INTRODUCTION:

Visual impairments, as well as other physical and cognitive disabilities, imply a certain degree of dependency in ordinary task performance, such as shopping in a retail store. Ambient assisted living (AAL) technologies have tried to encourage the independence of impaired or elderly people by enabling them to stay active longer. In addition to home assistance, daily activities such as shopping are of interest in any AAL scenario that attempts to solve open problems such as navigation or unassisted indications. Real-time detection of user activity in front of a store shelf, for example, benefits both impaired and non-impaired people: retailers gain information about users’ activities and preferences, and impaired shoppers gain unassisted access to objects, perhaps receiving additional information through headsets about a product simply by taking it off the shelf. Ubiquitous computing and the Internet of Things (IoT) are crucial elements in such scenarios, and of all the technologies included in the IoT paradigm, Radio Frequency Identification (RFID) is the most popular.

Existing works use barcode technology for the same purpose, but this has drawbacks in ambient assisted living environments because of device requirements and scan precision. In addition to navigating a retail environment, people with disabilities need assistance with object interaction (such as finding products on a shelf). Object interaction detection is a well-known research problem in computer vision, but its implementation complexity and cost make its deployment unfeasible in real environments.

The proposed system introduces an empirical method using which a visually impaired or an elderly person will be able to do daily activities independently. Using an RFID device and a set of RFID tags placed in each shelf, the server is updated with item details, a blind or an elderly can shop independently and with ease at a retail store.

The proposed project can be applied to all business types including departmental stores, convenience stores, supermarkets, outlets, libraries, living environment and so on. It is used to build a software for the visually impaired and partially sighted people, where in the user can...
make purchases in a store without the help of a third person. This makes it convenient for the user to gain unassisted access to objects.

**OBJECTIVES:**

RFID aims at improving the shopping experience of the visually impaired. On contrary to the existing system, here the physical work of the blind is reduced which is achieved by enabling RFID Technology, wherein they can easily gain access to the products using RFID detectors and tags.

**METHODOLOGIES:**

- ITEM REGISTRATION
- ASSIGN RFID
- SHOPPING
- ITEM DETAILS AND TTS(TEXT TO SPEECH)
- SEEKING HELP
- BILLING

![Fig.1 Architecture of proposed system](image)

**CONCLUSION:**

The goal of the proposed system is to enable a store-based AAL scenario that lets users interact with objects in a device less intelligent system, thus improving independence and the shopping experience for impaired people. User-object interaction detection in AAL can benefit both users and retailers. Once a customer passes by the shelf, the interaction system detects this event and can provide information to the customer about the given garment or related complements on the product. The visually impaired could obtain audio information about the object once he/she passes by it.

**SCOPE FOR FUTURE WORK:**

In further work the hardware devices (RFID Detector) can replace by single smart phone, which could be used to fulfill all the above requirements.