

Background



The safety of elderly at home is an important aspect, especially considering that, in Italy, there are numerous single-person households at a certain age. According to last data, there are over 7 million individuals aged 75 and above in our country, mostly women who, after the age of 75, live alone in nearly half of the cases. Every year between three and four million domestic accidents occur in Italy which, as is known, mainly affect the elderly, with significant consequences in terms of disability, hospitalizations and mortality. Among domestic accidents, falls represent the most important item.



Project overview



Home safety is crucial for elderly living alone. While many elderly individuals desire independence, their homes can hide risks such as falls or fires. A secure home provides them peace of mind and enhances their emotional well-being. Investing in senior safety is a sign of respect and contributes to an independent and happy life. It's important to intervene in the right way with a product that can solve this problem because falls can cause bone fractures, bruises, tears or sprains, deep cuts, head trauma. If you fall while alone and remain on the floor for a long time, you may experience problems such as dehydration, low body temperature (hypothermia), pneumonia, which is an infection of the lungs.

Target User



Elderly people aged 75+



Market



Budget: < 300 €

Final cost: 100 €

Design Requirement



- Always ready for use;
- Easy and intuitive;
- Minimal design;
- Attention to sustainability;
- Water Proof;
- Impact resistant material;
- Not big and not physically and cognitive expensive

First Sketches



After analyzing our briefing and our design requirements, team 31 developed some solutions to the problem presented. They put attention to what the target audience needs, and how would be perceived by us.

They sent us 5 solutions:

- protective vest with fall sensor;
- motion sensor;
- care watch;
- perceptive cane;

- walking cane with resting stool.

Among these solutions, the winner for us was the perceptive cane. Their next step was to create some alternatives to the solution chosen, by maintaining the initial features and by focusing on improving the design and technical characteristics.



Refined Concept



After our choice they proposed us two alternatives:

- 1. A four-legged cane to provide to the user more support and comfort when using it;
- 2. A regular tip and it is foldable.

Then our feedback was to combine both proposed features, so as a consequence they sent us 4 types of perceptive cane with our request integrated. All of them had the same characteristics but with a different design.

They also gave us informations about how the hand support worked.



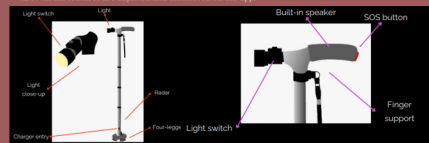
Final Concept



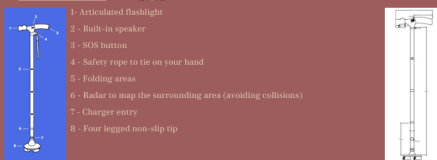
After making various videocalls on Google Meet and asking for clarifications on our WhatsApp group regarding the perceptive cane, team 31 sent us the complete project with all the requested specifications.

Here is how it works:

- **SOS SIGNAL:** you can register a phone number as an emergency contact, as soon as the signal is sent the cane will produce a ringing sound to let the user know that the contact has been alerted.
- **PROXIMITY SENSOR:** when the radar detects a close object or person it will make a sound, just like an alarm, to let the user know that something is really close to the cane.
- **LIGHT:** the cane will also have a light that can be turned on when the user is in dark places, working almost like a flashlight.
- **CHARGE:** it can be charged via a wall power plug and has a long battery life, that way the user doesn't have to worry about the features not working when outside. The battery can be checked on the app.
- **APP:** All the features are adjusted and monitored on the app.



Technical drawing



The technical drawing was very clear and precise, the 31 team provided us with all the necessary specifications in every detail. We had no doubts.

Prototyping

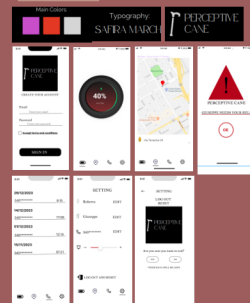


Thanks to the specifications they provided, we had no issues prototyping our perceptive cane. We utilized various materials to assemble our cane. We used plasticine to create the charger entry, the radar, the SOS button, and the speaker. We then used hot glue to attach our pieces to the perceptive cane, and subsequently, we colored them with markers. We also took care of the packaging. We created it by taking a white box and attaching the perceptive cane logo with hot glue.

It was a lot of fun for us to prototype.



Brand identity + application



After asking them about their brand identity, we started prototyping the app.

- These are the screen of perceptive cane's app:
- Sign in
 - Charge of the cane
 - Gps
 - Pop out alert
 - Call screen
 - Setting
 - Log out/ Reset

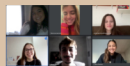
Final evaluation



To summarize this experience we can say that it was certainly beautiful and constructive. Being part of the entire process of creating a product, from identifying the problem to be solved to the final prototyping, was very useful because it allowed us to improve our skills and acquire new knowledge in a dynamic and fun way. During the development of the project we did not have many difficulties thanks to the continuous support of our tutors and the skill and availability of the 31 team from Brazil. In conclusion, our review of the project is absolutely positive, we recommend it to everyone!



Communication



The communication with team 31 has been perfect. They have always been available and quick to respond to our questions. Our primary mode of communication was through WhatsApp, and we occasionally conducted enjoyable video calls on Meet. These sessions not only provided a platform for discussing the project but also offered the chance to deepen our understanding of one another and explore each other's cultural backgrounds.

Time management: ★★★★★
Feedback: ★★★★★
Availability: ★★★★★

Link spot and backstage



Backstage: <https://www.31-315.org/CaP>