



## *AlzhUp Profile*

**Project Name:** AlzhUp  
**FIWARE Accelerator:** FI-C3  
**Grant Funding:** January to December 2015  
**Level of Grant funding secured:** €150,000  
**Target Sector:** Healthcare

**Company:** Reta al Alzheimer S.L.  
**Country:** Spain  
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## *Vision and Market Need*

Today, 47 million people suffer from Alzheimer's or a related dementia worldwide. According to the World Health Organisation, these figures are expected to triple by 2050. With 7.7 million new cases every year, this has a strong physical, social and economical effects on caregivers, families, patients and society. The current focus is on identifying short term methods to support patients with dementia and their families to live with it, through cognitive effects and improving the quality of life of both patients and their relatives. Non Pharmacological Therapies have demonstrated promising results since stimulating cognitive capacities can slow down cognitive impairment.

Reta al Alzheimer S.L. commenced activities in 2013 based on extensive research in the Alzheimer's field focused on non pharmacological therapies. The outputs of this research were positive leading to the desire to develop a product / service offering. This coincided with the first FI-C3 FIWARE Call, which offered a good opportunity to leverage market knowledge and research with technological development. As a result Reta al Alzheimer S.L. commenced development of AlzhUp to develop a unique digital social-health service platform for treating dementias and help in active ageing.

Currently 98% of products on the market are pharmacological in nature. AlzhUp innovation is related to the focus on non pharmacological therapies to assist in delaying cognitive impairment.

The market need was validated through an extensive User Research Need Report, both in USA & Europe, with more than 50 participants coming from different stakeholders in the Alzheimer's field, not just patients: patients, caregivers, families and professionals (doctors, therapists and insurance companies). This stage was funded by the European Commission through the Horizon 2020 SME Instrument Phase I. This was complemented by beta testing with over 300 users in Spain from October 2015 - June 2016.

The AlzhUp platform has three main pillars. It is an aggregator of scientifically validated non pharmacological therapies, (not brain games), the first one being the Integral Cognitive Actuation Program, developed along with CRE Salamanca Spain & Castilla y Leon Neuroscience Institute. The Personal Memory Bank supports customisation of therapies for each patient, by cataloguing memories using a scientific mnemonic algorithm that simulates the real behavior of the human brain. And, through Gamification, the active participation of the whole family and environment is promoted, providing information to families to support them in dealing with this situation.

## *Target Market and Revenue Streams*

AlzhUp is targeting both the European market and the US market, since they offer complementary opportunities due to differences in the health systems.

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The European market is more mature in terms of consumers using non-pharmacological therapies and as a result the B2B business model is appropriate. Stakeholders are targeted through health insurance companies, professional groupings and associations. This B2B strategy in Europe has been validated through the contract with Caser, the Spanish Insurance Company. This contract provides access to 2,000 users during the first year of service as well as supports the model to be exported to other European companies.

The US market offers a large market opportunity for the B2C model with over 6 million people living with Alzheimer's, who are used to paying for their own healthcare. The first B2C version of AlzhUP was released in June 2016 as an open beta.

As a digital service, AlzhUp's business model is based mainly on monthly subscriptions of €12 per month. The CAC on the B2B segment is around €1.8 per month while the B2C is higher (near 50€/user). AlzhUp also has other income sources such as a doctor referral model, training to professionals and add-ons on the service. In the future a Big Data model will allow to switch to a free model of the service and thus make it accessible for people suffering this terrible disease worldwide.

### Competitive Positioning

Diagram 1 below provides an insight into AlzhUp's competitive positioning:

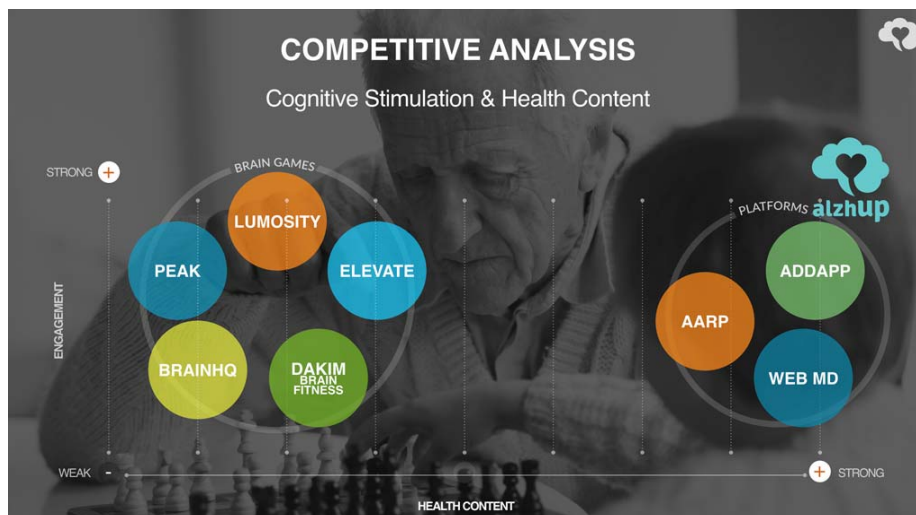


Diagram 1: AlzhUp Competitive Positioning

Given its focus on non-pharmacological therapies there are limited direct competitors. Indirect competitors include brain game related offerings such as the well know Lumosity, with more than 70 million users.

In terms of cognitive programs, while there are a few paper based programs, there are no digitized programs with current technologies to make it available worldwide. The Grador Program is an obsolete PC based training program costing €1,800, which makes it too expensive for most patients and their families. In terms of Brain Games, Lumosity is the most well known program. Although its aim is different and they focus on the +65 worried well market rather than specifically on Alzheimer's, they claim they can provide cognitive effects. The company was fined €2 million by the FDA in the USA at the beginning of 2016 due to a lack of scientific background.

When comparing AlzhUp to other offerings, its value proposition relates to

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1. Scientific Validation. Although some cognitive programs claim they have scientific validation, 80% of cases are not substantiated. AlzhUp has the validation of the National Reference Centre for Alzheimer's in Spain along with the Spanish Ministry of Health. As a result AlzhUp can support the claim that it can delay cognitive impairment.

2. Customization. While brain games do not have a scientific base and traditional therapies are served in old fashioned ways, the way AlzhUp uses technology as a commodity allows them to fully customize the experience with the patient's own digital memories. This not only increases the effectiveness of the therapy, it also allows provides a competitive advantage for its Big Data model as well as its mnemonic algorithm.

3.- Gamification. This technique has not been applied yet to Alzheimer's field and is a crucial tool for AlzhUp's purpose since the active participation of the family feeds the patient's Personal Bank of Memories, allowing customization.

### Enabling Technology

AlzhUp leverages a range of technologies as outlined in Diagram 2 below including FIWARE Generic Enablers (KeyRock for security and Object Storage GE to store the personal bank of memories).

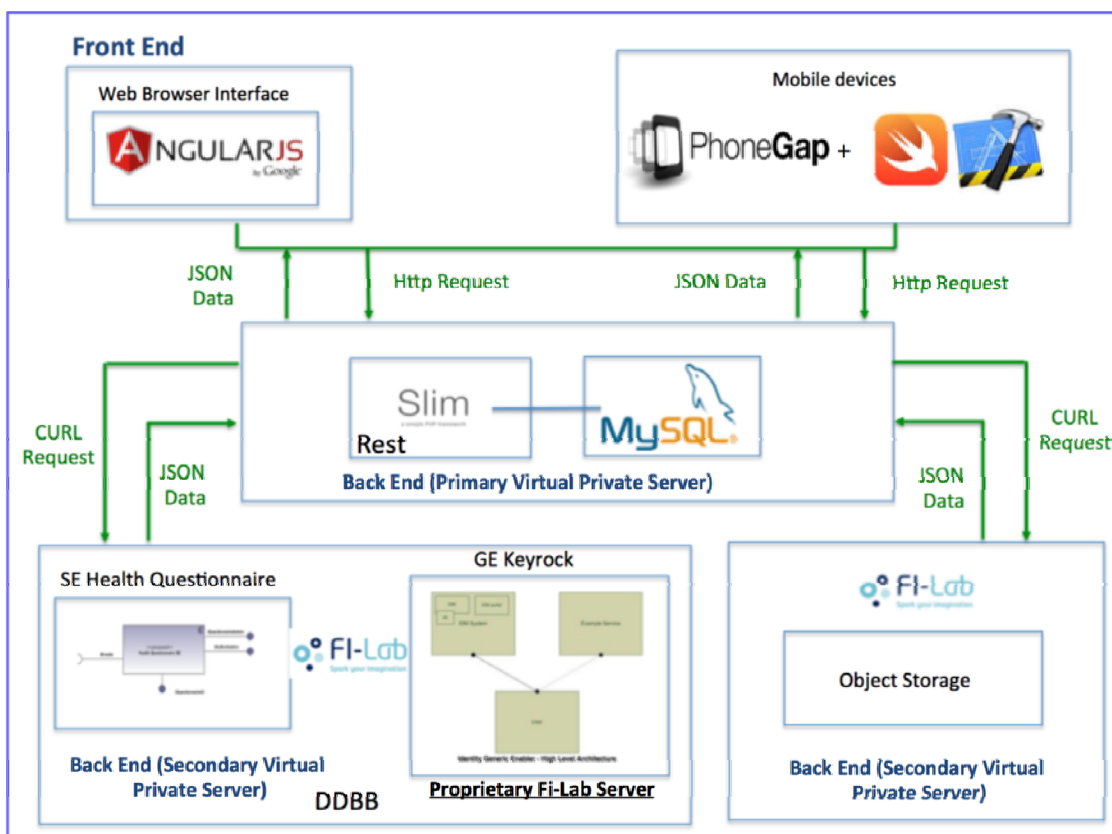
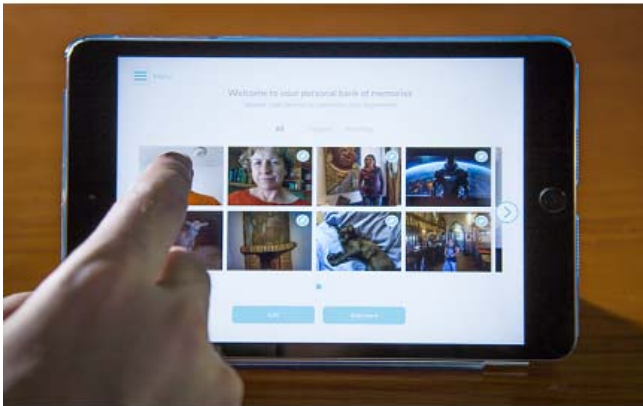


Diagram 2: AlzhUp Enabling Technology

Diagrams 3 - 6 below provide insights into the range of AlzhUp tools and interfaces.

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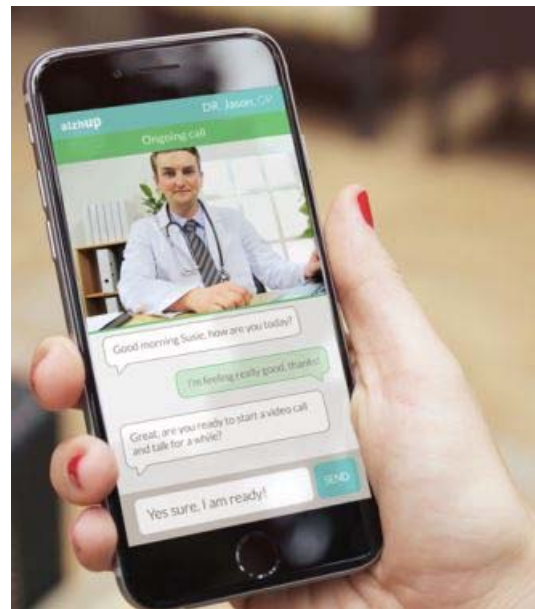
*Diagram 3: AlzhUp Personal Bank of Memories*



*Diagram 4: AlzhUp Therapies*



*Diagram 5: AlzhUp Therapies based around 6 different cognitive areas*



*Diagram 6: AlzhUp Apps*

Within the FiWare program Reta al Alzheimer developed a separate product, AlzhUp Tools, including a pre-diagnosis tool and a proprietary Global Deterioration Scale (GDS) Test to monitor the evolution of the disease for patients diagnosed with Alzherimers. This product is available on iOS and Android.

**Progress to date**

The founders of Reta al Alzheimer S.L. commenced research on Alzheimer's in 2010 and set up the company in 2013, bringing together a team of health professionals, business entrepreneurs, technology experts and a scientific advisory board. In January 2015, Reta al Alzheimer S.L. secured a FIWARE Grant under the FI-C3 Accelerator as part of the FI-PPP Phase 3 Programme to develop a first version of the application and undertake further market analysis.

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Between October 2015 and June 2016 a closed beta was undertaken with over 300 users in Spain and US. AlzhUp engaged with six different associations focused on Alzheimer's and two insurance companies in Spain to source beta users. The beta focused on supporting users with different stages of the condition (mild, moderate and severe) and check its adaptation to new devices while testing the service. This also assisted in identifying offering for different user groups - families, therapists and specialised centres. Users can choose to use the standard or professional version based on their requirements.

An open beta commenced in June and will run up to October 2016 to allow users to engage with the service and tools.

Upcoming milestones include the release of the first official version of AlzhUp for both B2C & B2B markets in October 2016, clinical trials for official validation of the service once on the market, update content strategy (availability on more devices and aggregation 3<sup>rd</sup> party NFT), and business development through Latin America and Asia.

To date in addition to the FIWARE Grant (€150,000), AlzhUp has secured the following funding: €107,000 from the Spanish Ministry of Economy through its Retos Colaboración Program; €75,000 from Spanish ENISA Institution; €50,000 from Horizon 2020 SME Instrument Phase I and €25,000 from Aragon Sodiar.

In terms of awards, AlzhUp has been received awards at the following events:

- AARP Miami Pitching Session Finalist May 2015, <http://www.aarp.org/>
- SEGG Spain Best Cognitive Project, June 2015, <https://www.segg.es/>
- EIT Idea Challenge Health Sector Finalist November 2015, <https://eit.europa.eu/>
- The Venture Best Social Project January 2016 Winner, <https://www.theventure.com>
- Bio Wales, Health Sector Finalist February 2016, <https://biowales.com/en/>
- E-Merge Miami Technology Finalist April 2016, <http://emergeamericas.org/>
- SEGG Spain Health Disease Project Winner June 2016, <https://www.segg.es/>
- AAL Smart Aging Prize, June 2016, <http://www.aal-europe.eu/>

