

INVENTION DISCLOSURE

1. **Title: System and Method for Automatically Detecting User Presence for Personalized Service**

2. **Invention Summary.**

This invention automatically detects the presence and identity of the user(s) of a network-based service, and uses the knowledge of the user's presence to customize and personalize the service according to the user's preferences, usage history, and/or additional externally gathered information regarding the user(s).

3. **Invention Description.**

The invention automatically detects the presence of the individual(s) who are interacting with a network-connected service such as television viewing or social networking, and then uses the knowledge of the identity of the user(s) present to personalize the service for the user, and generate custom and de-identified usage reports for the service provider, advertisers, marketers, content packagers, and content creators.

Central to the invention are several methods for detecting user presence and identity, coupled with a network-based presence database that is consulted by application servers for providing network-based services.

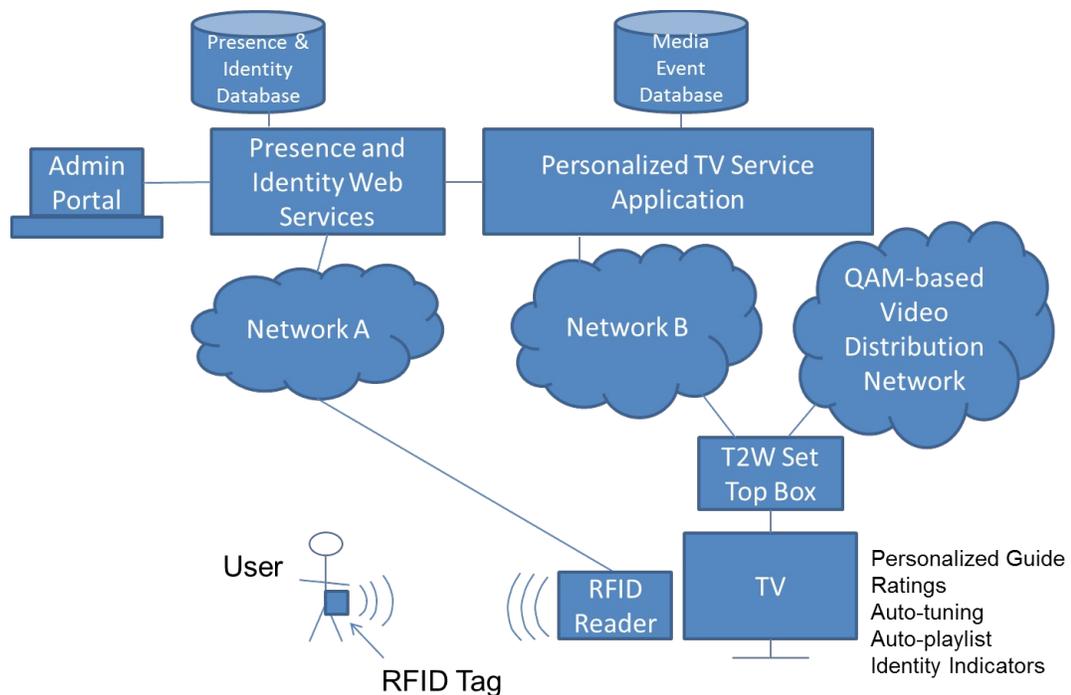


Figure 1: High-Level Diagram of the use of an RFID tag and RFID reader to detect user presence and identity and report to a personalized television service application

The invention uses any of several different methods to detect user presence, including but not limited to:

- radio frequency identification (RFID) technology,
- Bluetooth,
- mobile smart phone and tablet devices using Wi-Fi, 3G, LTE or other wireless networks
- biometric recognition techniques, including facial recognition, body shape recognition, voice recognition, and fingerprint recognition
- manual sign-in by the user

In the example of using RFID identity and presence detection in connection with a personalized television service, the user carries or wears an RFID Tag that has been registered as belonging to the user's identity in the Presence and Identity database. There is also an RFID reader that is co-located with a television and powered to read RFIDs at a distance appropriate to the room in which the television resides. When the user walks into the television room, the RFID reader detects the presence of the RFID tag and reports the identifier for that RFID tag to the Presence and Identity Web server over Network A. Network A is likely to be an Internet Protocol (IP) network, but is not limited to being an IP network.

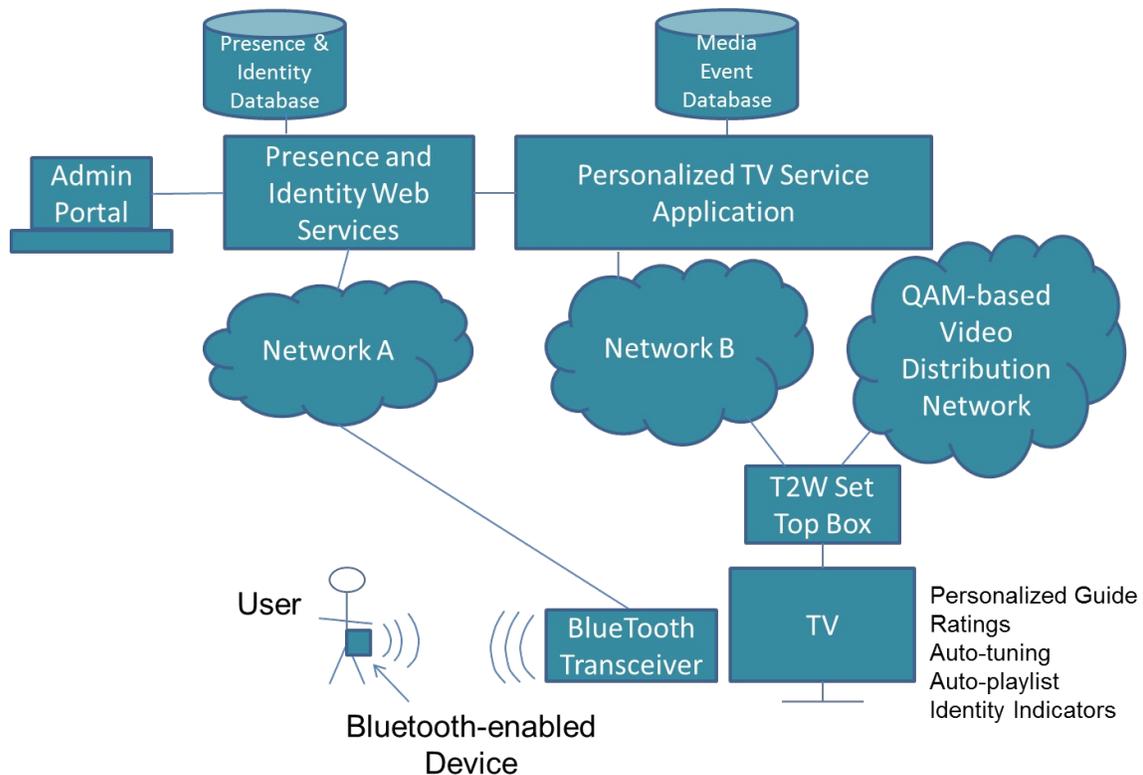
The Presence and Identity Web Server records the presence of the RFID Tag and associates that RFID tag to the user whose identity was registered for that RFID Tag, and reports to the Personalized TV Service Application that the RFID tag associated with the identified user is present in the room.

The Personalized TV Service Application uses the knowledge of the presence of the user, along with that user's recorded preferences and usage history, to create a personalized video service for the user, including, but not limited to:

- Recommended programming
- Personalized programming guide
- Links into social networking tools so that the user can see what his or her friends watched and liked, or can see what friends are watching right now
- Automatically tuning the channel to the program that the user usually watches at this time of day and day of week
- Automatically generating playlists of recommended programming based upon user preferences and viewing history
- Targeting specific advertisements to the user based upon preferences, viewing history, psychographic or demographic information, and other externally-supplied information about the user
- Supplying de-identified and aggregated statistics to advertisers, agencies, marketers, content packagers and content creators.

When the user leaves the room, the RFID reader detects the absence of the user and reports that the user has left the room to the Presence and Identity Server. The Presence and Identity Server reports the user's absence to the Personalized TV Service Application, and the personalized TV service is de-activated and normal TV service resumes.

The figure below demonstrates how the same process can be implemented with Bluetooth rather than RFID.



The invention can also be used to personalize television service on viewing devices other than the television, including tablet computers, smart phones, laptops, and desktop computers.

The invention can also be used to personalize other services such as audio and music services, security services, or social networking services.

Why was the invention developed? What problem(s) does the invention solve? How is it better?

The invention has the following benefits:

1. It enables the service provider to present a better user experience to the end user.
2. It enables the service provider to provide better and more targeted advertising opportunities to advertisers, with greater confidence about the people who actually watched the programming and advertisements.
3. It enables the service provider to share valuable usage statistics with marketers, advertisers, agencies, content packagers, and content creators.

4. It enables the service provider to analyze the ways that specific categories of users use its service, so that the service provider can improve and customize the service for different categories of users.

Briefly outline the potential commercial value and customers of the invention.

The invention adds value for end users as shown in the answer to the prior question, so end users may be willing to pay a fee for the application, possibly including a recurring fee. Also, if the invention becomes widely used it can serve as a deterrent against customer's choosing alternative service providers for video, audio, security, or social networking services.

The invention also adds value for advertisers, agencies, marketers, content packagers, and content creators, creating the possibility of sharing more accurate and specific usage statistics with these ecosystem participants. This information helps content creators and packagers create better and more targeted programming, and helps advertisers and agencies achieve more value for their advertising dollar.

HOW is this invention different from existing products, processes, systems?

While PC-based Internet services have had personalization features for quite some time, to my knowledge no TV service has been personalized down to the individual level as yet. Automatically knowing exactly who is watching allows the TV service to be re-designed and improved. A similar service re-design can be applied to audio programming, security, and social networking services.