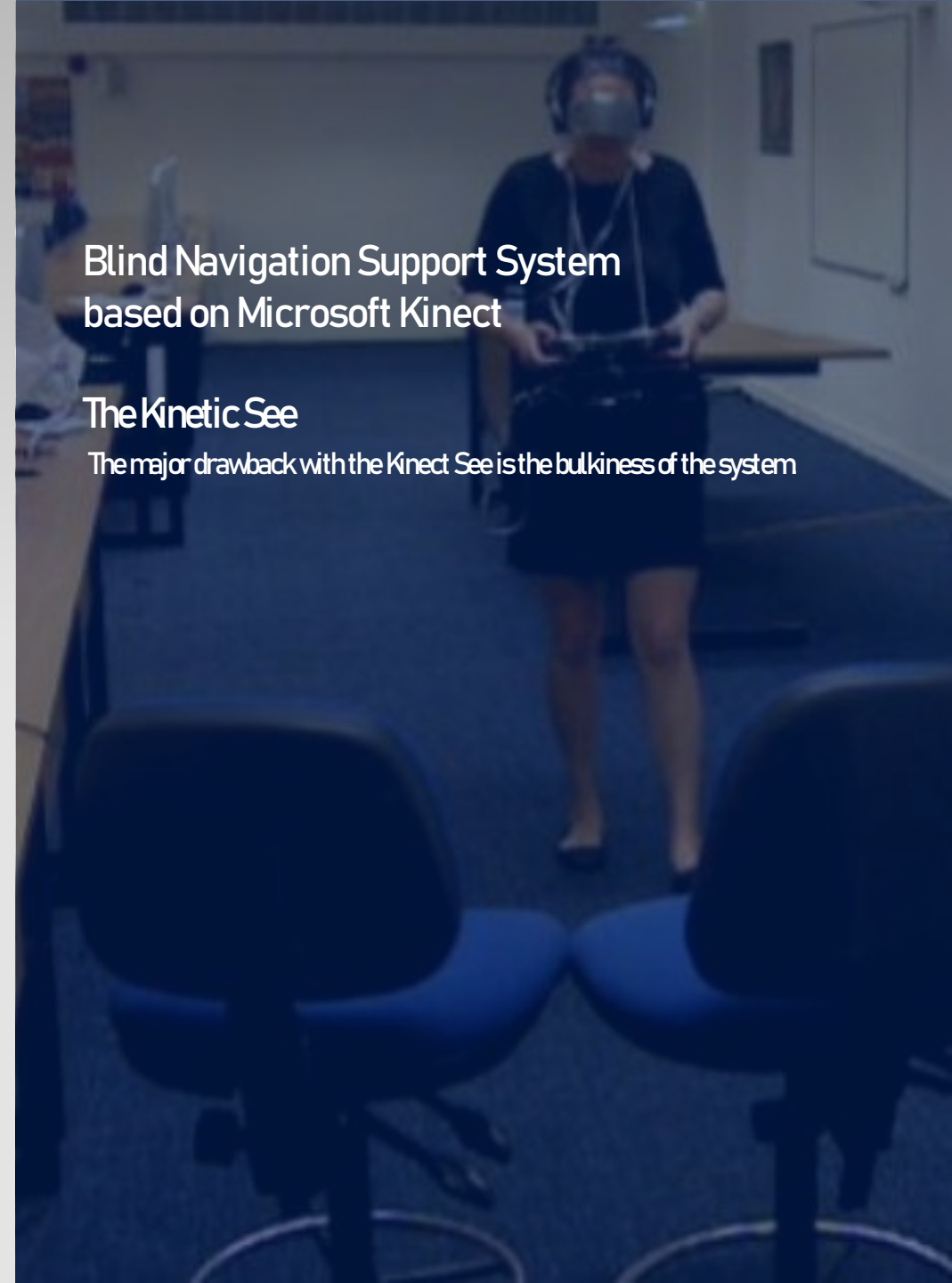
Existing technologies use GPS, Beacons, or NFC



Blind Navigation Support System
based on Microsoft Kinect

The Kinetic See

The major drawback with the Kinect See is the bulkiness of the system





MobiAssist Prototype

The MobiAssist is an assistive device that provides visually impaired users with real time feedback about their environment through the use of wearable electronics that pairs with an application on their cellular phone.



mobile



Beacon



ICT Solution

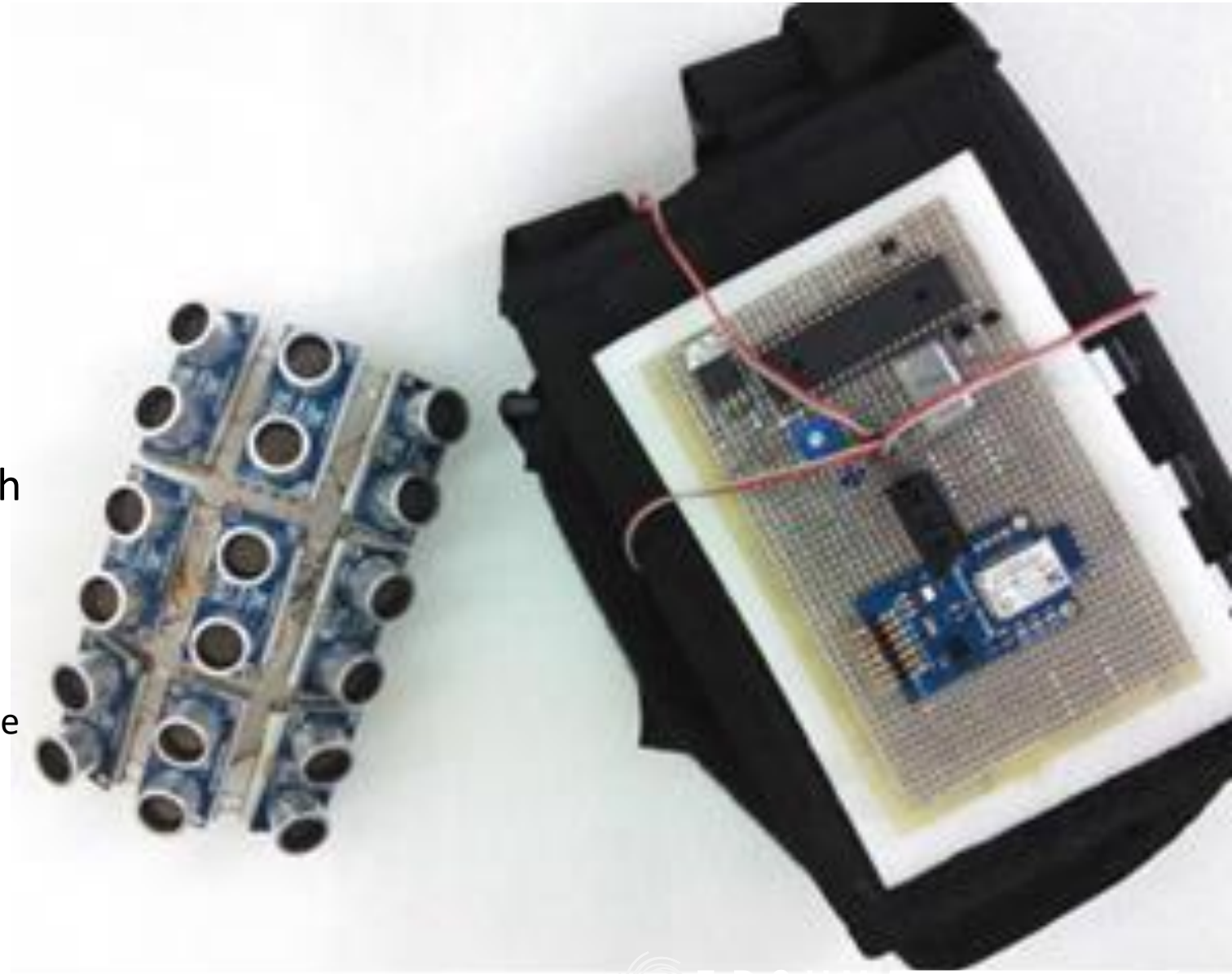
The MobiAssist prototype utilizes a sensor array and microcontroller board together with the computing power of the user's mobile device to detect the presence of obstacles within their environment, mapping out a 10ft x 10ft space to the front and sides of the user and up to the height of the user.



ICT Solution

The user interface of the system includes:

- 1) The wearable sensor array for gathering inputs from the user's environment
- 2) The Mobile application for Bluetooth connection and audio feedback warnings
 - a. Android Studio 1.4
 - b. Version Ice-cream sandwich and up (available for 94% of devices on google play store.
 - c. API – 15
- 3) Tactile feedback vibration motors
 - a. 0V-3.3V coin vibration motors



Demonstration Video



BREAK

Demo Display



Universal Service Funds

Projects, key stakeholders,
resources and criteria for
success



**Beneath the rule of men entirely great.
The pen is mightier than the sword.**

Richelieu or the Conspiracy, Edward Bulwer-Lytton, 1839



What is the purpose of a project proposal?

Idea

- An idea is something that only exists in your mind.
- Your task is to present the idea in a fundable proposal.
- Take a vague idea and identify a specific problem or need associated with it.



The basic elements of proposal writing:

- Identify the right funding sources
- Contact the funders
- Acquire proposal guidelines / information sheet / brochure
- Know the submission deadline
- Define your project
- Determine resource (financial and human) needs

Writing Effective Proposals

To increase the probability of a proposal being successful, it must address six (6) questions:

- What is the purpose/objective of the project?
- How many activities are to be undertaken?
- How will these activities be implemented and resources required?
- Who will benefit from the respective project activities?
- When will these activities be undertaken and by when?
- What will be the final result or impact?

Developing the Project Proposal

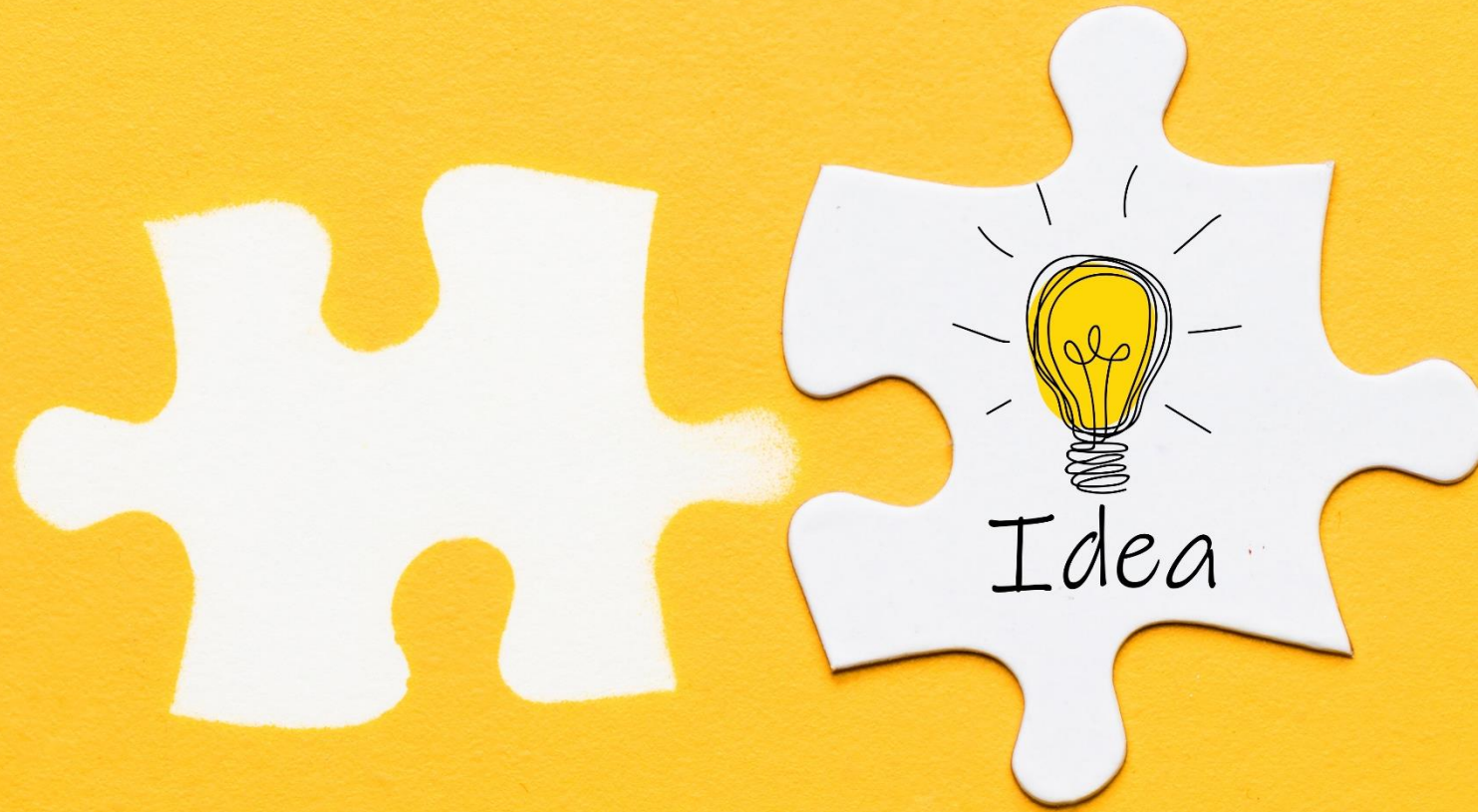
- The project proposal should be a compelling document.
- It must clearly demonstrate your understanding and response to the “Scope of Works” and specific criteria defined in the “Terms of Reference”.
- It should demonstrate how you will undertake the works, in what sequence, who will do the works and what will it cost.
- It should be formatted in a manner that is easy to read and logically presents your response.
- The durations, budgeting and resource assignments to activities should be practical and credible, to give the client the confidence that you have the capacity and ability to undertake the work in a manner that is mutually beneficial to the client and the contractor.
- You should also demonstrate your project management capacity to manage and monitor the project and to report periodically on project performance.

How to identify a problem or opportunity
and propose a solution?

Problems

- Think about your own problems
- Talk to others about their problems
- Observe the people around you to see what problems they encounter
- Engage in community activities
- Listen to the local, regional and international media reports
- Subscribe to research publications from organisations like the UN, IDB, World Bank, USAID and CDB

pportunities



How will it be sustainable?

Sustainability

To increase the probability of your proposal being successful/accepted, follow the steps below:

1. Proposal content/description should be clear and validate results.
2. Proposal should be researched extensively
3. Define the problem and state how the problem will be solved.
4. Provide evidence that the proposed solution is correct or works
5. Proposal should be financially feasible and practical
6. Never assume that the funders will believe your project is the best.

What is the potential for social impact?

Who Benefits?

- Age
- Gender
- Disability
- Community
- Education
- Income
- Population Size



Does the project meet the eligibility criteria of the USFs and align with the SDGs?

Procurement Process

- Invitation to Bid
- Receipt of Request for Proposal documents and/or Application Form
- A review of Instructions to Bidders and Eligibility Criteria
- Research and Preparation of Bid/Proposal
- Submission of bid/proposal
- Evaluation of bids/proposals
- Notice of award to applicants
- Award of grant/contract to successful applicants

Project constraints

Reconciling the Project Plan with constraints defined in the Terms of Reference

- If your project proposal is selected as the best technical proposal, you are normally expected to attend a negotiation meeting during which what is negotiated may be somewhat different from what was defined in the “Scope of Works” or what you proposed.
- These may include defined completion milestones, timing of site visits, schedule for monitoring reports, quality parameters and budget constraints.
- When a contract is awarded, you must now develop a “Performance Management Baseline” (a Workplan) which is reconciled with the terms and conditions of the contract.
- This Workplan, when accepted by the client, is then used as the basis for project execution, and for project monitoring.

What are the key resources needed to implement the solution?

Developing the Project Budget

- The project budget is an accumulation of:
 - Direct Resource Costs
 - Fixed Costs
 - Overhead Costs
 - Reimbursable expenses.
- Overheads may include:
 - Administrative and Infrastructure Overheads
 - Procurement Overheads
 - Supervisory Overheads
 - Contingencies
- All facets of a project plan affect the project budget.

Assigning Resources to Activities

- Assigning resources to activities is critical to successfully executing a project.
- You must assign the right resources to the right activities at the right time to efficiently manage the project.
- You must minimize over-allocation of resources, in order to have a realistic assessment of project schedule and cost.
- Without a proper understanding of the logic of a project and its technical requirements, and the attributes of the scope, it will be difficult to assign resources in a cost-effective manner

Who are the key project stakeholders and how to gather their support?

Project Stakeholders

- Project Team
- Collaborators
- Community
- Project Sponsor
- Fund Manager
- Direct Beneficiaries
- Service Providers
- Regulatory Authorities
- Banking Institutions
- Senior Executives

Project scheduling and the tools used to manage the project.

Developing the Project Schedule

- A Project plan is a set of activities with a discrete starting point, a discrete ending point, well-defined deliverables and a budget.
- It depicts the sequence in which activities will be executed to generate defined deliverables.
- Resources are assigned to activities, which when combined with fixed costs and overhead costs contribute to developing the project budget.
- You cannot write a project plan without first identifying the breakdown structure of the project deliverables

How to gain the attention of your audience when writing?

Consider Your Audience

To write an effective proposal, three (3) key questions must be considered:

- i. Who is my audience?
- ii. What do I want the funder to understand about my proposal?
- iii. How can I demonstrate the importance and needs of the proposal?

Examples of the various proposal formats.

Proposal Formats

There are various types of proposals, but today we will focus on two (2) formats:

1. Prescribed format – This is normally a standard application form.
2. General Format – Requires the proposal writer to develop their own respective format depending on the Request for Proposals (RFP)

Proposal Formats

An example of a prescribed format would be the Universal Service Fund Application Form that applies to each country.

An example of the general format would be:

- Project Title
- Project Objectives
- Project Description
- Methodology
- Justification
- Project results or outputs
- Project Budget

Research methods and tools to use for gathering information.

ECLAC Information Resources

- ECLAC Digital Repository - <https://repositorio.cepal.org>
- Redatam Database - <https://redatam.org>



LUNCH

Demo Display

Pitching

Session



Young ICT Leaders' Forum 2019

Come to Busan,
build your capabilities
and scale your initiatives

Shonelle Smith

Is an aspiring 3D Animator at the University of Trinidad and Tobago. She is 20 years old and at a young age she was diagnosed with cerebral palsy and has been paralyzed on her left side with six successful surgeries on her hand and foot.

Young ICT Leaders' Forum 2019

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Forum

한국
문화

Storytelling Canvas

information

Who?

What?

When?

Where?

Why?

How?

Target audience?

What do you want to achieve?

audience

story



Character?



Conflict?



Connection?



Baseline?

Format/design/tone of voice?

Channel?

distribution

Information

The Five Ws and one H are the basics of any good journalistic story. Each question should have a factual answer. This is not yet a story...rather the information you need to include for your report to be considered complete.

Who?

What?

When?

Where?

Why?

How?

Audience

If you want your stories to be relevant and touch people you should know who you are trying to reach. Who are they? What's their most pressing issue, problem, or desire? Where do they get their info? Who do they trust?

Target audience?

What do you want to achieve?

Story

Going from raw information to a strong and authentic story means you have to identify a few key building blocks. Key elements that will allow you to build a universal connection with your audience.

Choose a main character and get to know his/her goals, wishes and desires. Quickly establish the dramatic premise. Indicate the conflict and tap into a universal feeling that answers the question: why should I care?

Target audience?

What do you want to achieve?

Distribution

How will you draw attention to your story? What format or design will raise interest? On what channels do you expect to connect with your audience?

Format/design/tone of voice?

Channel?

Instructions

Participants have to 3 minutes to pitch their projects and 2 minute to answer questions from the audience. The audience will be asked to provide feedback via a menti survey. The allotted time should allow for at least 12 pitches to be heard.

Disability Inclusive Development

Implementing accessibility
through a focal points system



**The Who, How,
What and Why:**

**Establishing
Disability Focal
Points
at Universal
Service Funds**

Presented by:

Amelia Bleeker, Associate
Programme Management
Officer

Shawn Melville,
Consultant

**Economic
Commission for
Latin America and
the Caribbean
(ECLAC)**

**Training on ICT
accessibility**

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SERIES

STUDIES AND PERSPECTIVES 79

ECLAC SUBREGIONAL
HEADQUARTERS
FOR THE CARIBBEAN

Using universal service funds to increase access to technology for persons with disabilities in the Caribbean

Amelia Bleeker



IMPLEMENTING THE CONVENTION ON THE RIGHTS OF PERSONS WITH DISABILITIES

Article 33: “States Parties...shall designate one or more focal points within government for matters relating to the implementation of the present Convention”

Article 9: “States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to ... information and communications technologies and systems”

WHY APPOINT DISABILITY FOCAL POINTS?

- **USFs' mandate** to increase access to technology for PWDs
- No staff members with a disability/persons appointed to promote the mandate
- Responds to **key challenges**:
 - Lack of projects targeting PWDs and their special needs
 - Limited engagement with PWDs and their representative organizations
 - Lack of knowledge of organizations working with PWDs on available ICTs



ROLES OF THE DISABILITY FOCAL POINT

- Keeping USF up-to-date on latest accessible ICTs and needs of local PWDs
- Connecting with PWDs and disability organisations
- Mainstreaming disability
- Advocating for PWDs in project call and selection processes

And more...



IDENTIFYING THE DISABILITY FOCAL POINT

- Necessary knowledge and expertise and/or ability to develop it
 1. Accessible ICTs
 2. Local needs and challenges of PWDs
 3. USF project requirements and processes
- Sufficiently senior to effect change
- Identify as a PWD

RESOURCES AND SUPPORT FOR SUCCESS

- A role or “hat” and not necessarily a position
- Continuous visible support from the top
- Policy statement
- Use pre-existing tools and guidance
- Monitoring and evaluation

ADDITIONAL ACTIVITIES OF DISABILITY FOCAL POINT

- Awareness-raising
- Building relationships
- Organizing meeting, seminars, trainings and networking opportunities
- Information-sharing
- Problem-solving

QUESTION TIME



QUESTION ONE

What are the most important roles for the disability focal point?

QUESTION TWO

What are two important qualities or skills that the disability focal point should have?

QUESTION THREE

How can the disability focal point encourage collaboration between USFs and organizations for PWDs?

THANK YOU

BREAK

Demo Display



Group Exercise



Problem-Solution Fit canvas

Purpose / Vision

Version:

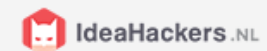
Purpose / Vision	Version:
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Purpose / Vision	Version:
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Define CS, fit into CL	1. CUSTOMER SEGMENT(S) CS	6. CUSTOMER LIMITATIONS <small>EG. BUDGET, DEVICES</small> CL	5. AVAILABLE SOLUTIONS <small>PROS & CONS</small> AS	Explore AS, differentiate
	2. PROBLEMS / PAINS + ITS FREQUENCY PR	9. PROBLEM ROOT / CAUSE RC	7. BEHAVIOR + ITS INTENSITY BE	
Focus on PR, tap into BE, understand RC				Focus on PR, tap into BE, understand RC
Identify strong TR & EM	3. TRIGGERS TO ACT TR	10. YOUR SOLUTION SL	8. CHANNELS of BEHAVIOR CH	Extract online & offline CH of BE
	4. EMOTIONS <small>BEFORE / AFTER</small> EM			



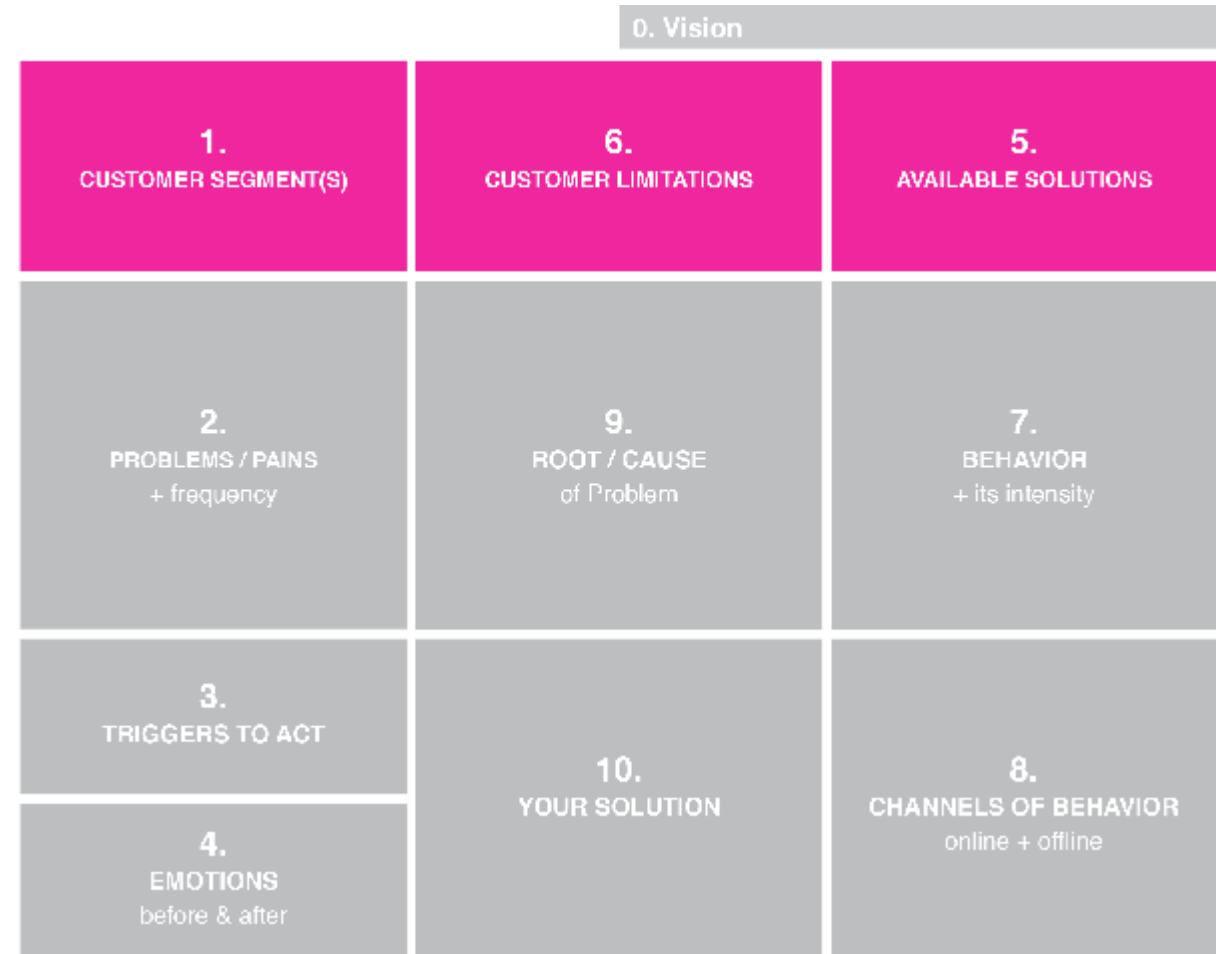
Problem-Solution fit canvas is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. Designed by Daria Nepriakhina / IdeaHackers.nl - we tailor ideas to customer behaviour and increase solution adoption probability.



Customer state

Who is your customer?

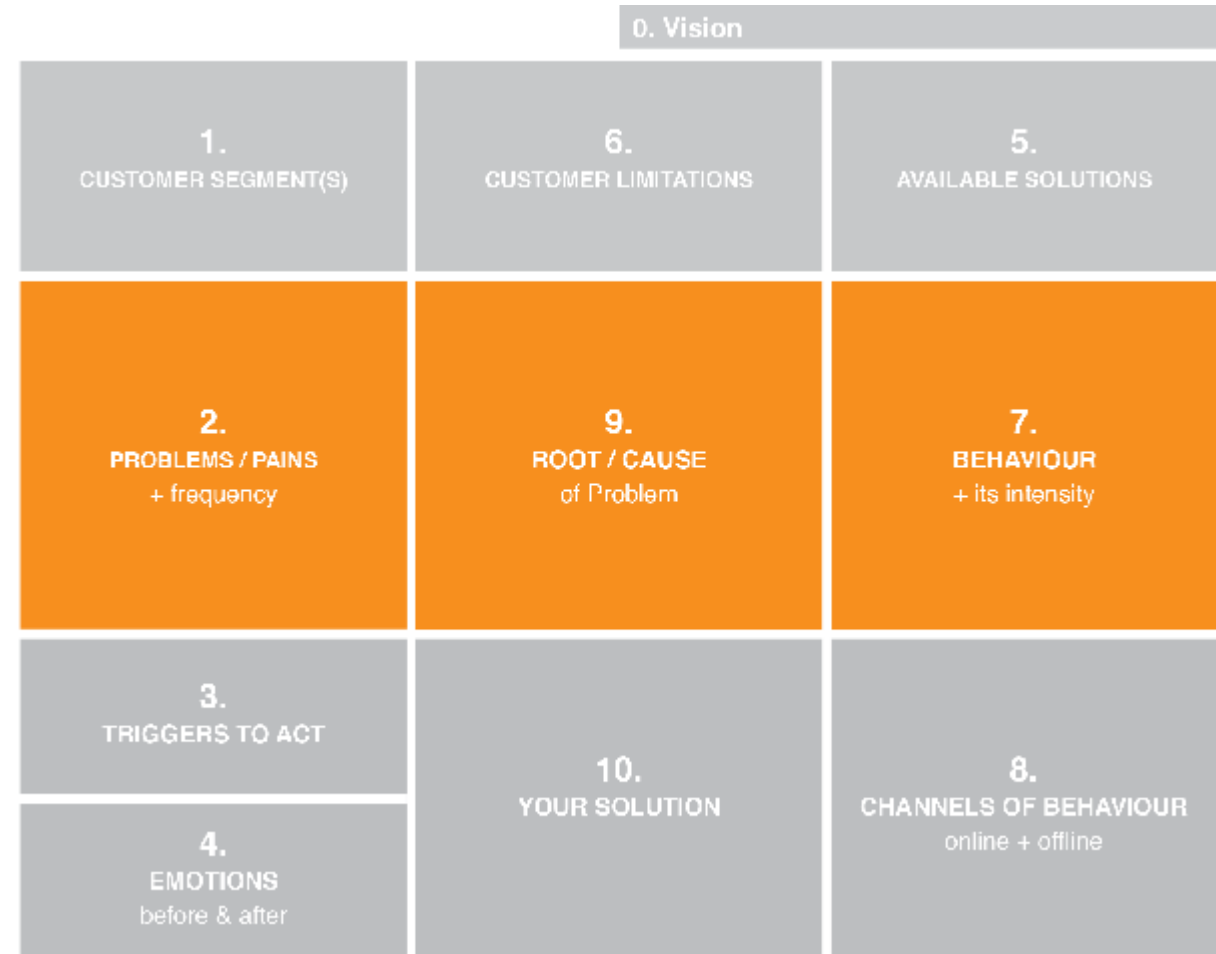
- What limits your customers to act when problem occurs?
- eg. spending power, network connection, available devices.
- Which solutions are available to the customer when he/she is facing the problem?
- What had he/she tried in the past?
- What are the pros/cons of existing solutions?



Problem and related behavior

Which problem do you solve for your customer?

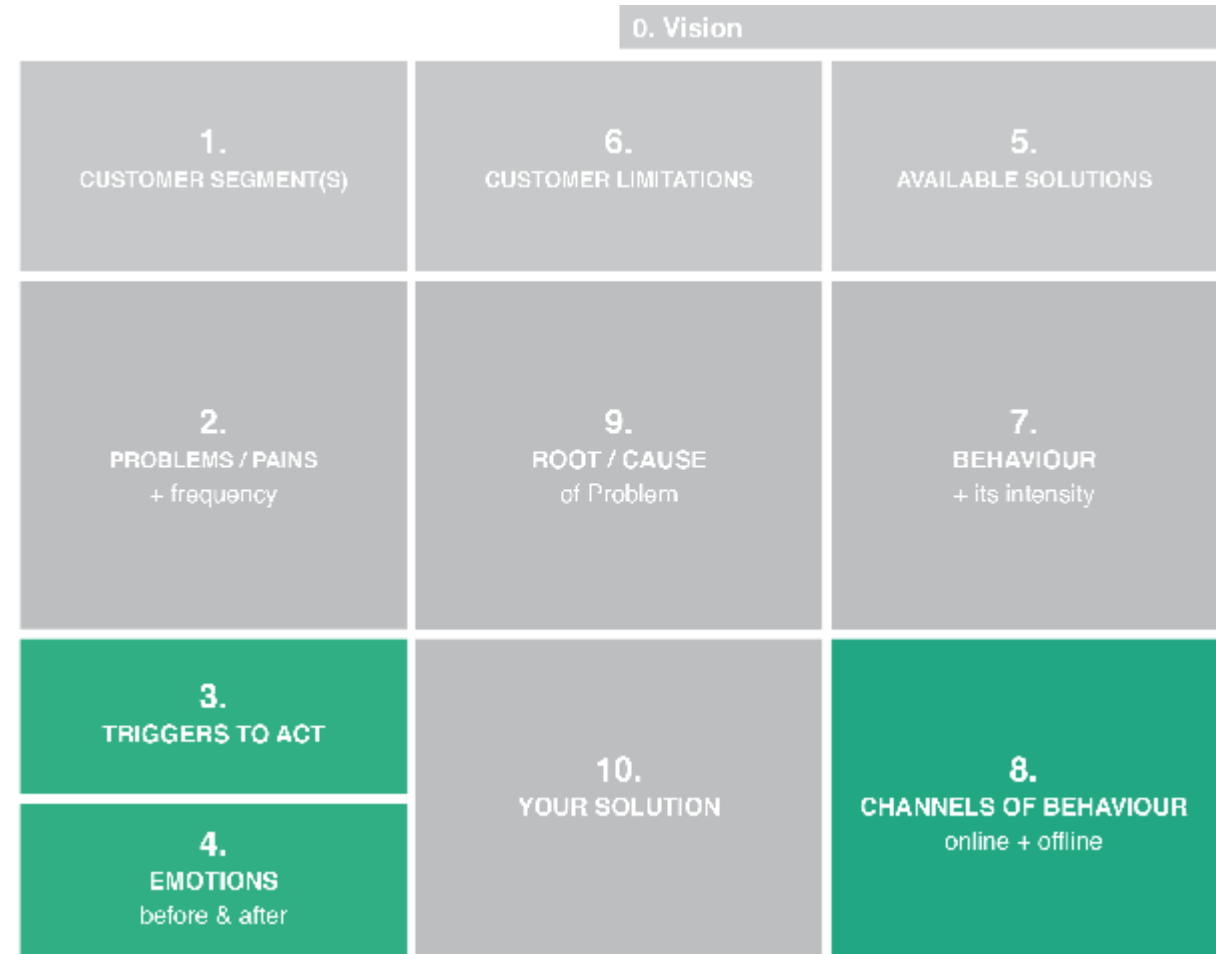
- How often does this problem occur?
- There could be more than one, explore it.
- What is the cause of every problem from the list?
- What does your customer do about the problem
(around / directly or indirectly related to)?
- How often does this related behavior happen?



Triggers, emotions and channels

What triggers customer to act?

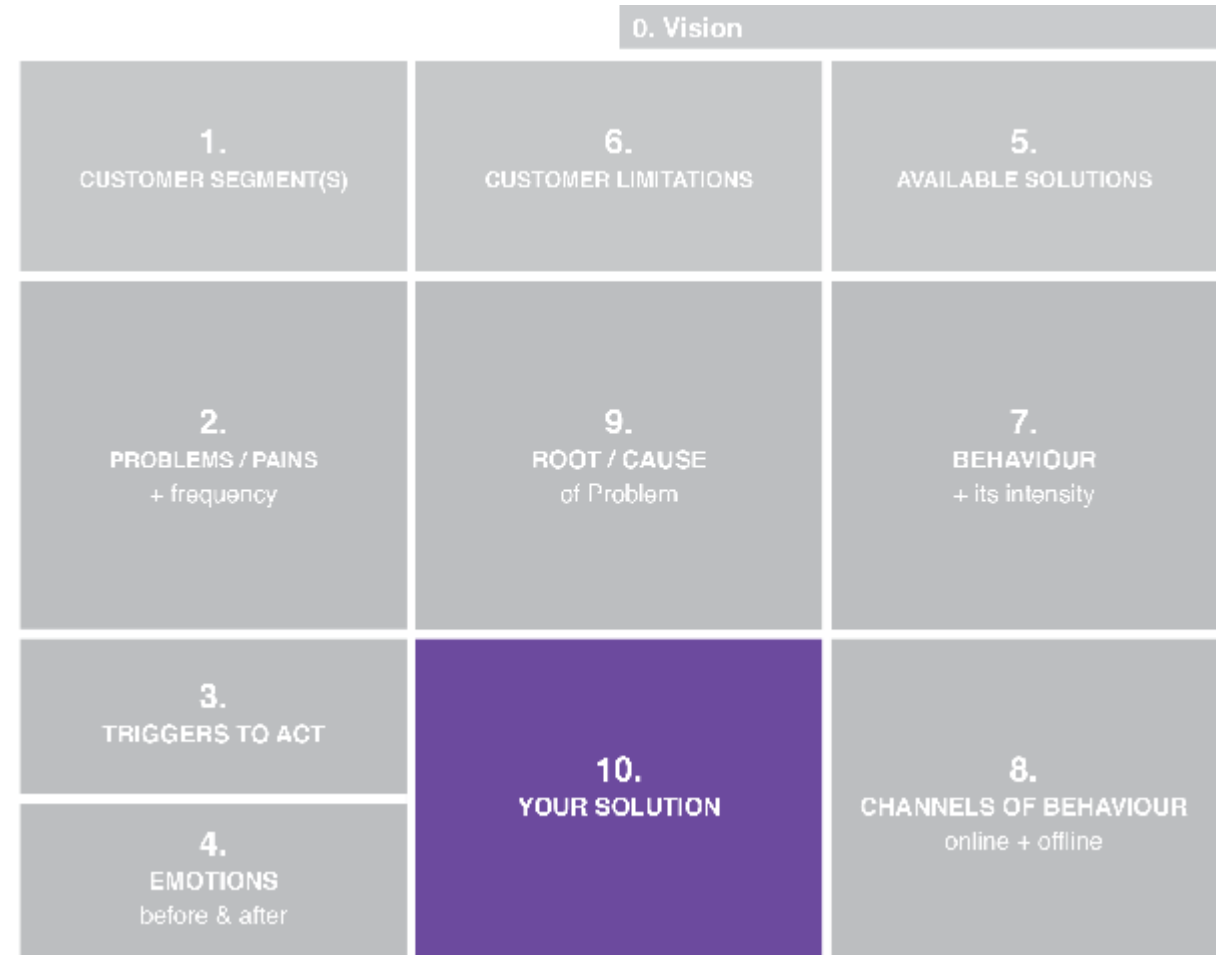
- Which emotions do people feel before / after this problem is resolved?
- Use it in your communication strategy.
- Where online does this behaviour happen?
- Extract online and offline channels from Behavior block.



Your Solution

If you are trying to find a new solution to an existing problem, fill in this block after you get a better overview of the real situation.

If you are working on an existing solution (exploring growth strategies, problem with activation or solution adoption etc.), fill in this block first, and then see whether your solution is still relevant after all the blocks are filled in.



Write Your Proposal

The Project Proposal MUST consist of the following:

- Introduction (Information about the requestor)
- Project Concept
- Project Impact
- Project Plan
- Funds Request and Cash Requirements Projection
- Special Implementation Considerations
- Sustainability Plan
- Conclusion
- Supporting Appendices (where necessary)



Instructions

Participants have 1 hour and 30 minutes to work on improving their proposals using the tools and methods presented in the worksheets. The final deliverable would be to complete a first draft of the USF application.

Wrap-Up

Closing Remarks

Please complete the evaluation form

<http://tiny.cc/UNECLACTrainingEvaluation>