

# EVALUATING A PROPOSED DESIGN FOR ALL (DFA) MANUAL FOR ARCHITECTURE



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## INTRODUCTION

Design for All (DfA) is defined in the Stockholm Declaration by The European Institute for Design and Disability (EIDD) as "design for human diversity, social inclusion and equality". The DfA theoretical principles have successfully been developed in the scientific community, however they don't correspond yet to practical application in the built environment for improving people's quality of life. Evidence-based approaches and especially knowledge-translation activities are fundamental in bringing research into practice by increasing DfA adoption around the world. Investigating the way to translate this knowledge into practice in an actual project becomes imperative also through support tools for designers. **This research is part of a wider study with the goal of developing a tool towards inspiring and supporting architects to apply a more concrete DfA strategy.**

## GOALS

- Understand which characteristics are actually effective in transferring knowledge of DfA strategy
- Assess the features used to transfer knowledge in a specially designed print-based DfA manual
- Evaluate the proposed DfA manual with the purpose of developing a future DfA manual projects

## METHODOLOGY

### DFA MANUAL - CRITERIA

A print-based manual was developed as a support to allow designers applying DfA concepts in design practice. Its content focuses in particular on "haptic design". The manual is designed on four criteria for transferring DfA information, defined after carried out a literature review.

#### HOW communicate/representation method

Graphics are suggested as the most suitable way of transferring DfA information, to better understand their meaning. Illustrations for design indications, while pictures of case studies at the end of each chapter.

#### WHERE organize/built environment

Design indications need to be contextualized specifying where the users' needs occur in the built environment as confident reference for the architect. Each chapter represents an architectural element (ex. parking, paths, toilets, etc.).

#### WHY understand/users' needs

Information about users' needs should be provided to introduce the reader at the reasons for design indications. They are divided according to the three main needs/goals (move, guide, rest), defined in terms of haptic design.

#### WHAT use/descriptive information

Design indications are provided as advice together with information to enable their full comprehension, rather than as isolated rules that impose what do to. They refer to case studies and legislation that designers need to be aware of.

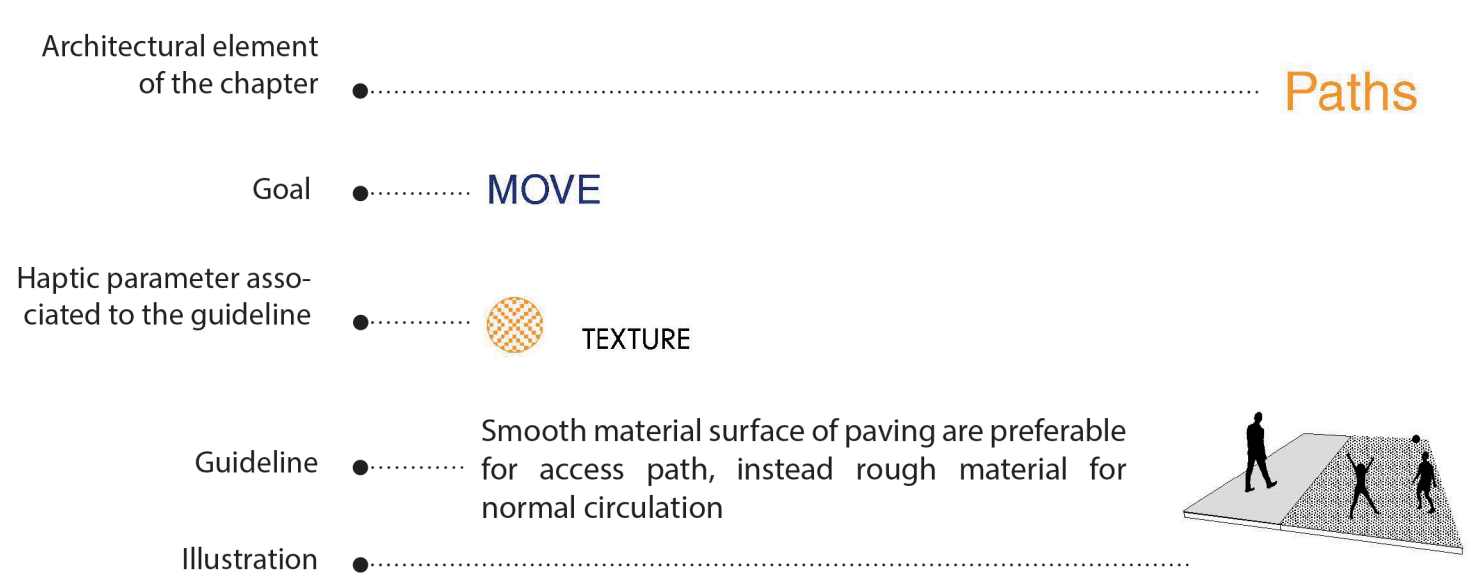


Fig.1 Example of design indication organization in the manual.

### MANUAL'S ASSESSMENT

The manual has been used and tested by architecture and physio-therapy students during a four days workshop that took place at the UDweek 2016 in Hasselt university (Belgium), from October 10th to 13th. The aim of the workshop was to make a square of the city accessible and inclusive for different users, the manual was used as integral support by students. Assessment methods used: observation, multiple-choice questions during the workshop, email interview questions.

#### MOVE

##### TEXTURE

Smooth material surface of paving are preferable for access path, instead for normal circulation rough material.

#### Material



##### ELASTICITY

Large formats of paving are preferable for access path, instead for normal circulation smaller formats. Contrast between surfaces with a different elasticity (ex. grass and stones slab) is useful to circulate in a fixed direction. (Fig. 5)



An handrail next to a path can also provide different haptic experiences for the qualities of its material.



#### GUIDE

##### ORIENTATION

The wall of a building of one side of the path helps in the orientation to go straight. The wall should be free from obstacles. (Fig. 4)

#### Geometry



Too much signals to indicate parking or cycle path on the street floor can confuse instead orientate. Different texture and materials can be used as a different option. (Fig. 1, 4)

##### CONFIGURATION

A kerb on one side of the path, which divides it from the grass, helps also to go straight.



Elements like hedges or tactile lines placed at one side of the path helps to go straight and at the same time, when they stop is clear that there is a change in direction or a cross. (Fig. 2, 6)



Fig.2 Sample of one page of the manual focusing on design indications about Paths.

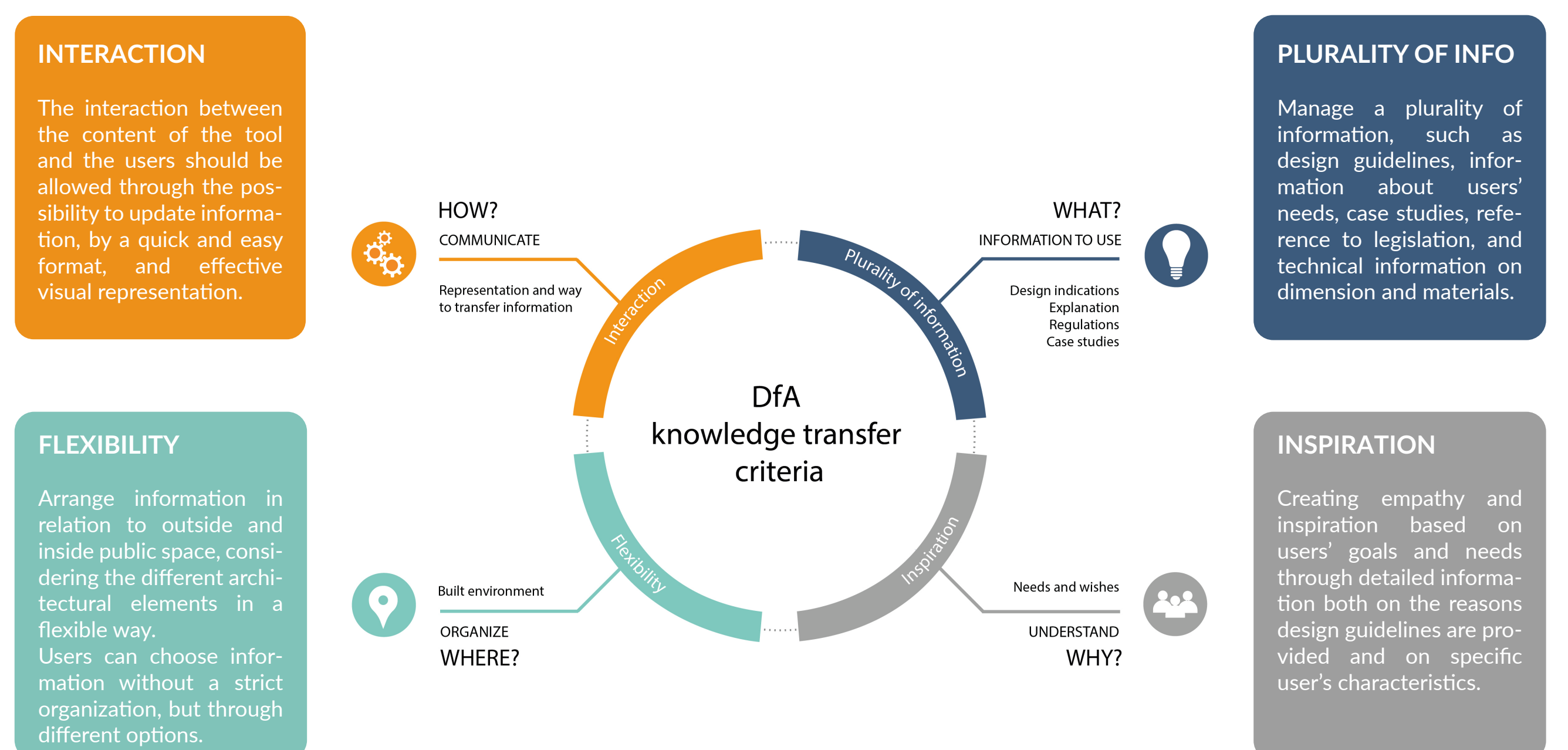
## FINDINGS

### ASSESSMENT'S FINDINGS

CRITERIA	MANUAL'S STRENGTHS	MANUAL'S WEAKNESSES
HOW	Illustrations, pictures and symbols capture the attention and help in text comprehension.	Information can't be updated through a print-based manual. Problems with the layout's organization of pictures, symbols, and text.
WHERE	Topics divided into architectural elements to orientate the consultation.	Fixed and strict structure to choose information.
WHY	Design indications divided by needs/goals (move, guide, rest) create more insights and allow to understand why they are provided.	More information about the users' needs are required to create more insights.
WHAT	Associate parameters to the indications facilitate their comprehension.	Design indications are still prescriptive and not detailed enough regarding technical information as measurements and materials. Difficulty in managing a wide quantity of information.

### DESIGN FOR ALL KNOWLEDGE TRANSFER CRITERIA

The four criteria of DfA knowledge transfer that the manual is developed can be updated according to the new knowledge learned from the manual application and evaluation.



## CONCLUSIONS

- The use of the four criteria to develop a manual that transfer DfA knowledge can be considerate an appropriate mean to develop tools to support designers. However, to be more effective, some characteristics of the criteria need to be improved with new features, such as interaction, flexibility, inspiration and plurality of information.
- One option for further research could be to shift to the usage of an interactive and web-based smart tool, that may satisfy the new requirements of the discussed criteria.
- This study represents just the beginnings to assessing the tool created and that further testing with other groups of practicing architects or students is required to truly understand it's use.

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Website Universal Design Week 2016: [www.designforall.be](http://www.designforall.be)

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