HÖGSKOLAN I SKÖVDE

Subject: Scientific Theory in Informatics - IT731A

Project Title: Educational Gamification for Volvo Car drivers for Adults

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Seminar assignment 4: Gamification

We are planning to work on "**Educational Gamification for Volvo Car drivers for Adults**". The main purpose of the client is to teach car driving while the users are entertaining with the game. The client wants to impose game elements in the driving training program on the Volvo car users.

The game aims to learn driving for adult users, to achieve it the players have to pass through different levels and each level will be packed up with different tasks so that he could unlock the next level. Another important is to teach the Road Safety Rules that should be followed while driving and to make familiarize them with the fundamental parts of the Volvo cars.

The main game features are: point systems, leader-boards, and badges, the next stage becomes live when completed each stage. Bonuses will be awarded to quick learners to encourage their engagement in the Game. The game has three levels, level-1-city road driving softly, level-2- highway and accelerates fast, yet driving safely for the environment and traffic safety, level-3- housing estate in which making sure the player is observant of people and pets that may move through these areas. Each of these levels is divided into different chunks of sub-levels and an impressive and convenient way that the player will not get bored. The player must be able to handle traffic and know the traffic rules. The game also has a quiz feature that comprises multiple-choice questions and picture matching parts to be able to assess their knowledge in the driving rules, car parts functionalities, and other fundamental vehicular activities at the end of each level. The quiz also related to the knowledge of how to do a standard check of the vehicle, like checking the brakes, lights, and part names and functionalities of the Volvo cars. In our car driving game, we focus on simplicity pictures and animations are used for demonstrating the use of controls, and everyday language is used for naming and explaining functions and elements.

Fig: Car driving simulation

The game controls the user's operating behavior by monitoring acceleration and speed while the user is driving. The program analyzes the recorded driving and operation behavior after the drive and can provide hints about what should be trained in more detail.

The player plays the game using different control features and plays to score the best score and achieve the highest level in the tricky and challenging environment. The game has control buttons to control the vehicle's movement and balance. So the user is expected to control the car having in mind all the safety rules and vehicular general regulations.

The player goals are achieving high scores, high star badges, and entertaining. So the main goal of the player is to carefully drive the car, maximizing his score to achieve the desired destination.

The goals are achieved when the player plays the game while respecting the traffic safety rules and regulations and answers the quiz part of each level of the game. Additionally, the player is expected to maintain the standard speed of the car in different areas and roads. Therefore, users will collect scores and badges and entertains and engages in the game while getting educational driving training and the quiz part also covers the comprehensive knowledge of a driver in the health and functionality of different parts of a Volvo car. Background music and an applause sound on the achievement of the users' success will be available at each level and sub-levels. The vehicle entry and start process including the necessary

adjustments that are essential for a safe drive are included. The adjustments are the seat, rearview mirrors, other game configurations are included to configure by the user.

The Volvo cars company should have to create a game for beginner customers(Novice drivers) to familiarizing the Car before owning it. The car functionalities, car parts, and safety rules and regulations are also will be included in the game design to create an impression before and after owning the car to ease and facilitate the teaching and learning process of Volvo cars for new drives. Finally, this boosts the profit of the company, by attracting the customers of the Volvo cars by creating an impression before the car hands. The game will impose a general awareness of customers' driving process in a very comprehensive and gamified manner to decrease accidents and avoid safety issues.

The game will be delivered as standalone software that can be used in android and windows operating systems. According to world statistics, the market share of the operating system shows that windows and android hold more than 70% of the world market share.

Game design for education is not an easy task that an interdisciplinary level of competent professionals is expected to engage. To build up the game a strong IT skill is required, To achieve in the game to design we need to have strong knowledge in programming, and design skill is required is needed. Apart from you must have a flair knowledge in the designing part as well as graphics, and the animation plays a huge role in developing the game. Also, a game designer must be familiar with scenery design and user interface design as well. In general, the required competencies are Graphics Designers, UX/UI Designers, Software testing team, Software Developers, Project Manager, Psychologists, Mechanical Engineers, Drivers, pedagogists, and Driving license trainers.

The expected problems that we will face during the development of the game are lack of Experienced(Skilled Personnel), client expectation mismatch, team coordination, and integration and lack of time and cost constraints.

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References

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