



A Social Network for -and with- People with Cognitive Disabilities

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This presentation

- Participants Introduction
- Motivation
- Participatory Design
- Social Network Features
- Special Features
- Conclusions
- Dissemination




A sheltered social network for -and with-
People with intellectual Disabilities



Try it: demo.elegune.net




elegune Participants

- **GUREAK**
 - Industrial group created in 1975 to assist the full social integration of people with disabilities through employment
 - Provides jobs for more than 4000 people with diverse types of disabilities
(39% cognitive, 16% mental illness, 6% physical, 22% sensory, 17% no disabilities)
- **GITEK**
 - Created by GUREAK in 2007, as a division for R&D&i.
 - Aim : use of social and technological innovation to improve the training, employability and quality of life of people with disabilities.





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elegune Motivation




- GITEK identified
 - The advantage of providing the group workers with access to social networks to increase their social integration
 - Consultation: workers having some experience in using computers for work or leisure:
 - were interested in using networks, such as Facebook
 - but they were dissuaded by the difficulty they had in understanding and using them.
- Therefore, GITEK decided to create a sheltered social network
 - Contacting LOTURA, and UPV/EHU (Ehgokituz+Aldapa)
 - Founded by the Basque Government/*Eusko Jaurlaritz*a (Projects DATAc 1& 2)

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LOTURA:

- **Small company devoted to Internet Consulting and Web development**
- It applies accessibility regulations to all their Web projects





EGOKITUZ (Laboratory of HCI for Special Needs) UPV/EHU

- Created in 1985 to use **Computer Technology to assist people with disabilities.**
- Currently interested in **User Adaptive interfaces.**



ALDAPA (Algorithms, Data Mining and Parallelism) UPV/EHU

- Created in 2001 focuses on **data mining to solve real problems** efficiently using high performance computing.
- Currently: **Web mining based user modeling**

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elegune Motivation



What is Elegune Sheltered Social Network for?


It is a **fully functional** social network

- to **train** people with cognitive disabilities in the use of social networks

and

- to **monitor** its use to allow **the early detection** of any type of danger they could face when they use a regular social network
 - With the explicit consent of the participants (and their families/tutors)






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Participatory Design

Basic Principles

- Based on **specific guidelines for people with intellectual disabilities**
- Designed with the **close participation of the users** to collect their objectives, interest, likes, and restrictions
- **Special procedures** for participatory design with people with cognitive disabilities
 - Each consultation was designed in such a way as to make an answer possible
 - E.g.: , paper mock-up versions initially used to identify the requirements and difficulties that users have in using them












Participatory Design

Working procedures

Two boards were formed for the design process:

- **The Users Board:**
 - Composed of 6 workers of GITEK, 4 of them with diverse cognitive disabilities with some experience in using computers.
 - Participated in all the design and development phases (functionality, interface, look & feel, etc.) and validated each of the prototypes
 - Was frequently informed about the results of the Design Board meetings













Participatory Design

Working procedures





- The **Designers Board**
 - Composed of: UPV/EHU (3-4 people): conception, accessibility, usability, usage data management, coordination, and dissemination; LOTURA (1-2 people): development, implementation, and maintenance; GITEK (2-3 people): assessment on users needs and coordination with the users board
 - Converted the design decisions made by the Users Board into design specifications and developed them.
 - Decision making:
 - All the decisions from the users board were taken into account.
 - If their implementation was not possible, alternatives were proposed to the UB

Participatory Design

Working procedures

- Meetings
 - Separated, but coordinated by GITEK
 - Both boards had fortnightly meetings for seven months
- Results
 - A first fully functional prototype was tested by the users for five months
 - After fixing the problems detected, the final social network was designed, tested and deployed in November 2013).
 - *Guremintza* is the social network currently fully operational in GUREAK industrial group
 - In addition to training/supervising people in the use of social networks
 - It is actually an effective way for Internal communication (to encourage personal relationships among the worker)

elegune Social Network Features



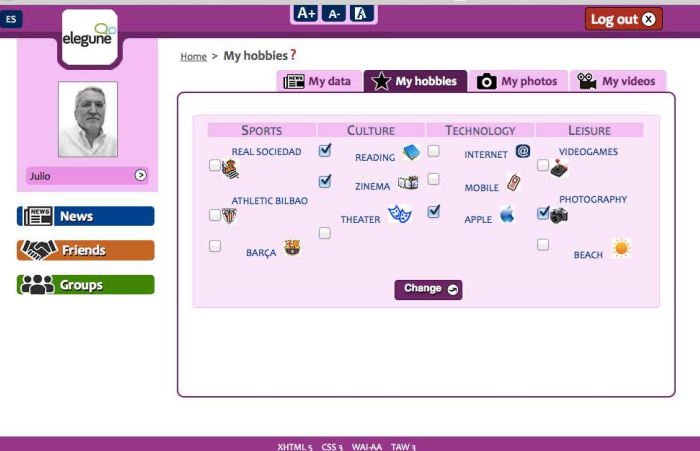
Registering and entering

- write name/password or
- Insert pen drive

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elegune Social Network Features

User profiles



- creation and modification of user profile.
- personal information, hobbies, own multimedia material, etc.

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elegune Social Network Features


News

- **Wall** for user posts and messages (to be sent to friends)
- **Multimedia** content (pictures, sound, videoclips, etc.) can be included in messages

elegune Social Network Features


Friends

- Functionalities:
 - finding friends,
 - accept / reject friend requests,
 - etc.
- Diverse tools to share information: posts
 - Chat
 - Video-conferencing






Social Network Features


Groups




- Application for membership
- Two types: with and without acceptance

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Social Network Special Features

Elegune's Special Features

- Accessible** for people with cognitive, physical and sensory disabilities
- Warnings** for early detection of possible misuses or dangers, triggered to a selected supervisor when unusual usage occurs
- Activity statistical data** periodically available to the supervisor to follow the activity in the network
- Multilingual structure:** Basque and Spanish and English languages (any other language can be easily added)
- Testbed for research:** data-mining techniques are used to build dynamic user models in order to allow adaptive interaction
 - To provide **personalized support** to each user
 - **Privacy is fully protected** by means of codification techniques that made the users remain anonymous

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Social Network Special Features

Management and tutoring

elegune.net administrator
User: Elegune
[Log out](#)

users friends groups messages likes abuses requests relationships auxiliary listings access
workshops supervisors levels hobby types hobbies message types message states users states abuse states

home / workouts

Workouts

Search [Insert new workout +](#)


	Name es	Name en	Publish	Order
<input type="checkbox"/>	Inin	Inin	Si	5
<input type="checkbox"/>	Coliensebe	Coliensebe	Si	4
<input type="checkbox"/>	Golek	Golek	Si	3
<input type="checkbox"/>	UPV	EHU	Si	2
<input type="checkbox"/>	Tolosa	Tolosa	Si	1

Select/unselect all


Showing page 1 of 1 (5 workouts). Show per page.




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- Aim: To support the user (specific training activities, assistance in navigation, technological adaptations ...)
- Alerts, produced by
 - Tracking complaints
 - Request for inclusion in closed groups
 - Mass acceptance of friends
 - Bursting open messages
 - etc.



Social Network Special Features

Guremintza global activity

Data mining



From 23-11-2012 to 17-9-2013


User activity summary


	Total	User Level and Connection Type					
		Novice		Advanced		Tutor	
		Int	Ext	Int	Ext	Int	Ext
Connected users	154	127	33	8	5	13	5
Clicks	96,955	60,572	14,310	2,154	1,942	14,949	3,028
Objects	1,901	1,038	379	2	2	280	162
Messages	1,727	943	373	2	2	265	142
Images	84	67	2			8	7
Videos	90	28	4			7	13
Scope	1,900	1,065	384	2	2	283	164
Public	539	378	45			55	61
Private	1,187	615	325			155	92
In groups	174	72	14	2	2	73	11
Chats	1,662	1,383	17	37		210	15
Videoconferences	133	61	20	10	8	31	3
Profile updates	908	566	130	43	28	119	22
I like them	730	458	113	21	12	111	15
They like me	254	71	2			167	

Tables and charts with summaries of network activity:

- exchanged objects, fields, friendships, etc.
- different time intervals

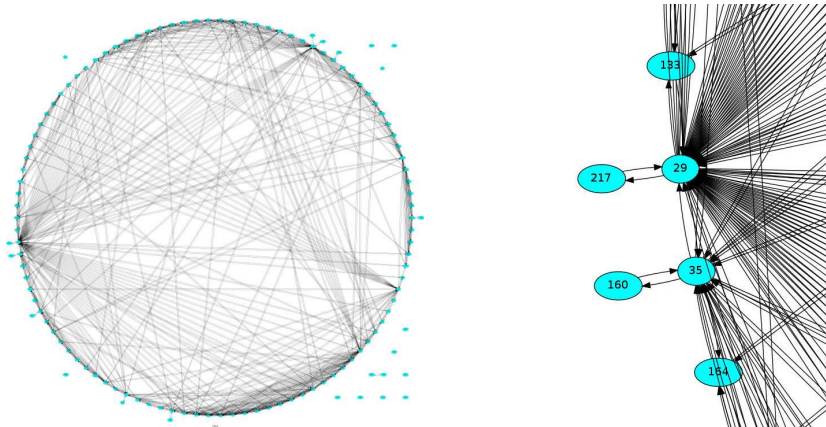
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elegune **Social Network Special Features**

Data mining

- Analysis of the interaction
 - Diverse types of graphs. E.a. Relationships graphs

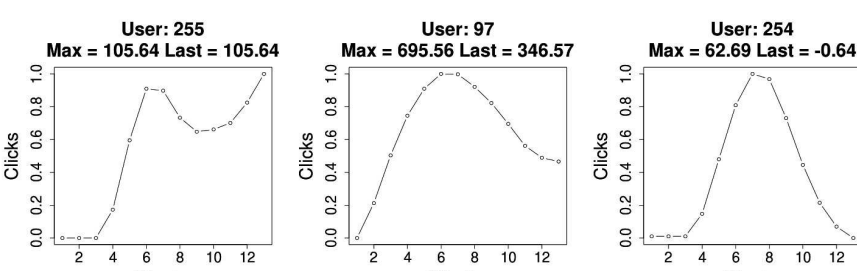


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elegune **Social Network Special Features**

Data mining

- Analysis of the interaction
 - Data mining based user modeling
- Use patterns showing:
 - Activity increase and decrease
 - Abandon








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Conclusions

We learned that





- **Participatory design with people with cognitive disabilities**
 - It is possible provided that **adequate procedures** are designed to collect their opinions.
 - It allows a **progressive development** based on users' needs and capabilities, always ensuring their understanding of the application.
 - It **minimizes** the possibility of including **accessibility barriers**.
 - It **increases** the users' **affinity** to the resulting application and its **usage**
- **Data mining-based user modelling**
 - Allows **usage supervision** (tools for administrator/tutors)
 - **User adapted** interaction (current work)

Dissemination


Guremintza is the Elegune's instance for the private use of GUREAK



- [Guremintza in YouTube](#)

elegune Dissemination

- There are **freely available** copies for a limited number of other institutions working with people with cognitive disabilities
- Each institution will have **an independent copy of the network**, in order to allow use supervision and users' protection
- **Support infrastructure**
 - LOTURA: Maintenance, technical support
 - Egokituz /ALDAPA: Access & log analysis using data mining
 - GUREAK: Assessment for supporting people with cognitive disabilities



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elegune Thank you / Obrigado / Eskerrik asko

More info: <http://www.elegune.net>
 Try the demo: <http://demo.elegune.net>
 Apply for a free instance: info@elegune.net

Elegune is run by a non profit consortium composed of:
GUREAK sheltered workshops, **Lotura** Web Design, and the
University of the Basque Country/EHU [**Egokituz**: Laboratory
 HCI for Special Needs & **ALDAPA**: Algorithms, Data Mining, and
 Parallelism]