

APPENDIX F

PRINCIPLES OF UNIVERSAL DESIGN

The **7** Principles of Universal Design were developed in 1997 by a working group of architects, product designers, engineers and environmental design researchers, led by the late Ronald Mace (Design Pioneer, internationally recognized Architect) in North Carolina State University

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Principle 1: Equitable Use

The design is useful and marketable to people with diverse abilities.



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Principle 2: Flexibility in Use

The design accommodates a wide range of individual preferences and abilities.



A user at a computer table. The table height can be easily adjusted to suit different user needs.



Right & left-handed scissors

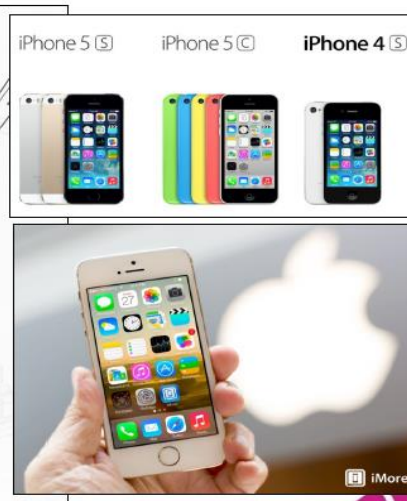
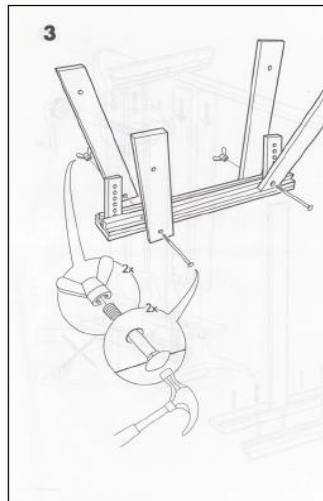
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Principle 3: Simple and Intuitive Use

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.



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Principle 4: Perceptible Information

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

橋本 Hachimoto		茶山 Chayama	
次郎丸 Jirohime		羽府 Hufu	
籠茂 Kamō		六本松 Roppo-matsu	
野亦 Nozaki		桜坂 Sakurazaka	
梅林 Umezaki		薬院大通 Yakui-odori	
福大前 Fukuda-mae		薬院 Yakui	
七隈 Nanuma		海辺通 Uminami-dori	
金山 Kamoyama		天神南 Tennin-minami	

Nanakuma Line, Japan. Each station is color coded and is identified in English, Japanese, and by its accompanying unique symbol. Symbols generally relate to the station's surroundings.



Looking down the length of the symmetrical platform, lighting accentuates train doorways and the adjoining gates that prevent riders from falling onto the tracks. Nanakuma Line, Japan



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Principle 5: Tolerance for Error

The design minimizes hazards and the adverse consequences of accidental or unintended actions.



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Principle 6: Low Physical Effort

The design can be used efficiently and comfortably and with a minimum of fatigue.



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Principle 7: Size and Space for Approach and Use

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.



Fare gates accommodate a wide variety of users. Note that the gate assembly is long enough so that exiting passengers do not have to slow or stop walking in order for the gate to open. The gate has multiple smart card targets to speed fare collection. Nanakuma line, Japan



The interior of the 100% ultra low floor Alstom Citadis tram has both wide open areas as well as 2X2 seating. LUAS light rail, Dublin, Ireland

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