A SUSTAINABLE NURSING HOME FOR SENIOR PEOPLE
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Situation

- None of the sustainable houses in the world are designed for senior people
- Senior people receive minimal care and suffer from lack of attention in conventional crowded nursing homes [1]
- Seniors usually have lower immunity than younger people and suffer from several medical problems

Problems

- Excessive amount of energy is being consumed, causing more pollution
- A lot of water is being wasted nowadays despite the increasing demand
- Senior people are not receiving good care due to the shortage of staff in conventional nursing homes [1]
- Smart devices require a specific type of connections
- Air pollution is threatening humans and the environment [2]

Solutions

- Using green concrete
- Building a living wall
  - Green roof
- Implementing motion sensors on the floor to monitor footsteps [3]
- Providing Amigo fitness bracelets and Independa’s Angela
- Setting ZigBee wireless (figure 2)
- Installing geothermal heat pump (figure 3)
  - Cooling and heating mechanisms
- Mounting plasma air ionization equipment

Evaluation

- Green concrete and living wall reduce operation, utility and maintenance costs and enhance performance and efficiency (figure 4)
- Motion sensors and bracelets are easy to implement and affordable
- Senior people may have privacy issues
- ZigBee has a long battery life
- GSHP reduces electric bills
- Plasma air ionization improves indoor air quality

References: