Problem

“One care service, two faces”

The individual

As an elderly, I am self-reliant. I am not a patient but a consumer. Admission to care institute is my ultimate nightmare.

The care providers

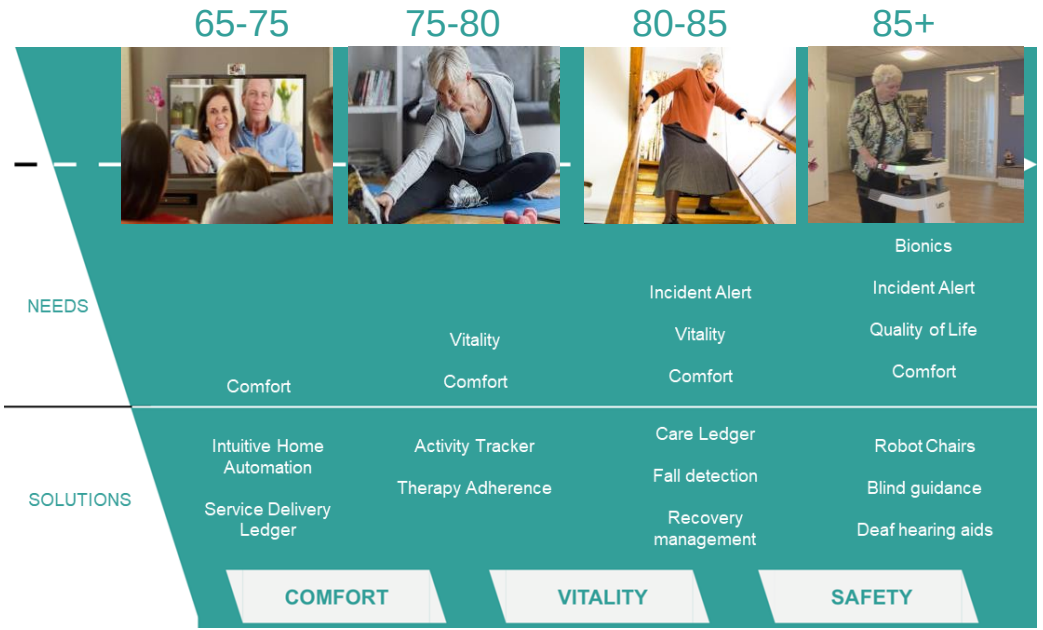
Care providers struggle with personnel shortage and limited budgets, hampering their ability to render quality service

Solution

Smart Health Residences

Small-scale serviced residences, equipped with **IANVS home-care platform**, match the right service level to maintain lifestyle in Comfort, Vitality and Safety while Elderly residents grow older.

The overall service level increase is such that people are willing to move over to Smart Health Residences upon their retirement

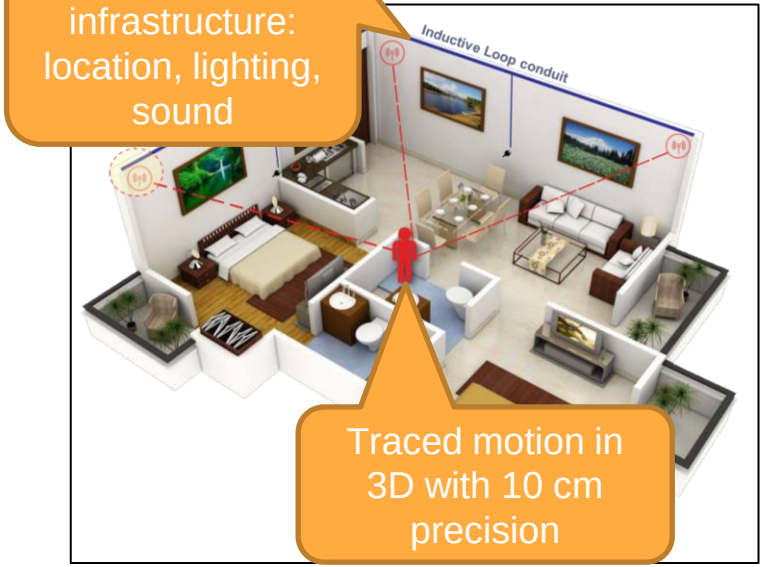


How

Knowing Behavior Intent

The IANVS Home Care Platform tracks Motion Patterns of the resident, discovering his Intent by deep-learning. The Smart Health Residence thus anticipates behavior:

1. **Comfort Services:** Integrates use of the Home Care Platform in every day's life of the Resident. Hence, he is assured it is up for support of life-saving Vitality and Safety services as well.
2. **Vitality Services:** Promotes physical welfare while trending physical Quality of Life as a metrics for the level of self-reliance.
3. **Safety Services:** Shield the Resident from harm. Warn caretakers to intervene when incidents occur, at best possible rate of False Positives/False Negatives

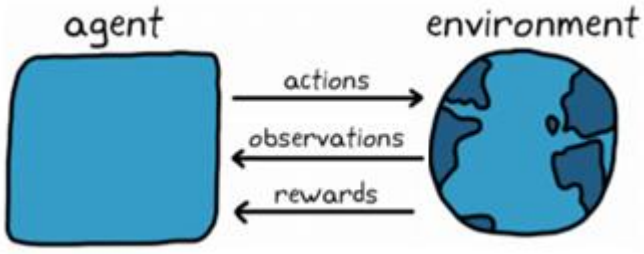


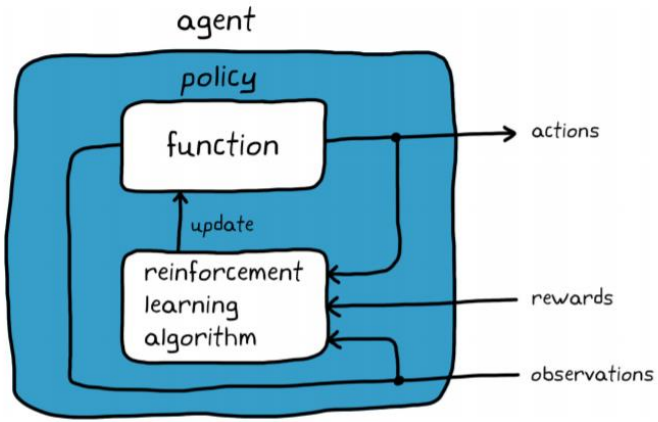
How

Reinforcement Learning approach

This approach is perfect to predict the user's behavior in the environment in which the system is deployed, the user's home.

The intelligent agent is taking actions on the end-user environment based on recurrent observations. These actions have consequences, the reward value. In our case the reward will be a mixed of information between user behavioral patterns and user's correction. The agent will progressively make the best actions to optimally maximize the reward.





What

The Magic under the Hood

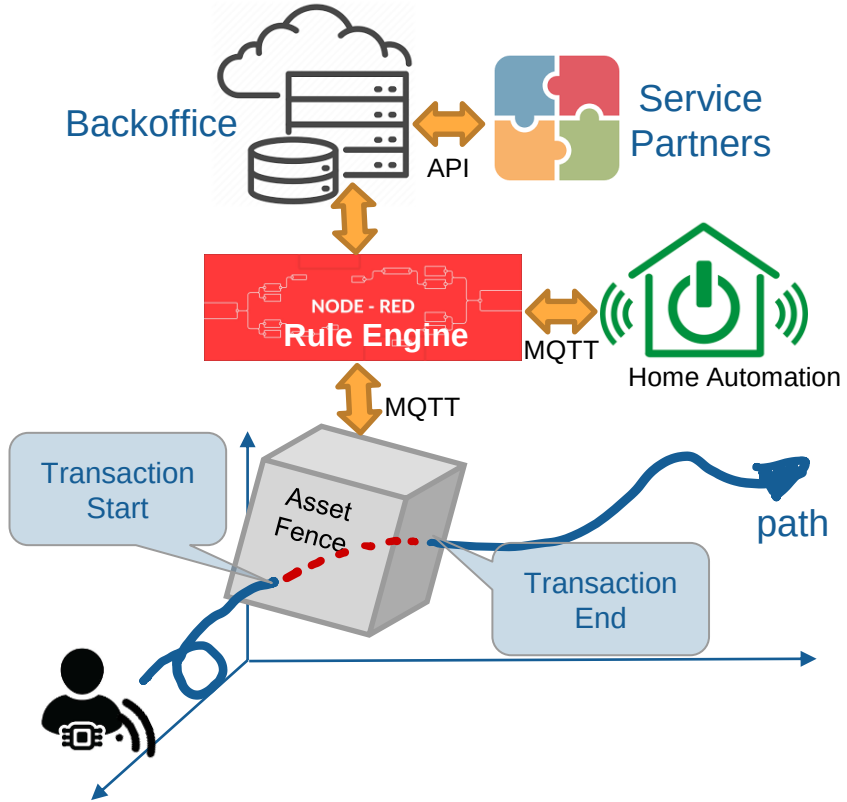
Resident's path is tracked as he moves around in the residence

In the residence, "Assets" are defined, i.e. objects of interest with which the user transacts.

Transaction starts when the user enters the fence around the Asset, and ends when he leaves the fence

Transaction Events are reported as IoT messages to an open-source "Node-Red" controller, containing rules that translate events to Home Automation actions.

Rules and Assets are managed by a Backoffice service. The Backoffice exposes an API to Service Partners



What

Product and Technology Highlights

A one-button remote control operates all services in an intuitive way, based on what you do: it anticipates your Behavioral Intent. No need for complicated menus on smart phones. Well serviced back-office.

State-of-the-art Home Care IoT network perfectly integrates with major Home/Building Automation systems, hands-free voip and skype, …

Physical network conduits integrated in flexible high-end addressable RGB LED lighting available in every room. Easy to deploy in new or retrofit residences.

Business model

Exploit the residential Care Gateway and Infrastructure in a Cooperative Venture

1. Infrastructure Deployment as part of the refurbishment costs

2. Monthly subscription for the platform maintenance as part of the rental fee

3. Franchising the concept to value-adding (local-for-local) service partners under Cooperative business governance allows to scale-up rapidly