Project CityZen - Promoting Health in Sao Paulo

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A Newton Fund Project, in association with InnovateUK
OUR APPROACH: Chronic Care Model
Engaged City
WHAT WE DID BEFORE GOING TO BRAZIL
Desk Research & 8 Remote Interviews
Citizen End-Users
2
City Partner Meetings

Albert Einstein Hospital, São Paulo
6

Tours of Medical & Welfare Facilities

Albert Einstein Hospital, São Paulo
1
Innovation Centre Tour

Albert Einstein Hospital, São Paulo
Robust - retired couple

20 Elderly
(12 home visits)
12 Caregivers

Family caregiver
19 Medical Professionals

Medical specialists
12 City Professionals

Frontline to directors
WHAT ELSE WE DID IN BRAZIL (IMMERSION)
Access to City Services

Poupatempo, São Paulo
Observation

Downtown, São Paulo
Observation

Ibirapuera Park, São Paulo
Public transport

Metro, São Paulo
Public transport

Buses, São Paulo
Vox Pops Interviews

Poupateempo, São Paulo
Vox Pops Interviews

Downtown, São Paulo
WHAT WE DID AFTER WE GOT BACK
Personas
INTERVIEW
ELDERLY PARTICIPANT

Name: Maria
Age:

Interviewer: Can you please describe where you live, your home (house or flat)?
Respondent: one suite, two bedrooms... like a palace. It’s not really a palace but it is quite big.
Interviewer: Do you like it?
Respondent: Yes, I do.
ANA
Low-dependency
Living close to family

Age: 77
Marital status: widowed
Number of children: 3 daughters
Number of siblings: 1 brother

Living with
Close to family

Occupation
Ana used to be a cook in a private company, but retired for health reasons - heart disease and high blood pressure. Nowadays she does the housekeeping and she makes occasional income from selling ice cream to local children.

Use of technology
None | Low | Medium | High

Attitude towards technology
Positive | Neutral | Negative

Functional mobility
Very low | Low | Medium | High

Main mode of transport
Walk | Bus | Public healthcare

Caregiver
None | Formal | Family

Healthcare
Public | Private

Income
Very low | Low | Medium | High

Image credits: cityzen
Physical environment

Neighbourhood
Ana has lived in the neighbourhood for 30 years. She describes the neighbourhood as dirty and the parament "horrible", so that she has to walk in the middle of the street. In terms of amenities, there are only some small grocery shops nearby, but not enough. If she had them (shops and facilities) here, we wouldn't have to go out of the neighbourhood." She also complains that the health care centre is far away. On the other hand, there are many buses going directly to the places she normally visits.

Transport
Ana loves to walk but she is more restricted now that she is losing her sight and falling more regularly, mainly when she goes somewhere she does not know so well. She is afraid to go out because of that. She walks if she is going somewhere nearby, e.g. to go shopping, and she uses the bus if she needs to go further away, e.g. to go to the elderly day care centre or to the health care centre.

For her, the bus is a major problem. The step is too high, the drivers do not respect the elderly and do not wait, breaking abruptly. If she goes further away sometimes she does not recognize where she is and she feels uneasy because she can't see who is sitting next to her. Her daughters have a car and sometimes drive her somewhere if she needs.

Housing
Ana lives on the ground floor of a brick house. At this moment Ana's family is considering changing some things in the bathroom, like putting up some grab bars to prevent falls.

Social environment

Community
Ana has many friends in the neighbourhood, everyone knows each other. When she goes out she keeps stopping to talk to people.

Family & Friends
Ana is widowed and lives alone in her house. Her daughter and son-in-law live in the flat above hers. She has one daughter that lives in the same region that visits her very frequently, and another one who lives further away. Ana has a very close and positive relationship with her family. She says "They find me everywhere. Wherever I am, they can find me." She sees her daughter frequently – the one who lives upstairs and the one who lives nearby. The daughter who lives far away, they talk on the phone almost every day. She can count on the three of them for anything. She also has friends in the neighbourhood and says that when they can, they help each other. It's a good community. She knows the people in the elderly day care centre that she visits every week – if she is seeing well.

Hobbies
Ana loves to travel and to go to new places. Her dream is to visit Jerusalem. She walks and talks with the neighbours, and she goes to the elderley day care centre 2 times a week, where she does gymnastics (including water aerobics). On the weekends she goes to the church, and sometimes to the cinema with her family. She listens to the radio and watches TV.

Wellness & care

Health profile
- Ana has heart problems (high blood pressure): "This week I was in such pain, I thought I would die. It was my heart."
- Ana has diabetes.
  - She developed a glaucoma and she is losing her eyesight. She has had some surgeries already, and glasses don't work anymore. She will try her last hope - an eye injection. The vision loss is her main problem as she has been falling a lot, especially when she leaves the house. Sometimes she does not know where she is. Some days are worse than others: when she can't see at all she stays at home and does not attend to her activities.
  - Also, her knee hurts

Diet/Nutrition
Although Ana has diabetes, she does not worry much about her diet. She loves sweets.

Exercise
Ana exercises regularly. She walks every day and she does gym 2 times a week. She used to go every day but the doctor recommended to cut it down.

Technology

Attitude to technology
Ana has a smartphone. She keeps in touch with her family through WhatsApp. She is learning to send voice messages as she cannot see the keyboard very well. She wants to learn how to take and send pictures. "I would love to learn everything." She worries that when she gets lost because she can't see she will not be able to call to her family.

Devices owned/Applications used
- Smartphone
- WhatsApp
Challenges & needs

Challenges
- Ana finds walking around in the neighbourhood is difficult because the pavement is damaged.
- Ana wishes to have more shops and amenities around, so she did not need to leave the neighbourhood as often.
- Ana is afraid of travelling by bus because the bus step is high and drivers are not careful – she would “change the drivers.”
- Ana is afraid of travelling further away in the days she cannot see because she might get lost (“Sometimes I am so far from home that I can’t know where I am.”)
- Ana is afraid of travelling further away in the days she cannot see because she might not be able to see who is around her (“I am afraid of going out. I take a bus but I don’t know who is next to me, because I can’t see well.”)
- Ana does not attend her regular activities in the days she cannot see.
- Ana stopped going on long trips with the elderly day care centre group or to visit her daughter in another state, because she does not feel confident to travel alone.
- Ana goes out, even if she is afraid or if their family worries, “I don’t like to be dependent because what I like is going out. […] go by myself and I don’t tell anyone.”
- Ana relies on her daughter to organise her medication for her since she can not see.

No one else and lost
- Ana is waiting for her eyes injection, the last resource to have her sight back, but she does not know when that will happen.
- Ana can not see the smartphone screen and is learning to use voice messages. She loves technology and wishes to learn all things she can.
- It has been challenging for Ana to adapt to losing her independence. “What I like is going out. I don’t like to be dependent. I wish I could be independent as I was before. My age doesn’t help other. But I would like it.”

Needs and desired benefits
- Ana wishes to have new eyes, so that her social life is not affected.
- Ana wants to have confidence to go around by herself (irrespective of the vision loss), so that she can keep doing the things she likes (gym, travelling).
- Ana wants bus drivers to be more professional and careful so she is not afraid to get in and get out the buses.
- Ana would like to have transportation available door to door, on the days she does not feel confident to get the bus by herself, so she does not miss her activities.
- Ana’s family want to be more confident when she goes around by herself so they are less attached if she is lost, or gets lost.
- Ana wants some kind of technology that would warn her family in case of accident (falls).
- Ana wants to use her phone through voice, since often she cannot see the screen.

Tech recommendations
- Ana wants a door to door bus that picks her up at home on the days she can not see and does not feel comfortable to go outside by herself.
- Ana wants that bus drivers have training so that they understand and respect the needs of the visually impaired.
- Ana wants a smartphone that is mainly activated by voice so that she does not need to read the screen.
- Ana wants to have some technology that she can activate when she gets lost, for her children to track her.
- Ana wants to have some technology that can activate automatically if she has an accident, so that help arrives immediately informed and can locate her (“Yes, I would like it. Because I fall very often and sometimes I am far from home, so far that I don’t know where I am.”).
Technical Build -
From Personas, we prioritised the most pressing user needs that would benefit from technology innovation.

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<tr>
<th>What proc</th>
<th>EHD</th>
<th>EMD</th>
<th>ELD</th>
<th>RE1</th>
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<tbody>
<tr>
<td>Engage Citizens; promote services; public consultation; make elderly aware of their rights and existing processes about how to assert them</td>
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<td>Help Elderly to assert their rights via feedback</td>
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<td>Patient to find out about local activities &amp; services</td>
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<td>Wants to connect with other people, to join a group, not to be alone</td>
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<td>Not feel such a burden to his family</td>
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<td>Patient to find out and remember medical appointments</td>
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<td>Patient to find out about appropriate transport options, adapted to their mobility situation</td>
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- Provide content about city services and about rights of the elderly and about how to assert and safeguard those rights
- Provide channels to complain about bad treatment by family members etc to the citizens
- Mapping of local services as well as matchmaking with then
- Matchmaking with services that fit people of their profile, e.g. church for some people; gym, library suitable for elderly; people like them, e.g. there is one elderly person who
- Provide content such advice and positive-news stories
- Provide reminders about appointments and things to do in advance
- Provide information about appropriate transport options, adapted to their mobility situation
- Provide information about appropriate transport options e.g. PAIS (collects elderly people); provide info that the service exists and guide how to use it
- Provide information about public toilets
- Provide information about safety at home
- Calendar for future medical appointments
- GPS locator can be switched on and communicate location to family
- Provide recommendations about diet, exercise etc.
- Provide recommendations about good places to walk
Toolsets

Citizens/Patients  Physicians
AVATR creates augmented intelligence
AVATR: Remote Personalised Healthcare

ASSURANCE & TRUST
- Continuous Monitoring
- Medical Grade
- Convenience

PROACTIVE MEDICINE
- Actionable Patient Information
- Clinical Improvement
- Ledger & Analytics

augmented intelligence
AVATR: System

- **Patient ledger**: Machine learning to create an augmented intelligence ledger.
- **Automated "paperwork"**: Improved efficiency.
- **Patient response**: Enhanced interaction.

**Benefits to the Physician**:
- Saves time
- Reduces bureaucracy
- Manages growing patient demands
- Provides richer, real-time data

**Physician designed protocols**: Actionable decision-making facilitated by machine learning.
AVATR: Care Plan

AVATR: Matchmaking in the City
AVATR: Validation with Einstein Doctors
Thank you

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CEO and Founder

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