# Literature survey

**Fernandes A [1] (2001)** Considered as elderly people suffer from an increasing number of problems, mainly due to social isolation and loneliness, requiringsupport from social agents. These problems, related to loneliness, social isolation, and reduced social activity are linked to the person's mental health,depression, and social bonds. Promoting the social engagement motivates persons to have more complex interactions, mobilizing the cognitive faculties and helping to maintain a good mental health.

**Reis A, Reis C, Morgado [2] (2016)** Proposed a model for the design of an autonomous system, based on the paradigm of the intelligent personal assistant, in order to support the elderly people in maintain their social bonds with the family, friends and colleagues groups. This proposal is focused on tailoring the digital assistant for the specific group of elderlies and for their specific life contexts, which has good perspectives, as the intelligent personal assistants are equipment's that are becoming more interactive and with a more natural language.

**Palmer D [3] (2016)** Assess the possibility of using the intelligent personal assistants, currently available to the consumer public, accordingly to the previously proposed model. The intelligent personal assistants chosen were: Google Assistant, Amazon Alexa, Apple Siri and Microsoft Cortana .These are the most popular and readily available from the large, world class, technology companies.

**Rook K [4] (2016)** Developed the Google Assistant is an Intelligent Personal Assistant that allows communication with the user through voice commands. It is capable of search online, set reminders and play music using Spotify. This Intelligent Personal Assistant is integrated with Google Home, Google Allo messaging application and Android Wear (e.g. Smartwatches). The Google Assistant is available in English, German, Hindi, Japanese, and Portuguese. It is presented the Google Home Smart Speaker which has builtin Google Assistant. https://assistant.google.com

**Stefan Kopp & Karola Pitsch [5]** Analyze the people with cognitive impairments have problems organizing their daily life autonomously. A virtual agent as daily calendar assistant could provide valuable support, but this requires that these special user groups accept such a system and can interact with it

successfully. In this paper we present studies to elucidate these questions for elderly users as well as cognitively impaired users

**Reed J [6]** Recognized that older people accessed the support that they needed from a wide range of statutory, independent and voluntary sector services. When so many staff, services, sectors and agencies are involved it was felt that it was all too easy for gaps in care, fragmentationof care, lack of co-ordination between services, or duplication of services to occur.

**Jose Baptista Coelho [7]** Studied the most important related with the family role and privacy control, to issues related with the design of the user interface, the importance of multimodal interaction and adaptive solutions to compensate age-related declines, to several other focusing on the importance of groups, photos, cultural and health information.

**EL-Bendary et al [8] (2013)** Reviewed the trends and challenges of elderly fall detection and prediction. Detection techniques are concerned with recognizing falls *after* they occur and trigger an alarm to emergency caregivers, while predictive methods aim to forecast fall incidents *before* or *during* their occurrence, and therefore allow immediate actions, such as the activation of airbags

**Amazon Alexa Voice Service API [9] (2017)** Assist the Amazon Alexa is an Intelligent Personal Assistant that interacts with the user with voice commands. It is capable of answer questions online, shop online play and read books. This Intelligent Personal Assistant is integrated with Amazon Echo Smart Speaker, Amazon Fire Devices and Amazon Tap BluetoothSpeakers, it can be installed on Android and iOS. It has also some features useful to integrate with smart homes like turning lights on/off or adjusting the temperature at home. The Amazon Alexa is available in English or German. https://developer.amazon.com/public/solutions/alexa/alexa-voice-service/content/avs-api-overview/

**SiriKit – Apple Developer [10] (2017)** Analyze the Apple Siri is an Intelligent Personal Assistant that allows communication with the userthrough voice commands. It is capable of search online, make resevations at restaurants, manage email and make calls. This

Intelligent Personal Assistant is integrated with iPhone, iPad and Apple Tv. With the Home app, the user can with Apple Siri control lights,thermostats, door locks and other sensors. The user can communicate with Apple Siri in English, French, Dannish, Finish, Spanish, Japanese, Mandarin,Portugusese and others languages. https://developer.apple.com/sirikit/

**Cortana Dev Center [11] (2017)** Developed the Microsoft Cortana is an Intelligent Personal Assistant that allows communication with the user through voice commands. It is capable of search online, dictate emails andsolve mathematical equations. To answer the questions online, Microsoft Cortana uses the Bing Search Engine. The user can communicate with Microsoft Cortana in English, French, Spanish, Italian, Japanese and Mandarin This Intelligent Personal Assistant is integrated with Windows 10, Android , Xbox One and iOS platforms. https://developer.microsoft.com/en-us/cortana

**Barroso J [12]** Presented a comparison of several intelligent personal assistants, with the objective to evaluate how well these services would fulfil the proposed model, based on previous work.This services have many features in common, such as, playing music, search online, or playing games. Although it is important to know what are the features that each service provides, it is also important to understand the extent of how much an third party developer can use and customize these services to accomplish the proposed objectives.

## REFERENCES


1. Fernandes A (2001), “Velhice, solidariedades familiares e política social: itinerário de pesquisa em torno do aumento da esperança de vida. Sociologia, Problemas e Práticas “[online], n.36, pp.39-52.

2. Reis A, Reis C, Morgado L, Borges J, Tavares F, Gonçalves R, Cruz J (2016) , “Management of surgery waiting lists in the Portuguese public healthcare network: The information system for waiting list recovery programs.”In Information Systems and Technologies(CISTI), 2016 11th Iberian Conference on (pp. 1-7).

3. Palmer D, Newsom J, Rook K (2016),”How does difficulty communicating affect the social relationships of older adults? An exploration using data from a national survey.” Journal of Communication Disorders, 62:131-146.

4. Rook K, Lains J, Paredes H, Filipe V, Abrantes C, Ferreira F, Barroso, J. (2016),”Developing a System for Post-Stroke Rehabilitation: An Exergames Approach. In International Conference on Universal Access in Human-Computer Interaction “Springer International Publishing (pp. 403-413).

5. Stephen kopp & Karola pitsh,”Social disengagement and incident cognitive decline in community-dwelling older persons.”(pp.173-176)

6. Reed J, Barroso I, Monteiro M, Rodrigues V, Khanal S, Barroso, J (2016).”Autonomous systems to support social activity of elderly people” - A prospective approach to a system design. TISHW2016.(pp.142-143)

7. Jose Baptisa coelho, Nguyen A, Ho H, Krzywicki A (2007),” The Smart Personal Assistant: An Overview. In AAAI Spring Symposium: Interaction Challenges for Intelligent Assistants “(pp. 135-136)

8. El-Blendary et al, Reis C, Morgado L, Borges J, Tavares F, Gonçalves R, Cruz J (2013),” Management of surgery waiting lists in the Portuguese public healthcare network: The information system for waiting list recovery programs” (pp.175-177)

9. Amazon Alexa (2017) ,”Amazon.com, accessed 20 January 2017”, (pp.184-186)

10. Apple Siri (2017) ,"Apple Inc., accessed 20 January 2017", http://www.apple.com/ios/siri/ (pp.163-165)

11. Cortana Dev Center (2017), "Microsoft, accessed 20 January 2017" https://developer.microsoft.com/en-us/cortana (pp.152-156)

12. Barroso J(2016),"Autonomous systems to support social activity of elderly people- A prospective approach to a system design.TISHW2016."International Conference on Technology and Innovation on Sports, Health and wellbeing.(pp.165-167)