ARIANNA: when your smartphone becomes your guidedog

European population is aging and an increasing number of people is affected by age-related sight problems, which dramatically affect their social life. The number of visually impaired people is far to be a niche: about one million and a half in Italy and 285 million in the world according to the WHO. Goal of the ARIANNA project is incentivizing the active involvement in society of visually impaired people, by improving their autonomous mobility and orientation capability in public spaces, such as offices, airports, hospitals, museums, pedestrian zones, etc. Indeed, modern smartphones can act as a mediation instrument between the visually impaired people and the environment, in order to allow the replacement/integration of the expensive tactile pavements today in use, with low-cost, flexible and easily deployable traces (such as colored tapes or painted lines). The system is based on a low-complexity computer vision algorithm and innovative user interface, developed by In.sight, a spinoff of the University of Palermo, and protected by a patent. It also includes open software components based on the FIWARE technology that have been integrated in ARIANNA thanks to a European grant. The system has been already prototyped and validated in some demonstrative installations, with a strict collaboration with blind unions.

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