

# **Online Drivers' License Training System (ODLTS): The Case of Addis**

## **Ababa Transportation Authority**

**By**

**Mulnehe Awoke & Elias G/Selasie**

Faculty of Informatics, Department of Computer Science

### **1. Introduction**

These days there are a great advancement in web based systems such as online training, online exams and many others. In the case of our country, most training systems are still manual. The case in point is driver's training. Accordingly, this project is focused in developing a web based driver's training system which will enhance the process of delivering a driver license to users. Online drivers' training system provides 24-7 service and enables anyone to attend the classes where ever they are and when ever they want. Object oriented artifacts such as UML (Unified Modeling Language) were used to analyze, design and implement the system.

### **2. The current system and its problem**

The Addis Ababa Transportation Authority is responsible for evaluating drivers and issuing a driving license. The training is being conducted by different private training institutes. The current system functions manually and is too traditional. It suffers from many problems and some of them include:

- The whole chain is bureaucratic and hence it takes too much time to be licensed
- Time and place limitation
- It is costly
- Corruption and fraud and
- Delay in the evaluation process

### **3. Objectives of the system**

#### **3.1 General Objective**

The general objective of this project is to develop a software system that can improve further the process of drivers' license delivery.

#### **3.2 Specific Objectives**

- Provide sufficient course related modules and references
- Minimize cost
- Provide 24 hours service
- Make learning process interactive that use video and other interactive medias
- Enable drivers to view their result right after examination
- Enable the administrator to view drivers information and progress
- Generate forms and reports
- Provide virtual class rooms for drivers
- Enable drivers to perform better in short period of time
- Provide fast exam and evaluation system
- Enable drivers to learn at their own pace

### **4. Purpose of the system**

The proposed system will support student who can attend classes online. It will have a base on a server that is driven via web page. The system will have forms that are used to record student information. It also generates student result report. Authorized user will have access to their result as well as modules, multimedia /video/, tutors, and exams related to the course. It is easy to update system resource, tutors, student results, exams and supplementary things. Some of the benefits of the system are summarized as follows;

- Easy to handle driver information.
- Reduce redundant /repeated/ information.
- Reduce number of copies of reference material.
- It reduces less storage device when we compare to the old system.
- Reduce data inconsistency and data redundancy.

- Reduce e employee's strain.
- Reduce printing cost.

#### **For the drivers**

- No time and place limitation to study.
- Easy to access material like modules, tutor, audio and video, and other materials online.
- Minimize transportation cost
- Reduce printing cost.
- Easy to access organized information.

### **5. Scope of the system**

The project enhances only the student registration, training, examination and evaluation process. It does not include the process of issuing a driver's license and other parts of the current system.

### **6. Non- Functional Requirements**

#### **6.1 User interface and human factor**

The ODLTS provides a graphical user interface. This makes it very interactive with users. The users of the ODLTS should at least have a basic Knowledge of the internet.

#### **6.2 Performance Characteristics**

The performance is highly dependent on the platform which it to be deployed on; because with a high performance machine, it is possible to run many concurrent users with no problems.

#### **6.3 Quality issues**

The system is going to be available for an eligible users/ a registered user with username and password/ on a computer with internet connection anytime and anywhere. Every information that go through the system is reliable. The client is involved in assessing the quality of the system in the development process.

## **6.4 System Modification**

The system is anticipated to undergo changes in its scope in the future while technological, economical and political changes occur. The ODLTS provides a technical documentation which will help in performing changes.

## **6.5 Physical Environment**

The system will be developed on a server which is to be provided by the client. External factor such as weather conditions has no effect on the performance of the system

## **6.6 Security Issues**

The server on which the system is to be deployed is expected to have the highest level of security against external instructions and malicious users.

## **6.7 Resource Issues**

The system is expected to perform under a limited internet connection speed server specifications.

# **7. System Model**

## **7.1 Scenarios**

Driver registration

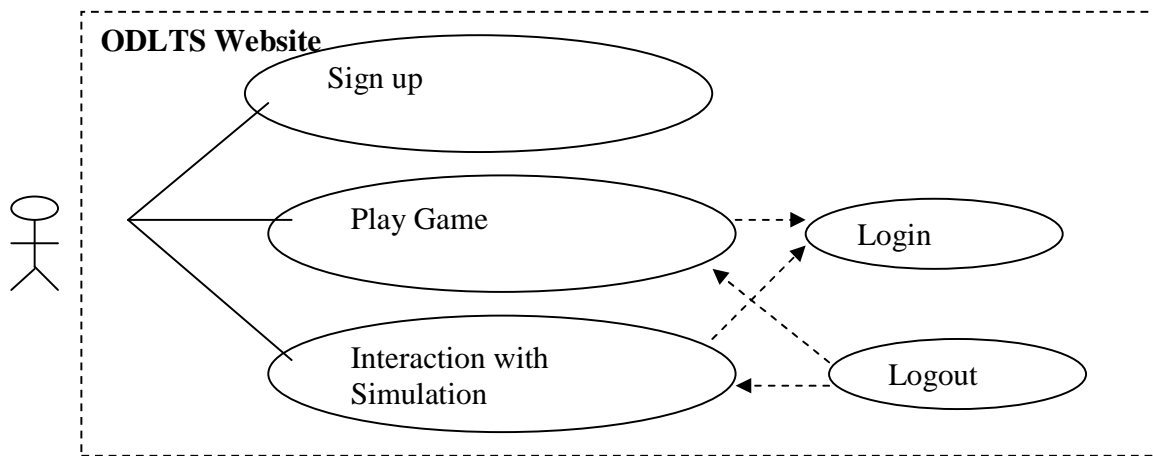
Scenario name

Participating actor instances

### **Flow of event**

1. The driver activities signup function from the ODLTS logging page.
2. The ODLTS displays a form containing fields to be filled by driver
3. The driver enters personal information, registration number, username and password.
4. The driver activates the signup function.
5. The ODLTS registers the driver onto the database in the server.
6. The ODLTS acknowledges the driver by displaying OK message.

## 7.2 Use Case Model



User case name: **Register**

Description: Unregistered driver register to be users of the system,

**Participating Actors:** Student

**Entry Condition:** Driver who wants to signup as a user of the system.

**Flow of events**

1. The use case begin when the driver activate the signup function via U11 login page.
2. The system display U12 registration form.
3. The driver fills the form by writing personal information, user name and password via U12. Once it is completed the driver submits the form
4. The ODLTS review submitted form and create a new driver on the database /Alt course A/.
5. The system displays U13, A message confirming a completed registration
6. The use case ends.

A3. The system displays U14, an error message, indicating some problems on the submitted from.

A4. The use case ends.

**Exit condition:** The driver receives acknowledgment.

**Special requirements:** A driver can only signup once and have only one username and password.

### 7.3 Object Model

**Name:** Driver

**Description:** A major player of the system /Actor/ and a registered user of the system

**Attributes:** First Name  
Middle Name  
Last Name  
Driver ID  
Age  
Sex  
Date of Birth  
Date of Registration  
Registration Number  
User Name  
Password

**Properties:** Sign Up  
Login  
Play Game  
Interact With Simulation  
Logout

**Name:** User Account

**Description:** User information containing user name and password

**Attributes:** User Name  
Password

**Name:** Game

**Description:** A playground for the driver to learn basic driving skill and rules

**Attributes:** Title  
Game Type  
Rules  
Description

**Name:** Simulation

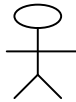
**Description:** A partially simulated part of a vehicle that demonstratives different parts

**Attributes:** Title

Description

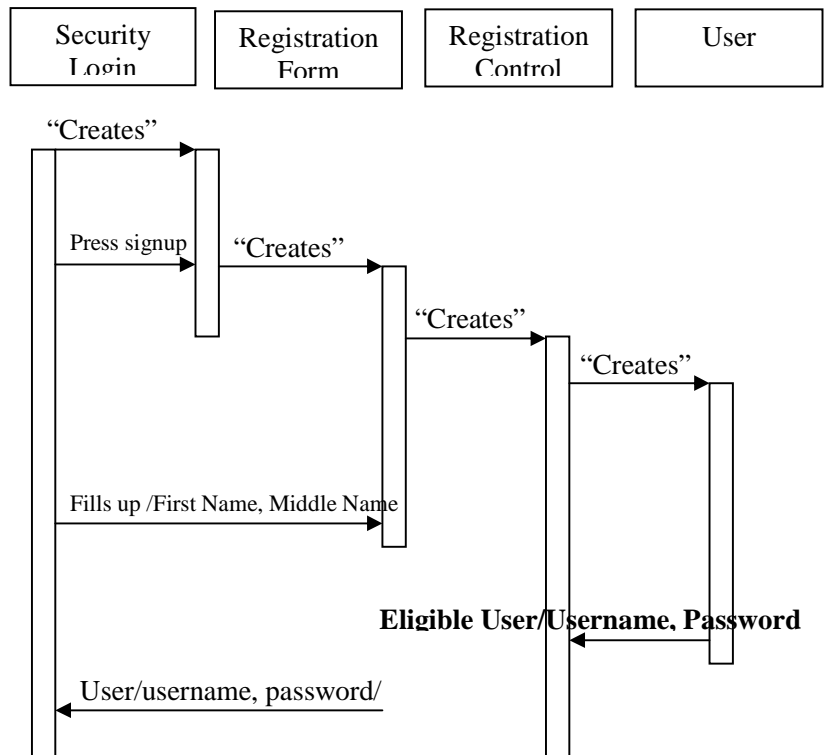
### 7.4 Sequence Diagram

#### Registration



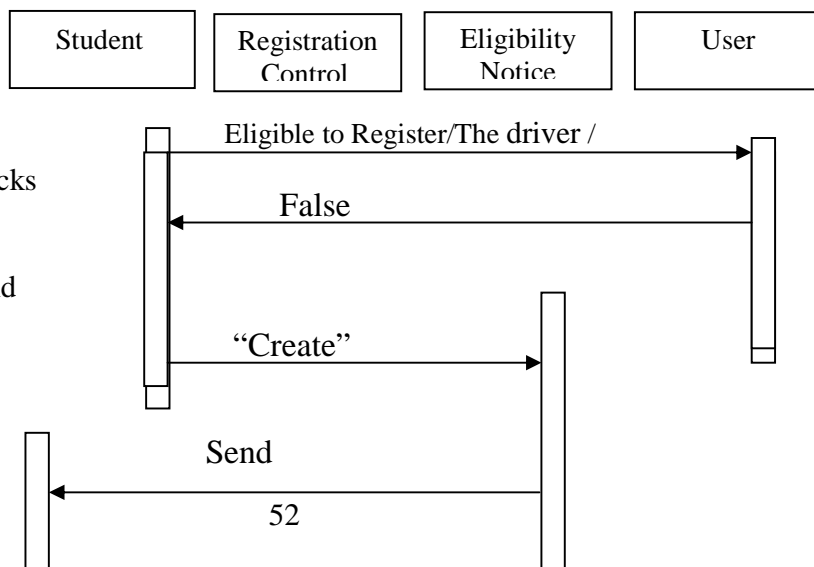
Signup as user basic courses of action.

1. Driver wishes to sign up
2. Driver presses signup button from the login page
3. The system displays a registration form
4. The driver enters personal, registration and user information and submits the form.
5. The registration control creates a new driver and acknowledges.
6. The registration control acknowledges the driver with the new user created.



Signup as a user basic course of action.

- A.4. The Registration control checks eligibility
- A.5. The Registration Control send the user ineligibility notice
- A.7. Use case ends.



## **8. Conclusions**

Since the success or failure of any system depends on gathering the right information through different fact-finding technique and users' involvement, the team has made the best effort to gather these requirements. After having detailed review and study of the existing system, the model has been designed to reflect the new system that is supposed to solve the problems. We have also made a prototype to demonstrate what the proposed system would be at its completion. Eventually, it facilitates activities such as registration of diver, user authentication, course module preparation, student evaluation process, posting results, driving practice through simulation.

## **9. Recommendations**

Based on the findings and conclusions reached at, the following recommendations are forwarded to improve the performance of the system.

- The current system should be immediately implemented to overcome the different problems.
- Intensive training should be given for employees before and after the system is implemented to give an insight on the awareness of technology.
- Further studies should be made

## **References**

1. Popper K.() In Objective Knowledge: An Evolutionary Approach
2. Scoott W. (2001) *Object Primer*. (2<sup>nd</sup> edn.) Cambridge: Ambler
3. Second grade driver's training hand book.