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Multi-Purpose Smart Card- G Card

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ABSTRACT: This project introduces the G-card expanded as Governance-card, a multi-purpose card usable for various government services. The smart chip card contains a unique card number and a PIN for each user and can be used in ration shops, all government retail outlets, hospitals for claiming medical insurance and availing other special schemes provided by the government. The rechargeable card contains full details of a family thereby allowing every member of the family to use it. The card contains information of the recent transactions, the schemes that the users are eligible for. The card is associated with a webpage where apart from viewing the above-mentioned details by entering the card number and PIN, users can also clarify the queries of any sort. For people with no internet access, SMS facilities are also provided for questioning and gaining information. The card is easily accessible and the software used in building the card is freely available in open source. The user is not expected to pay any more than the recharge amount. There are only minimum-security issues as a PIN exists for each card. The simple yet robust technology used in implementing the card is very much efficient and does not require much cost in maintaining and upgrading. Quicker reach of services, proper usage of insurance and schemes and faster response to user queries are some of the huge benefits of the G-card.

KEYWORDS: Multi-purpose smart card, G-card, smart chip card, Governance-card

I. INTRODUCTION

Currently smart card implementations can be seen around the world but they are not unified i.e. each developer uses different programming standards and data structures, therefore a variety of smart cards exist in our society today. An example can be seen in Singapore where they have variety of smart card for the same purpose i.e. storing monetary value. One called E2 Link is used for their public transport system and is also usable in some food courts while the other cash cards are used for their toll system ERP, parking and supermarkets. This is a problem that exists today and one that needs to be noted or fixed.

The aim of this project is to create a Multipurpose card system, in this system using single card you can handle number of technology. Here in this paper we are providing the concept of bringing different applications together in one smart card. Thus, the person needs not to carry different cards for different purposes. The person can carry one card and can use the same card for different purposes. Smart card is also called a cheap card or integrated circuit card. It is the youngest and cleverest member of the family of identification cards. The smart card is defined as a device, which includes an embedded integrated circuit that can be either a secure microcontroller or equivalent intelligence with internal memory or memory chip alone. The smart cards play a vital role in today's life. There are different smart cards for different purposes. For example- credit cards, debit cards, voting cards, Aadhar cards (in INDIA), etc. These different cards are to be carried by the people wherever they go, for different purposes. Smart cards are used for data storage, transaction and processing with strong security authentication. Smart cards do not have component such as power resource, display area or keyboard. Multipurpose smart card is a smart card with many different applications in one smart card.

The main aim of the project is to develop a multipurpose smart card for various applications such as: ration shops, all government retail outlets, hospitals for claiming medical insurance and availing other special schemes provided by the government.



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II. LITERATURE SURVEY

The concept of the G-Card is to provide benefit for the public and the government and this can be single identity card this can be utilized as the single identity card for the people in Tamil Nadu. The key factors for introducing the G-card are summarized below.

- G-card is user friendly.
- This card can be used as government identity proof.
- By implementing G-card the government has a better control by maintaining the complete data base of the G-card users.
- The G-card enables its users to get more additional information and alerts.
- It encourages the users to provide feedback on the improvement areas.
- The users can also register the complaint by dialing in the toll-free number mentioned in the G-card.
- The dedicated department will address all the complaints and feedback within a day.
- The life insurance and medical insurance can be linked to the G-card for the user benefits.
- G-card can be used on the any of the government shops with the privilege discount.
- It helps the government to avoid the corruption in all the sectors.
- If any new plans are implemented by the government it will be intimated to all the G-card users through SMS alert to the phone numbers registered in the database.

This helps the government in implementing the newly passed schemes to reach all parts of our State.

III. PROPOSED METHODOLOGY AND DISCUSSION

A. TECHNOLOGY PLATFORM AND ARCHITECTURE

A Platform is merely a structure made up of "Planks", or integrated feature. As we use ASP.NET which is platform independent and to make our application run on any CPU. We chose ASP.NET because there shouldn't be any issues regarding the running state or platform. Any CPU doesn't guarantee that it will run on both 32-Bit and 64-Bit windows. The somewhat increasing popularity of Vista x64 will soon elevate the importance of this type of testing. The modern multi-purpose rechargeable G-Card is the product developed with the current technologies. This is more advantageous and beneficial than other general-purpose cards.

Hardware:

- Computer
- G-Card
- Hard disk
- Biometrics
- Swiping machine

Since Biometrics is costlier and also increases complexity we use swiping machine to access and assist the user to use



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the G-Card.

Software:

- ASP.NET: Front end
- SQL Server: Back end
- SMS software

All the above-mentioned software are extremely free downloads which restricts the project to get into a costlier one.

Interface:

The G-Card is provided with a unique card number and when it is swiped in ration shops or other government retail outlets it will ask for the user's pin number to access the card. The Personal details of the card holders, available balance is displayed. The user is also provided with the webpage login where he/she must enter their pin number and password to register their complaints or queries.

IV. OUTCOME EXPECTED

The main outcome of this G-card is the recognizable and user friendly and cost-effective card which suits to the ever-changing modern world.

The other key outcomes in this project are:

- This card ensures to provide the ration shop maintenance and insurances services and other scheme propagations unique and efficient.
- It reduces the man power and conserve time of the employees
- This card will assuredly provide a standardized highly transactional and informative service to the customer and governmental outlets.
- It provides a more user friendly and easily accessible service for the common men.
- By making use of security pin and biometrics this provides a highly authenticated access to one's personal information, ensuring a safe and highly communicative environment to the end users through the notification messages which are received through our mobile phones.
- This card ensures that there is assured benefits to both the firms, in order to primarily enhance the G2C relationship.

V. FUTURE WORK

The proposed G-card serves the purpose of ration shop, governmental retail outlets to buy daily needs and groceries. It also aims to provide options to view the schemes that the user can be benefitted from. The card also assures decent amount of security as well. The features can be enhanced through various future works such as upgrading the website and providing information about government based health insurance, linkage of health insurance details to the card, improving safety measures by introducing biometrics for access as it provides better security than the PIN based access. The other future works of the project shall be like providing a website to apply for the card online, and also enabling the card to hold cash for payments. The details of the card as well as the website can be made into an app which can be incorporated into the smart phone lifestyle. The app will offer all the contents of the website and online registration for G-card. The smart chip can be embedded with location feature in order to track the card in case of theft or loss.



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VI. CONCLUSION

The project G-card is designed in such a way that the daily needs of the user is fulfilled in an easier way. This card also proposes features that makes the life of the user hassle free and maintains all the necessary information in the form of a simple multi-purpose smart chip card. With the help of this card in day-to-day life the government related things for a common man is easily attained and accessible. Hence, G-card provides various beneficial features and can be a boon to the low-income users. Thus, this project is majorly focused on the common man and his struggle to communicate with the governmental body of the state as well as the government to have better control on their citizens and to build a healthy G2C relationship.

REFERENCES

1. Aditya Bodake, Viraj Baviskar, Ashwini Bodake, Shital Bhoite, and N. J. Kulkarni, "Multipurpose smartcard system," International Journal of Advanced Research in Computer Engineering & Technology (IJARCET), vol. 1, issue 9, pp. 175-178, 2012.
2. http://www.ehow.com/facts_4843889_advantages_disadvantages-using-smart-cards.html
3. N. Y. Lee, "Integrating access control with user authentication using smart cards," IEEE Transactions on Consumer Electronics, vol. 46, no. 4, 2000.
4. S. Omar, "Multi-purpose student card system using smart card technology," The University of New South Wales, UNSW, Sydney, NSW 2052, Australia.
5. Smart Card Concepts <http://www.microsoft.com/technet/security/topics/identitymanagement/smrtdcb/sec1/smartc02.msp>
6. The Secure Access Using Smart Cards Planning Guide
7. The Smart Card Deployment Cookbook <http://search.technet.microsoft.com/search/default.aspx?siteId=1&tab=0&query=smart+card>
8. W. Rankl, W. Effing, "Smart card handbook," (2004)3rd ed., John Wiley and Sons Ltd., Baffins Lane, England: Spring Verlag.
9. www.smartcardbasics.com · www.cardlogix.com · sales@cardlogix.com

BIOGRAPHY

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