Assessment 1A – Software Project Proposal	
Project Name	Driving License Inventory System
Group #	1
Group Members Names	Carlos Armando Escalona Montes de Oca Sudarshan Udash Srijana Aryal Dewmi Nihara
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Contents

1. Title of the project

DRIVING LICENSE INVENTORY SYSTEM

2. Problem Description

In some major countries like the USA, the process of receiving a driving license is a systematic and efficient task. Each state can issue driving licenses to applicants and the data is communicated throughout the country through an integrated system. The US Department of Transportation works in collaboration with The Department of Motor Vehicles in each state to provide licenses to its applicants in an efficient manner. However, in some of the worst corners of the world, the lack of a proper driving license inventory system has led to several problems. One of the prime examples of a country with a mismanaged driving license system is Nepal.

According to The Kathmandu Post, Aug. 2021, over a million applicants of driving license in Nepal were affected by the mismanagement of the License provision. It also suggested that 700000 applicants were still pending following the pandemic. One of the major reasons for the long pending applicants is the lack of a reliable integrated license inventory system in Nepal. Although application forms are accepted online, every other step has to be done by directly appearing in the related institution. When hundreds of applicants had to manually upload their documents through the institution, they were lined up in a queue in all the institutions that operated in the field. When servers are down due to traffic, the whole operation is stopped for hours or even days and months.

The 2017 report by the Kathmandu post suggested over 26000 people driving without a license. In addition to this, there are fine systems for traffic offenses in three categories that includes Nrs 500 for minor offense, Nrs 1000 fine for drivers without license and Nrs 1500 for major offense and one cannot properly track down the reports of their payments. Fines too must be paid to institutions which makes it even more tedious. Although the report suggests huge economic gain from fine collection, the investments are lacking behind in terms of technological advancements.

Apart from these issues, one major hindrance to the processing of driving license in Nepal is corruption. Misuse of powers by the transport authorities as well as the presence of third parties has led to a massive corruption problem. On June 21, 2022, The Commission for the Investigation of Abuse of Authority filed a case against 17 individuals in a fake driving license scandal. Out of the 17, 12 were from the Transportation Management Office. This is not the first-time scandals like these have appeared on the news. Corruption has become a culture in the driving license ecosystem that even normal people are accepting of it considering the tiresome process of achieving a driving license.

From the above research, three major problems can be pointed out. They are.

1. *Mismanagement of applicants leading to people's dissatisfaction.*
2. *Lack of a reliable system leading to everything being manual*
3. *Lack of transparency leading to corruption.*

3. Proposed Solution

As students of software engineering, our team have decided to develop a Driving License Inventory System to tackle the problems mentioned above. Our system will have the following features to tackle the mentioned problems.

1. *A User-friendly system*

The driving License Inventory System will be built around the satisfaction of its applicants. The system will allow its user to carry out every task of registration online. Every task from application form to receiving the driving license will be digitized by our system. It will remove the tedious process and allow applicants to make desirable scheduling. The interface will be user friendly keeping in mind both applicants and operating staff.

2. *A reliable target-oriented system.*

If our system must prove its existence, the system has to fulfill all sorts of issues that an individual can face during any events related to driving license. If an individual can fill his driving license form through our system, the ability to receive the license will also be through our system. Our systems will allow instant payment features for driving fines and users will also be able to view records collected in the system. The system will target to meet the users demands as much as possible.

3. *A transparent system*

The introduction of this system itself will create a transparent environment in the driving sector. When everything becomes digitally possible, third parties who are heavily involved in license scandals will be eliminated to a certain degree. Moreover, features like online payments will allow the proper tracking of the economy. If every individual can have access to data such as registration earnings, total fine collection, costs of license etc. the chances of scandals become low.

4. Project Plan

To develop the proposed project, we will be using a hybrid process of prototype method and agile methodology (Scrum Framework). The individual stages and its activities are mentioned below.

1. *Initiation (Estimated 2 to 3 weeks)*

At the beginning of this project in Scrum, a vision of the project must be clearly communicated. The stakeholders of the project, some of whom are license applicants, organizational staff, project owners etc. are clearly identified. It is also at this stage that a team is gathered to assign roles. Scrum Master is assigned who then is responsible for the completion of the project. The requirements of the project are communicated between all stakeholders and the product backlog is created for individual features.

Some product backlogs can be

- *Applicants Login System*
- *Applicants Registration System*
- *Online Payment System*
- *Prototypes of the project.*
- *User stories for every product backlog*

2. *Planning and Estimation (Estimated 1 week)*

After all the product backlogs are created, it is necessary to create Sprints (an interval of time). This requires a high level of team collaboration as they are responsible for estimating the required sprints for each product backlog.

For the above product backlogs, the sprints can be

- *Applicants Login System – 2 to 3 days*
- *Applicants Registration System – 3 to 4 days*
- *Online Payment System – 1 to 2 weeks*
- *Prototypes of project – 2 to 3 days*
- *User stories – 1 hour per backlog*

3. *Implementation (Estimated 3 to 5 weeks)*

With sprints properly defined through thorough communication, the implementation of the project is started. Team members follow every task based on the sprints. A 15 mins "daily meeting" is a requirement of Scrum as it helps communicate what a member did before, what a member did now and what a member is supposed to do tomorrow. This enables fluid communication of project development.

4. *Reviewing (Estimated 2 weeks)*

At the end of each sprint, a team meeting along with stakeholders come together to review the developed features. Feedbacks and opinions to further the features are communicated in this stage. It provides room for quick maintenance after each sprint.

5. *Releasing (Estimated 1 week)*

After the project is reviewed, it is presented to the stakeholders as a completed project. The vision of the project and completed projects are reviewed by the team and stakeholders. Each sprint is analyzed to determine the strength and weakness of the team for the next project.

Going with a hybrid version of prototype modeling will provide better presentation and vision of the finalized product. Prototypes can easily communicate the look of the product to the clients. One can easily understand a prototype and need not have a technical and development background. Although this project has a fixed requirement now, the possibility of future updates is high. To ensure convenience for the future, agile methodology is selected.

Also, out of the several frameworks of agile, Scrum is selected as it is one of the commonly used frameworks. It allows versatility in team coordination with daily meetings and review meetings. The pressure of the visualized project is broken down into sprints which provides an easy environment to work on.