

HEALTH INNOVATION AND DESIGN

Presentation
November 2015



UCT KNOWLEDGE CO-OP

The UCT Knowledge Co-op facilitated this collaborative project.

See <http://www.knowledgeco-op.uct.ac.za> or
Contact us at barbara.schmid@uct.ac.za /
021 – 650 4415

The report is licensed under a Creative Commons Attribution-
NonCommercial-ShareAlike license:
<http://creativecommons.org/licenses/by-nc-sa/2.5/za/deed.en>

What is the course about?

- Academic programme tasked to address health and healthcare through new, different and innovative methods
- Open to anyone with a 4 year degree
- Different backgrounds are encouraged
- 2015 is the first year

Health innovation in higher education

Different
backgrounds

Learn to be
innovative

MPhil in Health Innovation (UCT)

Courses

Research

Health Innovation and Design

Design
Thinking

Community
Partner

Search for community partner

- Knowledge Co-Op – **Barbara Schmid**
- **Graeme Murray** – problems with hearing aids
- Use cell phone technology, Google glass: heads-up display and bone induction technology

Search for community partner

- Learning about the needs of people with hearing loss is what Health and Innovation and Design can address
- If we know what the needs of people with hearing loss are, we can design a solutions to meet that need
- Not limited to technology

Community Partner

- Knowledge Co-Op recruited **NOAH** as our community partner
- **NOAH** identified residents with potential hearing loss

Design brief received by students:

Assessing the needs of the hearing-impaired for improved assistive devices

“New technology – for instance smart phones – can be used to make alternative/cheaper hearing aids. Before developing such a device, students in the **Health Innovation and Design Course** at UCT need to understand:

- the needs of people with hearing loss
- what it is like to live with less and less hearing
- what is difficult or annoying about using a hearing aid
- what sort of device do they prefer to make them hear better “

Designing for the client: NOAH

Home, health and happiness – for every older person



The
NOAH
model

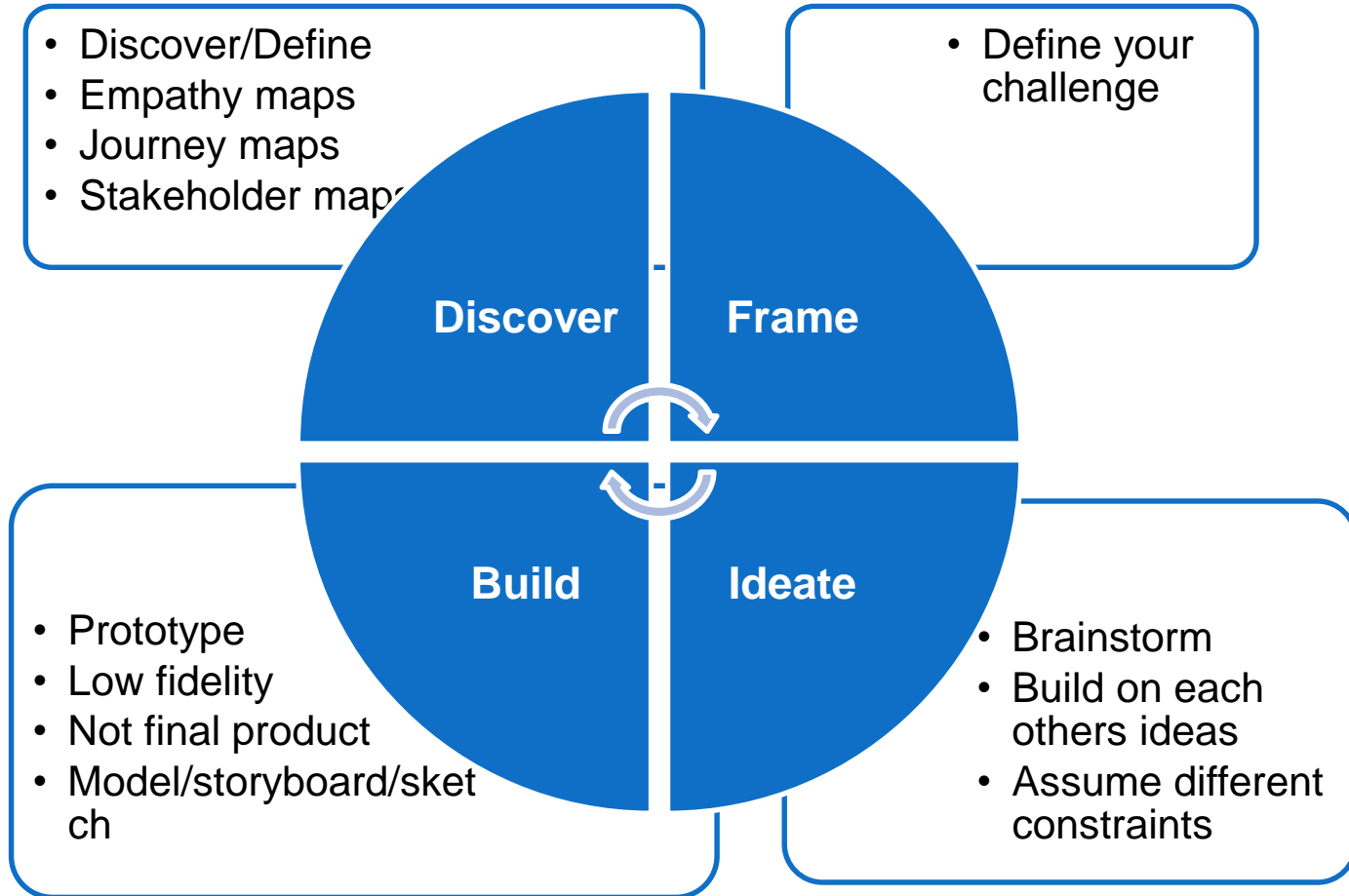


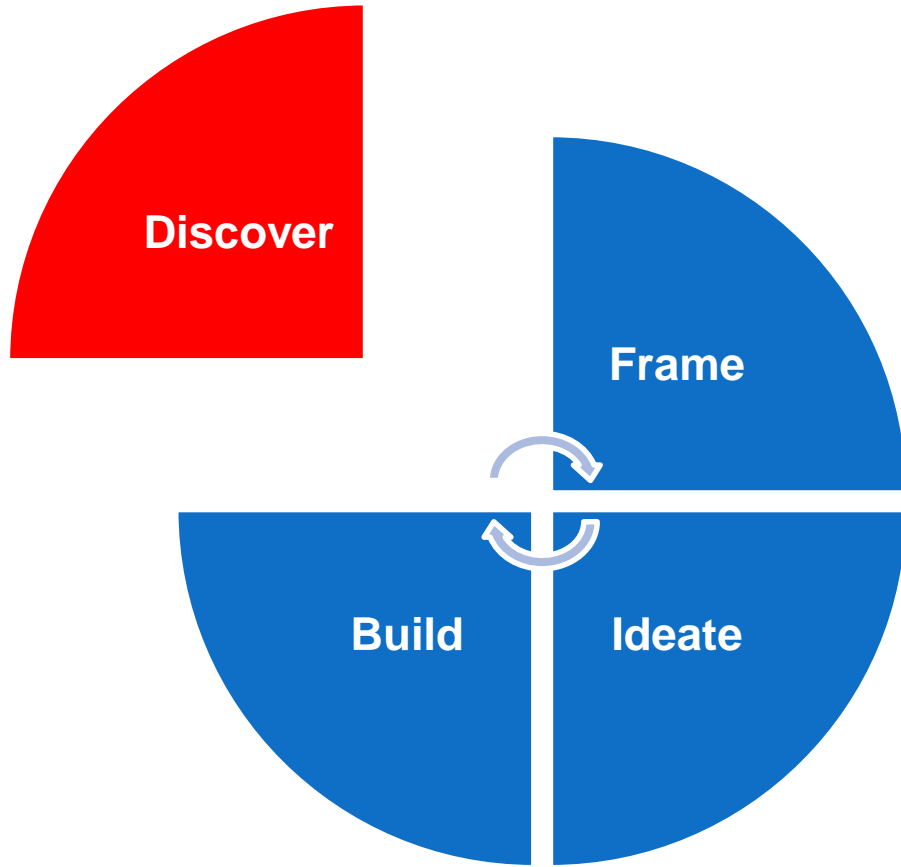
 **NOAH**
Neighbourhood Old Age Homes

DESIGN CHALLENGE

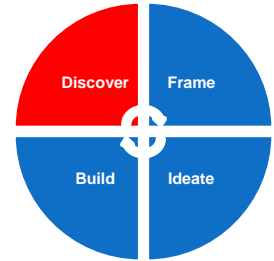
Solutions for seniors with a hearing loss (*presbycusis*)

Design Thinking Phases





Discover process

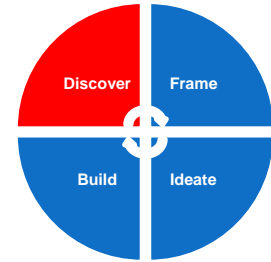


**Gather
Information**

**Interviews
and Listen**

**Identify
important
facts**

**Understand
Hearing loss**



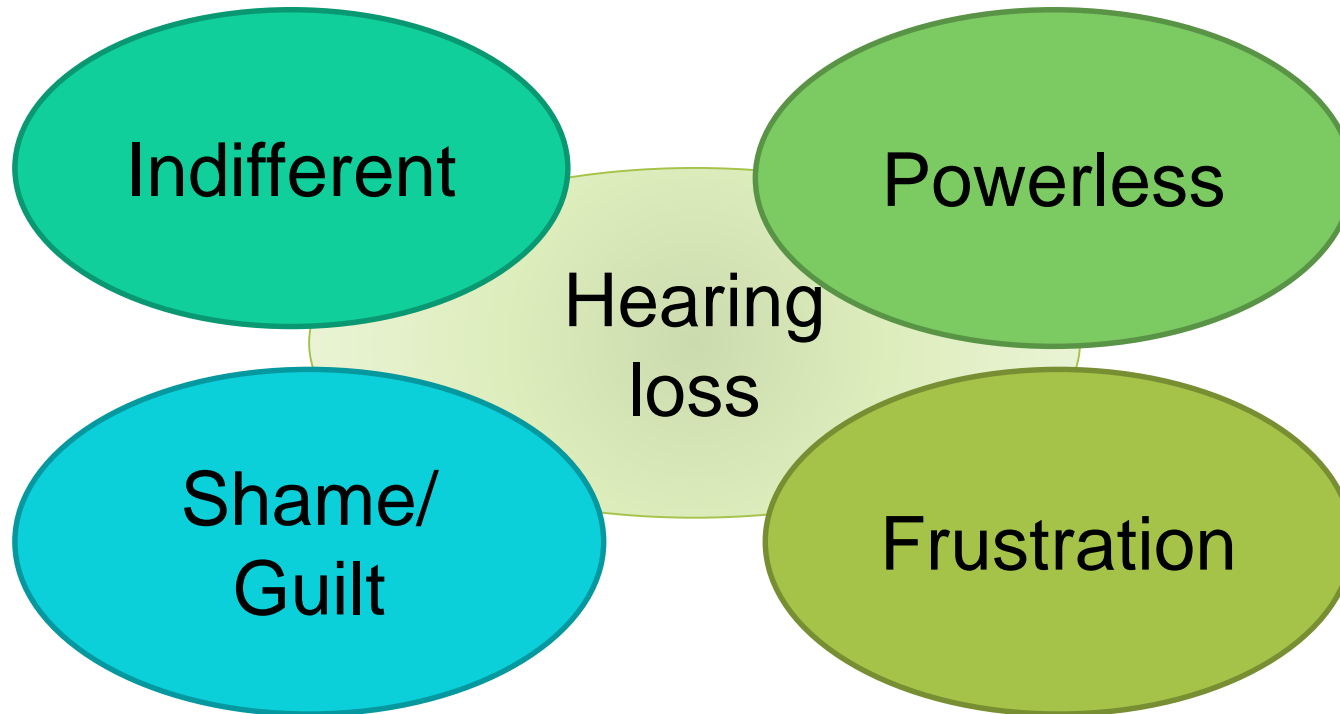
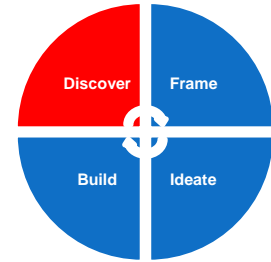
**Talking in
crowded
areas**



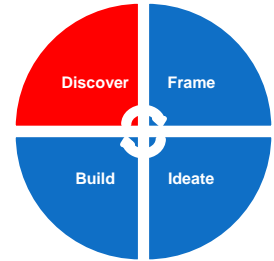
**Feeling
excluded**



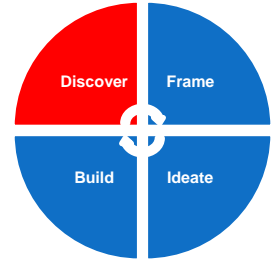
Feeling around hearing loss



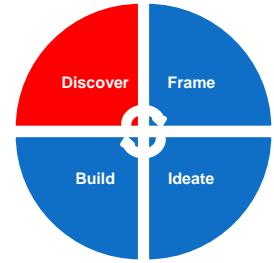
Dealing with hearing loss



attitude

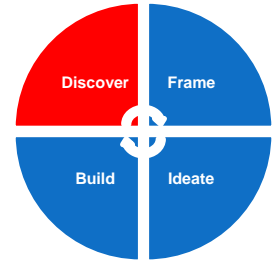


- Severity of the impairment
- Family and friends



- Diagnosis
- Dealing with the loss
- Accessing health care

Hearing aids



Behind-the-ear



“Mini” BTE

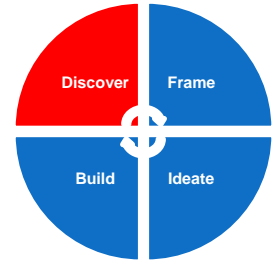


In-the-ear

© Healthwise, Incorporated

- Not comfortable to wear
- Having to take off when on the phone

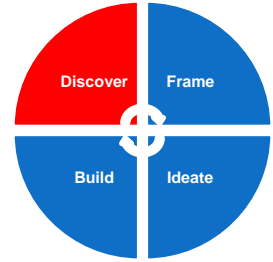
Maintenance



Cost

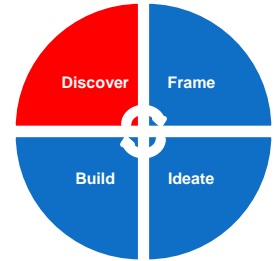


Interviewing NOAH residents



- **Questions designed to enable us understand our client**
 1. Biographical data (*code names*)
 2. A typical day at NOAH
 3. Any hearing problems
 4. Poses hearing aid

Interviewing NOAH residents

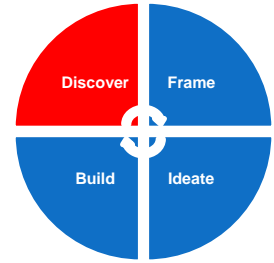


Feedback categorised into:

1. **Activities and games**
2. Feelings about hearing loss
3. Perception about hearing aid
4. Medical support
5. Environment structure

- Go to church
- Watch TV
- Shopping
- Cooking
- Exercises
- Rugby

Interviewing NOAH residents

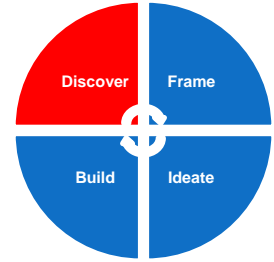


Feedback categorised into:

1. Activities and games
2. **Feelings about hearing loss**
3. Perception about hearing aid
4. Medical support
5. Environment structure

- Believe it's a sign of aging
- Misunderstood
- Feels isolated
- Doesn't think hearing loss is a problem

Interviewing NOAH residents

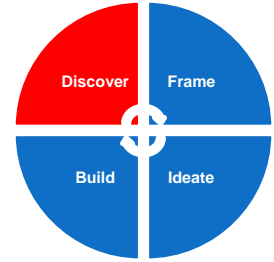


Feedback categorised into:

1. Activities and games
2. Feelings about hearing loss
3. **Perception about hearing aid**
4. Medical support
5. Environment structure

- Some like them
- Majority didn't opt for them
- Second hand are cheap but break quickly

Interviewing NOAH residents

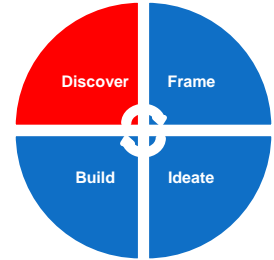


Feedback categorised into:

1. Activities and games
2. Feelings about hearing loss
3. Perception about hearing aid
4. **Medical support**
5. Environment structure

- Groote Schuur hospital
- Audiology appointment

Interviewing NOAH residents

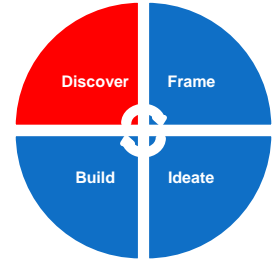


Feedback categorised into:

1. Activities and games
2. Feelings about hearing loss
3. Perception about hearing aid
4. Medical support
5. **Environment structure**

- Afraid of being robbed
- Can't hear in church
- Hard to communicate in noisy places

Interviewing NOAH residents

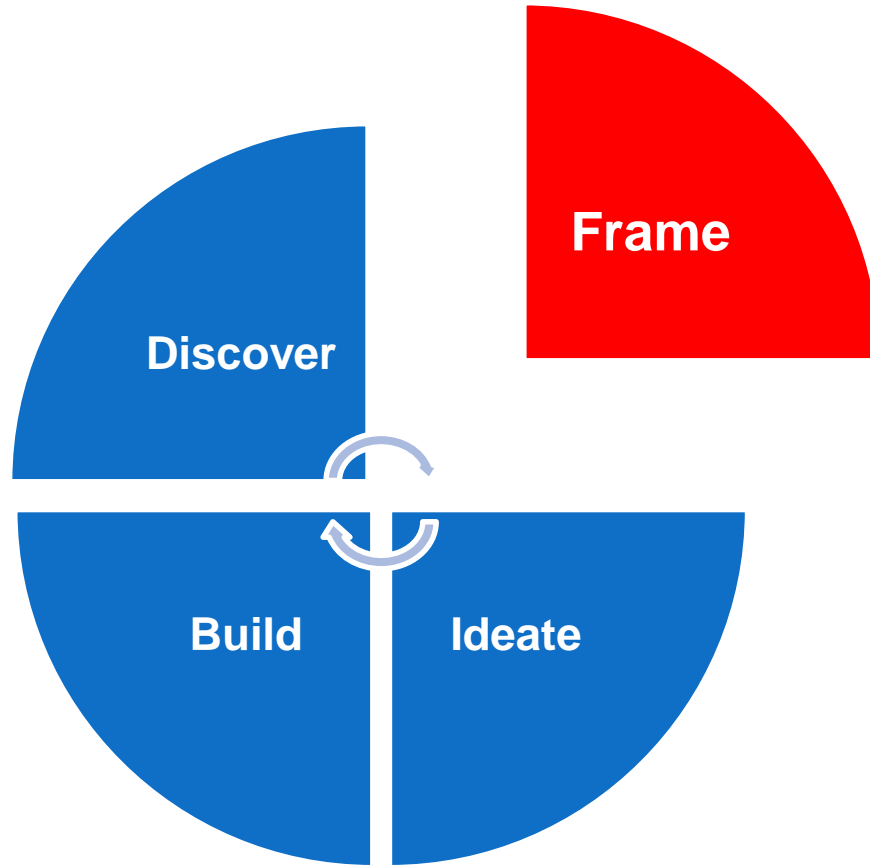


Initial impressions

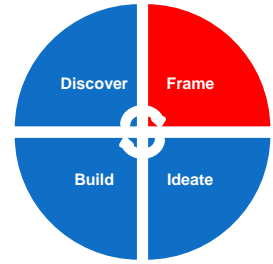
- Big hearing aids-uncomfortable
- Stigma
- Hearing aids-expensive
- Limited mobile apps for speech to text

Reality

- Hearing difficulties in some environments
- Accepting/identifying hearing loss
- Obtaining hearing aids



Vision Statement



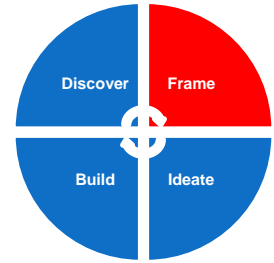
- Inspiration
- “Describing the clear and inspirational long-term desired change resulting from the program’s work” (TopNonprofits.com)

The statement needs to be:

- Clear
- Memorable
- Concise



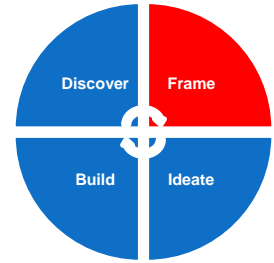
Final Vision Statement



- ***Improving the attitude towards and acknowledgement of hearing loss.***
 - Making it more socially acceptable
 - Importance of Screening
- ***Improving quality of life***
- Adjusting a contained environment to improve hearing



Framing the Design Challenge



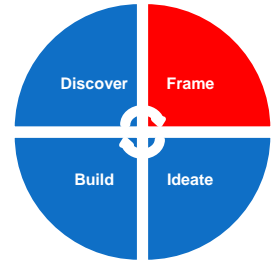
- Inspiration
- Important questions:
 - Ultimate impact?
 - Variety of solutions?
 - Context?



How do we...?

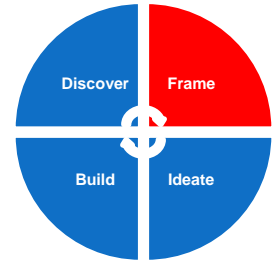
Initial Design Challenge

- How do we promote social inclusion of seniors with hearing loss?
- How do we prevent the disabling consequences of hearing loss?



How do we...?

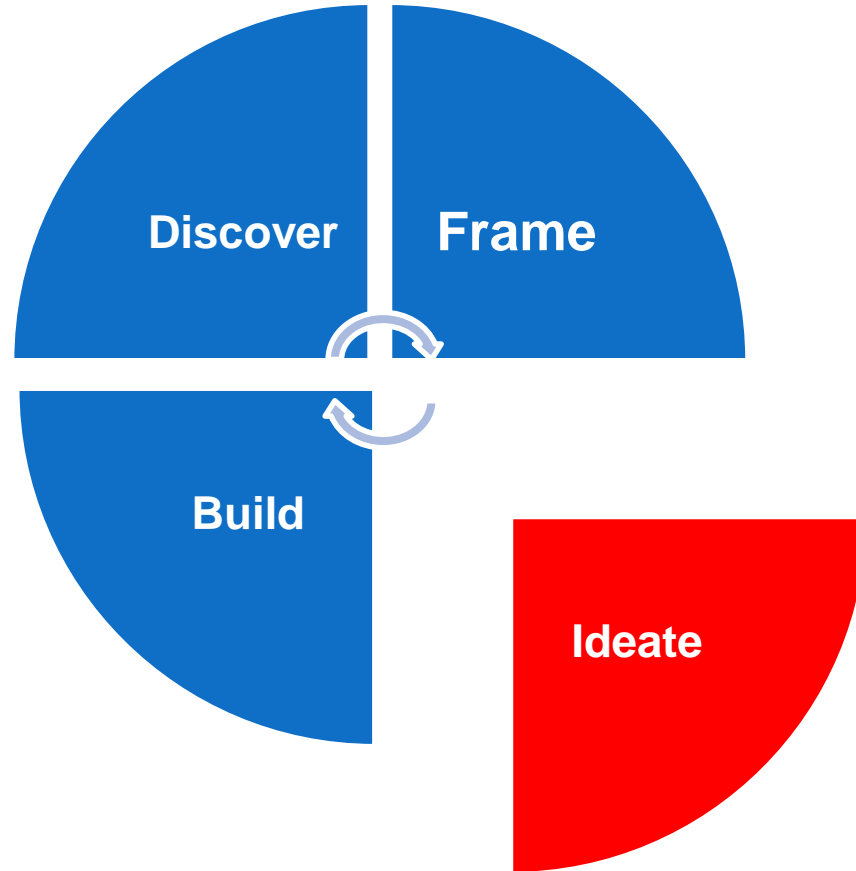
Final Design Challenge



- How do we promote the acceptance of hearing loss?
- How do we promote the understanding of hearing loss?
- How do we disguise hearing aids?
- How do we promote the use of assistive devices and other solutions?
- How do we adjust the contained environment to be more conducive to communication?

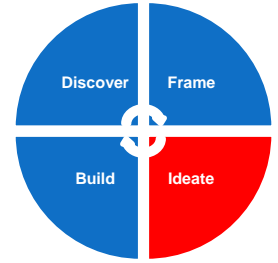


How do
we...?



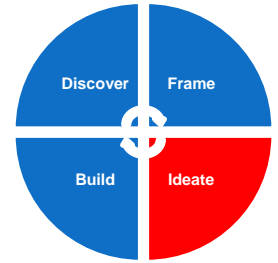
IDEATE PHASE: Creative thinking ...

- The solutions that didn't make it 😞
- Presentation and feedback
 - Senioresentials.co.za
 - Head (G)ear



SENIORESSENTIALS.CO.ZA

Online Shopping Made Easy

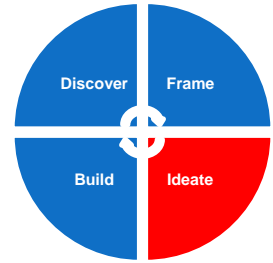


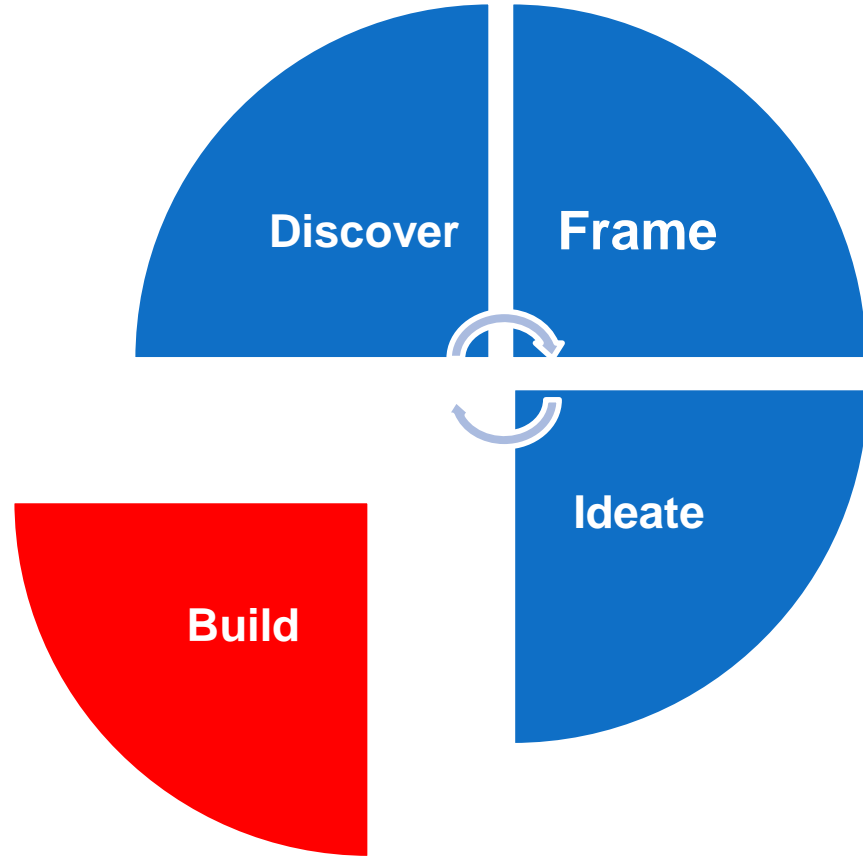
HEAD (G)EAR

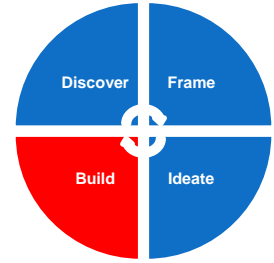
Next generation of hearing aids

Two solutions that made it...

- Fixing the environment
- Health screening and awareness



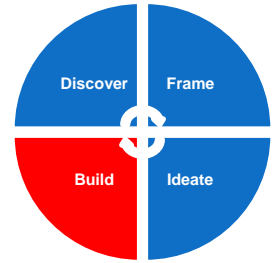




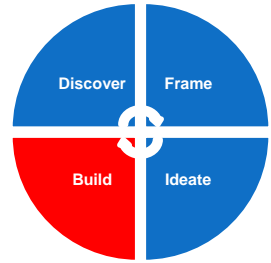
ACOUSTIC AUDIT

Improving the hearing environment around you

Acoustic audit



- Changing the environment to improve hearing
- Acoustic audit – thinking about the qualities of the room to find out how sound moves within it. Making the room more ‘sound friendly’
- Contained environments



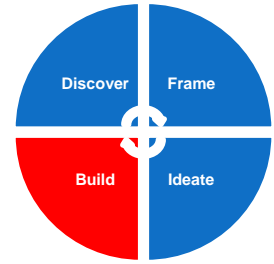
Changing environment

ACOUSTIC
AUDIT

Written information

Sound amplification

NOAH house



Meeting Agenda

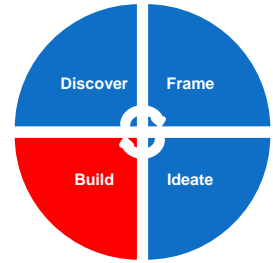
Introductions

Topics for discussion

- Quantity for production for week
- Orders placed
- Advertising
- Themes (i.e. Christmas, gifts)

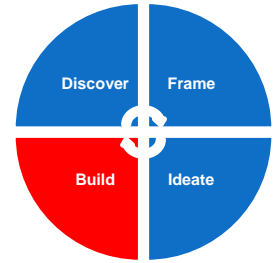
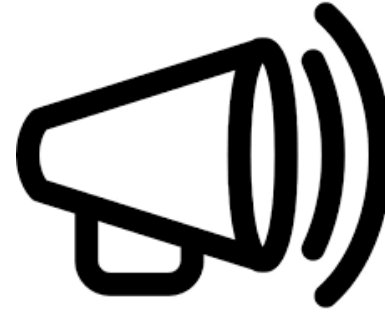
Questions

Refreshments



In Summary...

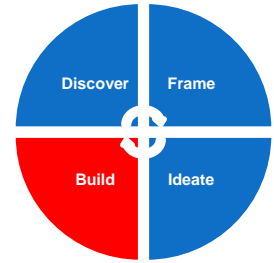
- Acoustic Audit has 3 components
 - Changing the environment
 - Sound amplification
 - Written information
- Used in contained environments
- Applied to other settings
- Addresses environment not person



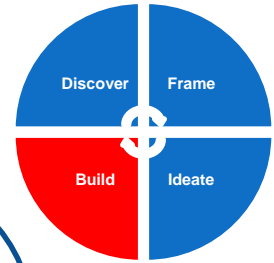
NOTES



Acoustic Audit



Changing the environment...

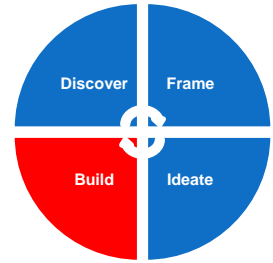


HEALTH AWARENESS

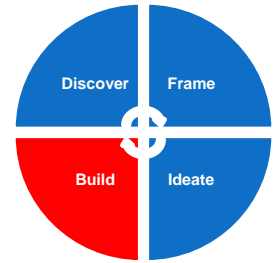


Why create awareness?

- Focus of awareness is on the younger people.
- Improve the quality of life.
- Learning how to live with hearing loss.
- Social participation.



Health Awareness



- General Awareness Day

AWARENESS DAY

- Monthly Awareness Days

JAN

FEB

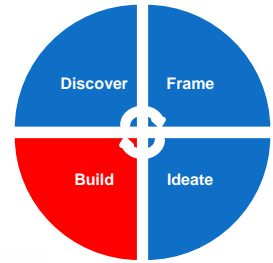
MAR

APR

MAY

JUN

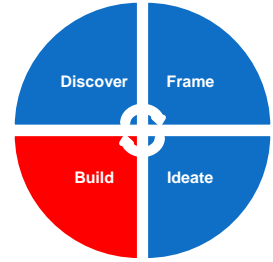
General Awareness Day



- Introduction
- Basic Health Screening
- Break
- Edutainment
- Announcements
- Q & A

The day is h ear!

Basic Health Screening



- Health Practitioner
- Medical Equipment
- Health Screening Form

HEALTH



SCREENING

Health Screening Form

Personal Information

Date:

First Name:

Surname:

Contact No:

DOB/Age:

Gender:

Residence:

Stations

- Optometry
- Audiology
- Hypertension
- Diabetes
- Insomnia
- Hyperlipidaemia
- Osteo-arthritis
- Heart Disease
- Mental Illness
- Other

Outcome

.....

.....

.....

.....

.....

.....

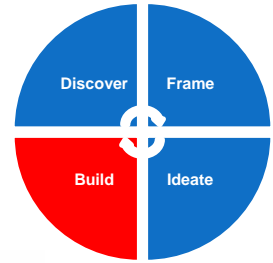
.....

Referral:

.....

.....

General Awareness Day



- Introduction
- Basic Health Screening

- Break

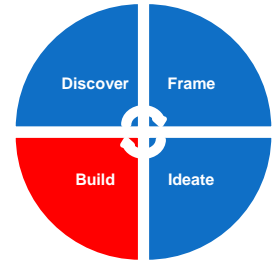
- Edutainment

- Q & A

- Announcements

The day is h ear!

Health Awareness



- General Awareness Day

AWARENESS DAY

- Monthly Awareness Days

JAN

FEB

MAR

APR

MAY

JUN

Monthly Awareness Days

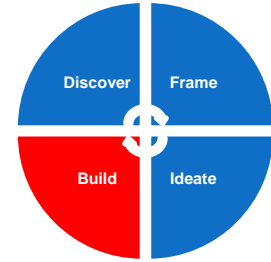
<http://www.hst.org.za/health-calendar-2015>

MONTH	PROGRAMME	DAY
January	World Braille Day	4th
February	Healthy Life Awareness Day	22nd
March	World Kidney Day	12th
April	World Healthy Day	7th
May	World Hypertension Day	17th
June	National Epilepsy Day	21st
July	International Self-care Day	24th
August	Rheumatic Fever Week	4-10
September	National Month of Deaf people	27th
October	World Arthritis Day	12th
November	World Diabetes Day	14th
December	International Day of Disabled Persons	3rd



Department of Health
Calendar 2015

What are we hoping for?



- Sensitize the public on the needs of seniors especially those with hearing loss.
- Identify seniors that need attention regarding hearing loss.
- A detailed database.
- Improved knowledge and use of referral pathways.

1

ACOUSTIC AUDIT



The environment.....

2

HEALTH AWARENESS



The person.....

THANK YOU!
