



students learning with communities

Product Design Students & Enable Ireland Assistive Technology & Design for All



Students Learning with Communities



DIT Access & Civic
Engagement

www.dit.ie/ace



What is Assistive Technology (AT):

The ultimate objective of AT is to contribute to the effective enhancement of the lives of people with disabilities and elderly people, helping to overcome the barriers they experience in society, increasing their experience of independence, and positively contributing to their social inclusion.

What's the Problem:

Assistive Technology has:

- High user abandonment rates,
- High user dissatisfaction.
- High Cost

We get to experience the Problem:

Students of DT001 Product Design have linked with Enable Ireland's Assistive Technology Training Service. During visits to Enable Ireland students get to:

- Meet with Users of AT
- Meet with technical AT staff
- Use AT Devices
- Listen to User feedback of AT devices.

During reflective feedback sessions students discuss the issues with AT, which are mainly due to each person's experience of disability being unique, and more often requiring designs individually tailored for their needs.

"Design for All"

&

"Universal Design"

"Universal design seeks to encourage attractive, marketable products that are more usable by everyone. It is design for the built environment and consumer products for a very broad definition of user."
- Ron Mace (1941 - 1998)

A more Inclusive Society:

Is achieved by the bringing together of various sections of our society. DT001 Product Design students and people with disability discuss a common theme,

"Remember "us" when you are designing in the future"

Through the concepts of "Design for All" & "Universal Design" students create design concepts based on improving AT devices or developing new devices to increase the independence of people with disabilities in society.





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• Introduction

- DIT's Product Design programme, Enable Ireland, and people with disabilities in the community have teamed together to create a unique Assistive Technology and Universal Design learning environment, significantly supported and resourced by the entire team. In this environment students realise very quickly that using 'off-the-shelf' generic Assistive Technology devices for people with varying degrees of disability can lead to Assistive Technology dissatisfaction, and that their innovative designs can play a key role in addressing this issue.
- Reasons for Assistive Technology (AT) dissatisfaction;**
 - High abandonment rates, as high as 70% [1]
 - High Cost [2]
 - Stigmatising aesthetics [3]
 - Low availability [4]
 - Low reliability [1,3]
 - Usability [5]

Method

"Ask the Expert AT Users"

- Students discuss Assistive Technology Frustrations with users and service providers
- An Assistive Technology research theme is chosen
- Student seeks feedback/Direction from the AT Expert User, Enable Ireland, and DIT Staff
- Students present their Assistive Technology design concepts to a panel of Assistive Technology expert users

Two groups of students have been meeting AT Users:

4th Year Product Design students from DIT – Have been co-creating AT device concepts with AT users and Enable Ireland since 2007.

Community Design Challenge

A workshop hosted in Enable Ireland and DIT where undergraduate multidisciplinary teams attempt to solve everyday AT frustrations.

Multidisciplinary Team Members Include

- Expert AT users
- Product Design Students (DIT)
- Nursing Students (TCD)
- Biomedical Engineers (Purdue, Indiana US)

Results

Student Likert Feedback (2014)

Product Design Students (DIT) and Nursing Students (TCD)

- | | | |
|--|-------------|----------|
| Did you enjoy working with the Assistive Technology users? | Average 92% | Mode 99% |
| Did you enjoy this experience? | Average 86% | Mode 74% |
| Was this a positive learning experience? | Average 91% | Mode 87% |
| Was this a positive personal experience? | Average 87% | Mode 89% |

Student Comments (2014)

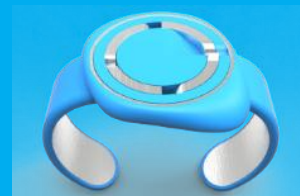
"Please state what you enjoyed about the experience?"

- Being aware that what we are designing could help people in the future made this experience enjoyable. Getting to meet lots of new people with different backgrounds and experience was great too!
- Enjoyed learning the way AT users live their daily lives & difficulties they had
- The Americans + accents. Interacting with the assistive users. Creating new concepts
- It was beneficial to talk to the DIT students and learn about their program. I also really liked being able to interface with the AT users and discuss their needs with them
- Talking to the students. Meeting an assistive technology user and learning what they need.
- It was good to meet AT users and talk about what would make their lives easier.

Conclusions

From the student feedback in the results section it can be seen that engagement with the community is a personally positive experience. The fruits of this experience is shown by how well the student work has been disseminated.

- 5 students short listed for The Universal Design Grand Challenge (UDGC) 2015 awards
- Winning The Universal Design Grand Challenge (UDGC) 2014 awards
- National winner of the Institute of Engineering and Technology Present Around The World competition 2013.
- IRCSET Funded PhD.
- 4 undergraduate conference presentations.
- TV coverage.
- State funding.
- Exhibitions: American Ambassador, Microsoft, AT Training courses.
- Best Final Year Project awards.
- Generated over 130 individual concepts in 5 years.
- Funding awarded
 - IRCSET- €73,000, Seed funding - €18,000, DIT Foundation- €2,500, Corporate Funding- €7,500
- Media coverage - RTE, News papers.
- Collaboration - Microsoft, BT Ireland, TCD, University of Cambridge, Leckey.



The Universal Design Grand Challenge (UDGC) 2014 awards

Winner Christopher Wallace with Andrew Bradley, President of Institute of Designers Ireland

