Passport Autonetics

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Abstract: The appropriate online passport registration structure provides security for passports to register where we can fill in all the details efficiently and simply. A passport is a document, issued by the national government. The current system does not provide secure registration and profile management for all users properly. The development of this new system contains the following functions, which attempts to make the whole process automatically saved in the form of website integration. This system makes overall project management much easier and more convenient. There has been an improvement of about 15% to 25% from the previous period to complete the application and security has increased from 35% to about 63% and response time has been reduced. from 8 to 10 seconds to 5 to 1 in time as everything can be done online only.

Key Word: Passport automation, security, applicant, administrator, UML diagrams.

I.INTRODUCTION

Department of Foreign Affairs, Government of India owns an independent passport issuance service. Citizens applying for passports within the Indian subcontinent are assisted by a network of 37 Regional Offices and a Central Passport Printing Center. The Passport Automation System is one of the most important documents for citizens who travel internationally for various purposes. The Automated Passport System is a communication between the applicant and the Passport Authority. It aims to improve efficiency in the Passport Issue and reduce the complexity of their presence to the maximum extent possible. Once the 'Passport Issuing' process is done in a portable way it will take a few months for the passport to reach the applicant and enable the requester to pay the legal fee. The system also provides the applicant with a list of available 'document confirmation' appointments at the director's office, from which he or she can choose one. The system relays the information required to the police to verify their separation and then submit their report to the supervisor and presented to the administrator. The administrator will be given the option to indicate the current status of the request to the applicant, which he / she can view in his / her online interface. After all the required procedures have been met, the actual information is added to the database and the passport is sent to the applicant. [1]

1.1 Brief Methodology of the project

In the first step, an in-depth study of UML and Rose Rational Tool will be conducted to understand the concept of the design process .After the study the software tools are required planning languages and learned libraries and how to build, an algorithm should be developed. The algorithm should be developed and implemented in the UML language while using a sensible rose tool and will be connected to the interface. The PAS interface will be a link between the applicant and the administrator. Launch UML The language code and test results will come in different forms and in different ways registration / login, applicant details, police verification details and final details.
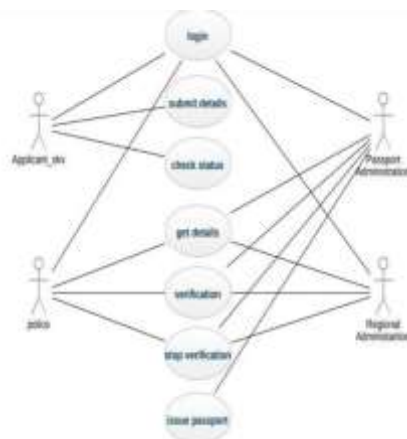

Figure 1: Brief Methodology

II.LITERATURE SURVEY

The results of the statistical analysis of the respondents were as follows: The average age of passenger service users ranged from 26-35 years. While more than 55 years have created a number of online passport service services; Most ofthe users of the online passport service are male. Most end users of online Bachelor Degree respondent online education service, while a handful of respondents were second / younger and equal; most respondents use online passport services asindependent workers, while a small number of respondents work as housewives. Then, in this study it was proved that efficiency, trust, and support for each community are related and greatly affect the quality of the online passport of government services. The results of four simultaneous analysis, found that social support with greater impact and less confidence in the quality of the online passport service of government services.

Owner of E-Passport holds an electronic chip such as RFID and fingerprints. The chip contains the same information listed on the passport information page as the passport holder's name once different information. E-Passport contains bio-metric certification. The United States you want the chip to have a digital photo of the passport holder. All E-passports issued by the Visa discharge Program countries are also secure features to stop unauthorized analysis or "scan" of information continue E-passport chip. These RFID technologies and biometry are illustrated in the paper "The latest technology research used in the E-passport system".Verification that protects the e-passport can use an advanced scientific method, collectively called Extended Access Management, and in particular the protocol quoted as the Chip Verification that protects the e-passport against it biological research and attack potential exchange.[3]

Bio Metric passports issued these days are fitted with smart communication card technology (RFID read only chip) that allows the storage of digital user information. Radio Frequency Identification (RFID) tags communicate with the RFID reader through electric waves. Two types of tags based on their empowerment method Active and Passive Tags. In the RFID system, the investigator sends electric waves to the tag. I mark is initiated and responds to the reader with a Unique Identification number (UID). Now the reader transfers the information to the backend system to continue processing. RFID technology is used in e-Passports to store biometric information digital in line with the International Civil Aviation Organization (ICAO) standards. This paper aims to improve the level of security in the Reader-Tag connection.[4]

III.DESIGN AND IMPLEMENTATION

UML Diagrams

UML is a way to visualize a software program using a series of diagrams. I a notation appeared in the work of Grady Booch, James Rumbaugh, Ivar Jacobson, and Rational Software Corporation to use for object-oriented design, but it hasdone just that since it was expanded to cover a wide range of software engineering projects. Today, UML has been approved by Object Management Group (OMG) as a standard software development standard. [2] UML stands for Integrated Model Language. UML 2.0 helped extend the original UML specifications cover a wide range of software development efforts including agile actions.Increased integration between building models such as classroom drawings and behavioral models such as activity drawings.
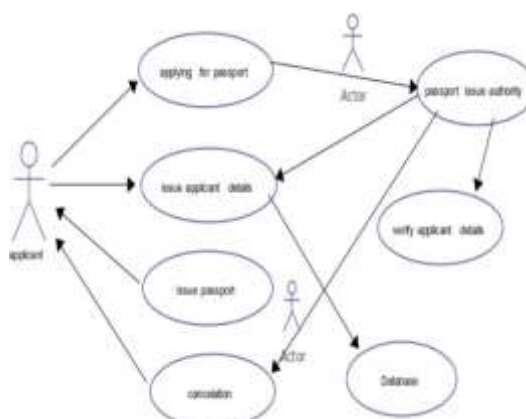

Figure 2 : UML Diagram flowchart

Types of UML modeling

- **Use Case Diagram**- A user case diagram is a way to summarize system information and users in that system.It is often presented as a clear representation of the interaction between different elements in a system.

- **Class Diagram**- The classroom is drawn as a rectangular box with three compartments or sections separated by horizontal lines. The top component holds the class name and the middle component holds the attribute and the component below contains a list of functions.

- **Sequence Diagram-** Sequential diagram shows the sequential interaction in chronological order, It shows the object

participating in their livelihood transactional message with an exchange message chronology. The exact size represents the time and the horizontal size represents thing.

- **Collaboration Diagram-** Collaborative drawing is similar to a sequence diagram but a message with a number format. Ina shared diagram the sequence diagram is shown by entering numbers message. Collaborative drawing, also called contact drawing or communication drawing, A sophisticated modeling tool can easily convert cohesive drawing into a diagram of sequence and contrast. The engagement diagram is like a flow chart outlines the roles, functions and behaviors of each item and the overall performance of the system in real time.

- **State Chart Diagram-** The state chart diagram consists of the circles in the rectangular box and starts in the middle with a dot shown and ends with a dotted circle. The purpose of the state chart the drawing is to understand the algorithm in the process.

- **Activity Diagram-** The job diagram is a variant or special state machine of the state where I regions or work representing work performance and change are implemented with the completion of the work. The purpose is to give a closer look at what it is proceeding within the application case or between several classes. The function is displayed as a circular box containing the username.

- **Component Diagram-** The segment diagram is represented by a numerical dependence and is a graph of numerical dependence design. The main purpose of the section drawing is to show I structural relationships between system components. It is represented by a box picture. Dependents are represented by a communications organization.

- **Deployment Diagram-** It is a graph of the nodes connected to the communication organization. Represented by a three-dimensional box. The diagram for use in integrated modeling language is valid modeling portable artifact delivery of targeted delivery. Distribution diagrams show "the distribution of art objects in nodes according to the defined usage among them. Represented by a 3-dimensional box. Dependence is represented by communication organization. The basic feature of a post drawing is a two-factor node type the device and application node.

- **Package Diagram-** The package design is represented as a folder that is displayed as a large rectangular top attached to its upper left corner. The package may contain both sub-package as well elements of a typical model. All uml models and drawings are sorted into package.A package diagram in an integrated model language showing interdependence between packages form a model. Package diagram (PD) shows a collection of items on the OO model, and is an extension of Cradle to the UML. PDs can be used to display groups of Classes In Class Drawings (CDs), groups of sections or processes in Part Diagrams (CPDs), or groups that process on Deployment Diagrams (DPDs). There are three types of layer.These are:

  1. User background

  2. Domain layer

  3. Background to technical services

Technologies Used

HTML

JSP

JavaScript

Java 1.6 TOOLS TO BE USED

Eclipse IDE (Integrated Development Environment)

Rational Rose tool (for developing UML Patterns)

Authentication and Security Of Passport

Existing e-Passports use PKI (Essential Public Infrastructure) to authenticate a traveler. Public Key Cryptography is a cryptographic asymmetric system there encrypt data using a public key and removes encryption with a private key. The PKI system allows businesses to securely connect to a vulnerable network through digital signatures.[5]

During the registration phase, the user provides the required information and Authorization Authorities (CA) issues a digital certificate based on user information. In time verification, Registration Authority (RA) verifies business ownership by comparing the Medium Term List. The Certificate Management System manages to control access to issued certificates and certificates to be submitted. We have gained through Oracle almost 20% to 30% inclination compared to MySQL as Oracle has multi-layer security and ensures data storage is secure.

E-Passport protection measures:- Basic Access Control (BAC) is a widely used security method that provides secure connection between chip and learning. The student reads the e-Passport Machine Readable Zone (MRZ) which is a

combination of passport number, date of birth and expiration date to generate a session key, and is then used to encrypt the connection between chip student. Extended Access Control (EAC) is an additional feature in the BAC defined by two requirements: chip authentication and terminal. Chip verification (CA) is designed to set up a secure communication channel using a pair of specific chip keys. Terminal Verification (TA) allows access to the Test System (IS) to read sensitive data from e-Passport. Some of the same protections that may be used for active authentication (AA), Passive authentication (PA), Supplemental Access Control (SAC) etc.[7]

IV.RESULTS

Figure 3: Details about the applicant

Figure 4 : Details about Passport Administrator

Figure 5: Details about Regional Administrator

Figure 6: Details about Police

Figure 7 : Status of the Passport

Sl No.	Parameters	Old Value	New Value
1.	Overall Improvement	5% to 10%	15% to 25%
2.	Reduction in Load	50% to 60%	25% to 18%
3.	Response Time	10secs to 8secs	5secs to 1secs
4.	Security	35% to 40%	60% to 63%
5.	Average Session Duration	10mins	5mins

Figure 8 : Final result by using Oracle Database over MySql

V.CONCLUSION

In this report, the written passport test is being replaced by the default system, using RFID technology to verify the passport holder. This program does it is easy to monitor passengers at the airport and reduces staff and fraud. When the RFID tag is stored next to the RFID reader, the data is read and compare data in system memory. If similar, the fingerprint sensor is used for pointing passenger fingerprints. When fingerprints are matched, a valid message will be displayed. If not, an invalid message will be displayed. This function can be further enhanced by help identify Iris and passenger bio metrics. UML drawings are used using the Rose Rational Tool to they help us visualize different types of programs and software and the results are very different extract by connecting JSP to html and get the http link. After all the implementation and simulation has been done correctly one key parameter for this project is performance improvement report there is a table mentioned. by comparing and the benefits of how much better this project is old based on performance.

VI.ACKNOWLEDGEMENT

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