INTRODUCTION

Visual impairment is a serious problem. According to the World Health Organization’s statistics (2009), there are about 45 million blind people in the world, including 1.4 million children under the age of 15. In addition, there are 135 million people (that is, about one thirtieth of world’s population) who have serious visual impairment (see also ORBIS, 2009; United Nations, 2009; World Health Organization, 2003). These numbers indicate that we should be preventing visual impairment; they also point to the many visually impaired people (VIP) whose daily lives are a constant struggle. Action on their behalf begins...
with a serious consideration of their needs, as they perceive them.

People with different types and levels of visual impairment face a variety of difficulties in their daily lives when they need to access public places and facilities with which they may not be familiar (United Nations, 2009). In recent years, policymakers, researchers, sociologists, planners, designers and engineers have tried to improve this situation. Among the many projects (with a variety of objectives, perspectives and targeted beneficiaries) the approach has generally been to apply technologies that provide convenience (or overcome existing “barriers”) for VIP. However, as many of the studies in European and American countries have shown, the situation is still unsatisfactory. This is not because there is something wrong with the technologies, but because often they neither fit the actual wants and needs of VIP, nor function as they were planned and intended to do.

There are three consequences of our failure to help VIP to access public places and facilities. First, VIP tend to minimize the number of times that they go out to places with which they are not familiar. Second, if it is absolutely necessary for them to go to unfamiliar places, VIP need to spend much time (sometimes to an unreasonable degree) preparing to go out. Third, VIP need the assistance of people who are not visually impaired (or who are visually impaired but already familiar with the places). All three consequences are disadvantageous. They seriously diminish the normal daily lives of VIP, and other people as well.

When VIP leave their homes or environments with which they are familiar, public toilets are one of the most difficult places for them. Consequently, toilets are places where VIP are least willing to go. For VIP, using a strange public toilet is an unpleasant, stressful and even dangerous event. Even if they are familiar with a particular facility, using a public toilet is repulsive and distressing for VIP, because toilets are generally recognized as dirty places where it is possible to contract infectious diseases. VIP frequently complain about the inaccessibility and unpleasantness of public toilets, even in developed countries with well-established policies and better resources, such as the United States and European countries (Siu, 2008).

From 2004 to 2008, the Public Design Lab of The Hong Kong Polytechnic University conducted an in-depth exploration of public design for disabled people, as an applied research project aimed at improving the daily lives of VIP. The specific objective was to explore the needs of VIP in order to generate design solutions that would help them access aircraft lavatories. The broader objective was to explore how to help VIP have a better quality of life independently, that is, with minimal assistance from other people. This paper uses the project as a case study to show how active, participatory and inclusive approaches to disabled people can be incorporated into an effective design process. It is not just a report on a particular case study. It also hopes to arouse designers’ awareness of user-participation as an important trend in public design. Disabled people, users, must be invited to participate actively in the design process in order to bring real benefits to the disabled community, thereby contributing to an inclusive and harmonious society.

CASE STUDY: AIRCRAFT LAVATORIES FOR VIP

To promote and develop public toilets that are more accessible, an applied research project on existing designs of public toilets and how VIP access them was conducted from 2004 to 2008. The project was funded by The Hong Kong Polytechnic University and the Asian Scholarship Foundation, and assisted by the Hong Kong Toilet Association, the Hong Kong Blind Union and several other non-governmental organizations (NGOs) that provide services to VIP.

After about six months of background study on VIP access to public toilets, aircraft lavatories