DEVELOPMENT OF NATIONAL IDENTITY CARD DESIGN (3)
Creating the New Value of National Identity Card based on Users Need

Jung, Youngwook1), Bai, Mokryun1), Yang, Kyungin1), Lee, Kyungsil1) and Kim Myung – Suk1)
1) Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea

1. Introduction
A national identity (NID) card is an official document that may be used to verify aspects of a citizen’s personal identity. Security is the ultimate goal of NID cards for many national governments as they face various crimes related to the counterfeiting of NID cards. From the perspective of citizens, who are the users of NID cards, the NID card has potential to be integrated with other functions, such as public services or even financial services. Advanced information technology can facilitate the integration of multiple cards, which users generally carry in their wallets. The Korea Minting and Security Printing Corporation and the Korea Advanced Institute of Science and Technology have studied design concepts for a new e-NID card in the Republic of Korea. From the results of daily probes and focus group interviews of several participants, we developed a plausible design direction for the NID card. The direction is based on the needs of citizens (or users) and the national government.

2. NID Card case study
By analyzing the situation in other countries that use or have tried to use a similar NID card, we clarified various considerations for the NID card established the direction of user research.

2.1. Case study analysis
The cases were divided into two groups. One group involves situations where the NID card was successfully implemented; the other group involves situations where the NID card was rejected by citizens or civic groups. The strong points of the successful cases and the weak points of the unsuccessful cases were evaluated to derive insights for a new NID card.

2.2. NID card considerations
2.2.1. Insights from successful cases
The successful cases show that the most important determinant in the success or failure of the NID card is the system of card usage. The NID card of Malaysia, MyKad, was designed to offer people various service contents based on existing card infrastructures. People can take advantage of new services because there are no difficulties in using the card. Besides the system of card usage, a universal design and an expression of national identity on the NID card are also common factors of a successful card.

2.2.2. Insights from failure cases
Nowadays the security of personal information is a very sensitive issue. In most countries where the public rejected the NID card, security problems were the major concern. For a successfully NID card, the protection of personal information is the key factor in persuading people to use the card.

2.2.3. Direction for user research
These considerations help focus user research on the development of a safe beneficial system and on graphic design factors that symbolize Korea.

3. User research
3.1. Selection of subjects
A group of subjects was drawn from a simple questionnaire on the physical aspects of a card. The results show that users in their twenties and thirties are the most appropriate age group to target because they are the most proactive users who deal with most kinds of cards—from credit cards to stamp cards. Users with an art or design background were selected because of the artistic nature of some of the tasks.

3.2. Experimental method
This user research was conducted in two parts. One part involves a probe assignment; the other part involves focus group interviews with tasks. The purpose of the first part was to sensitize the participants; the subsequent tasks were designed to help participants focus their broad and direct ideas about identity and national identity to rather specific and indirect ideas about the NID card. The packet of probes were passed to the participants, and they were instructed to do several activities, such as writing,
drawing, and coloring. The tasks were designed to give them a chance to think about many aspects of cards and card usage. One task was titled My Human Relationship. Another was titled Reorganizing the National Flag. Both tasks were designed to see what kind of things could be a symbol of a group and what informational attributes users preferred to keep confidential. Another role playing task was designed to determine which factors helped transform negative views on the card to positive views.

4. NID card requirements
The research findings and insights provide direction for the design of a new NID card. Aside from integration, new values need to be created. Thus, we chose three new values to be achieved. First, the NID card must be bolstered with security against online and off-line threats and it must be easy to use. Second, the use of the NID card should be good for everyone involved. Lastly, the NID card must be a source of pride.

5. NID card design
The design of the NID card must comply with the three new values described above.

5.1. Hardware design
Two linked but separable cards are proposed here with 3-D rendering. Figure 1 shows a traditional plastic ID card on the left and a half-sized card on the right. Countries that currently use e-ID cards provide each user with a smartcard reader that can be connected to a computer. A more user-friendly and economical approach is to attach a USB connector to the NID card (Figure 2). The purpose of the half-sized card is to help people carry their ID cards more easily. Both two cards fulfill the same functions as embedded chips.

5.2. System design
5.2.1. Web security system
User research underscores the necessity of online security. For that reason, a small card with a USB cable was developed as an easy, convenient way of strengthening Web security (Figure 2). This was suggested as a kind of physical security key that guarantees personal identity on the Web.

5.2.2. NID point system
A NID point system combines all the loyalty cards that users have into the NID card. People may experience inconvenience in possessing numerous loyalty cards and in using all the points that are stored in each card. Paying taxes with consolidated points could be a good solution for users. Donating points to charity could be another way of promoting public interest in the card system. Thus, a NID point system can benefit the government and the people. Corporations and stores also can benefit economically from this system. Using a NID card instead of loyalty cards could also minimize the cost of researching customers marketing preferences; it would also reduce the cost of making plastic cards.

5.3. Graphic design
Research shows that people tend not to visualize concrete objects when asked to think about the national symbols of South Korea. Rather, they think of abstract ideas. The curve extracted from the most typical Korean line is therefore applied as a graphical element. Moreover, the design of the card should be based on materials that are characteristic of Korea. The NID card could reflect the beauty of Korea if the card is made of traditional Korean paper (hanji) instead of plastic and if Korean mother-of-pearl (japae) is used to decorate the surface of the card. Such traditional materials would make the people proud of the small ID card. In addition, the card would be more unique and personalized if the users could write their own names themselves under their photographs. This personalization would provide users with emotional satisfaction (Figure 3).

6. Conclusion
The prominent characteristic of this newly developed NID card is the combination of a standard-sized card and half-sized card. The standard-sized card plays the role of a conventional ID. The half-sized card is capable of reinforced personal security for today’s digital world, particularly with regard to Web security and embedded information. In addition, the card design may offer a new direction for public service designs. Specifically, the development of information technology enables easy sharing of information for social welfare due to the integration of royalty points for every citizen.

7. Acknowledgement
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8. Reference
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