

Vision and Scope Document

for

SMART ELECTRONIC LICENSE PLATE

**Version 1.0 approved**

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**SOFTWARE REQUIREMENT**

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**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Hoang Le Thanh Son | 20/5/2018 | Initial Version | 1.0 draft |
| Dang, Mien, Tung | 22/5/2018 | Update business context | 1.1 approved |
| Dang Tran Hai Dang | 24/5/2018 | Format reports |  |

# Business Requirements

## Background

* Drivers in the city get into trouble of wasting time when buying ticket at the parking area entrance. They spend an average of 5 minutes each time they go to park their cars, for going in and out. They also need to spend time on many fees related to their cars, and renewal their licenses.
* Government need to keep track of cars running on the road in case of traffic accidents, they can handle in time and avoid traffic jams.
* Drivers nowadays don’t want to spend too much time paying the fees for their cars.

## Business Opportunity

* Drivers requested a method that can decrease their time for buying ticket at parking area, paying the fees at many place. They want a software system can be embed in their License plate to do these things, and can synchronize with their banking account to pay the fees.
* Government need to keep tracks of cars (this is a sensitive case, but can bring many benefits), to find the exact position of a car when it is in an accident or its driver has just violated the transport law.
* Parking area managers want to decrease or remove money to hire staff for keeping the cars and selling tickets.
* Driver need to find a way that can help them renew their licenses without going to centers. (of course they need to be qualified for the new license).
* Businesses are finding ways to display marketing and advertising.

## Business Objectives

* BO – 1 : Reduce time spent for paying, waiting for drivers :
  + No need to wait to buy ticket to park cars.
  + License plate can be synchronized with driver’s accounts, help them pay their fees automatically.
  + Software will automatically renew driver license as long as drivers pass the test before.
* BO – 2 : Reduce 400$ each month for the parking area thanks to removing the ticket and keeping staff.
* BO – 3 : Reduce 50% time to handle transport problems such as accidents.

## Success Metrics

* SM – 01 : 70% of drivers who use the parking service at least 5 times per week register to use this product.
* SM – 02 : Get the rating of 3.0/5 after 6 months of release.

## Vision Statement

For drivers who need time to do other things in their life than waiting for ticket and going to pay fees for their cars, the Smart License Plate is a smart device that is embedded into the plate of the cars. The plate will store the exact position of the driver by GPS connection, it will be synchronized with its owner’s banking accounts, that will help drivers pay their fees automatically and they do not need to go to the centers to pay anymore. The device will save a huge time for drivers, and save 400$ each month for the parking area thanks to removing the ticket and keeping staff. Time to handle traffic situations will be reduced 50% because government can know exactly where the car is to go in time. Unlike the current traditional license plate with no utilities, our product will synchronize with drivers’ banking accounts to help them pay their fees automatically, keep their safety on the road by the GPS tracking system.

## Business Risks

* RI – 1 : Too few drivers use this product, reducing the return on investment from the system development (Probability = 0.4, Impact = 5)
* RI – 2 : Local governments do not agree with using this product due to some reasons. (Probability = 0.2, Impact = 7)
* RI – 3 : Local governments cannot update the new technology, then the product cannot be used (Probability = 0.3, Impact = 8).

## Business Assumptions and Dependencies

* AS – 1 : The system will provide user an appropriate graphic interface to help them do the tasks more easily.
* AS – 2 : Other platforms – based applications will be made to connect with system, help the system to be more interactive.
* AS – 3 : New technologies will be integrated into parking areas.

# Scope and Limitations

## Major Features

* FE – 1 : Using GPS system to identify the exact position of the driver and his car
* FE – 2 : Auto-pay when crossing the electronic barrier in the parking areas.
* FE – 3 : Create an emergency signal and send to the government information when the car have problems like accidents.
* FE – 4 : Auto-pay the traffic fees by subtracting directly into driver’s banking accounts.
* FE – 5 : Show the bill for owner after each time of transaction.
* FE – 6 : Display marketing and advertising.

## Scope of Initial Release and Subsequent Release

|  |  |  |  |
| --- | --- | --- | --- |
| * + 1. **Feature** | * + 1. **Release 1** | * + 1. **Release 2** | * + 1. **Release 3** |
| FE – 1 : Using GPS system to identify the exact position of the driver and his car | *Define exact position of the car and notice for driver* | *Connect to governments to control traffic situation* | *Fully implemented* |
| FE – 2 : Auto-pay when crossing the electronic barrier in the parking areas. | Auto-pay when crossing the electronic barrier | *Fully implemented* |  |
| FE – 3 : Create an emergency signal and send to the local police information when the car has problems like accidents. | *Not implemented* | *Automatically send signal to governments when accidents happen* | *Fully implemented* |
| FE – 4 : Auto-pay the traffic fees by subtracting directly into driver’s banking accounts. | *Deal with stakeholders* | *Implement autopay function to software* | *Fully implemented* |
| FE – 5 : Show the bill for owner after each time of transaction. | *Not implemented* | *Implement in parallel with FE – 4* | *Fully implemented* |
| FE – 6 : Display marketing and advertising | *Implemented* | *Implemented* | *Fully implemented* |

## Limitations and Exclusions

* LI – 1 : Local authorities have to upgrade their infrastructure to be suitable with the product with new technologies.
* LI – 2 : New plate will be more vulnerable than the old one, users should be careful to protect them.

# Business Context

## Stakeholder Profiles

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Stakeholder*** | ***Major Value*** | ***Attitudes*** | ***Major Interests*** | ***Constraints*** |
| *Driver* | *saved time and efforts* | *highly receptive but need enough awareness of the new system* | *1.no need to stop to pay road fees*  *2.no need to buy tickets* | *1.increase cost when registering new license plate*  *2.care more about privacy when their position is revealed* |
| *Police* | *less effort to control accidents* | *highly receptive, but expect high usability* | *automatic accident reports* |  |
| *Agencies that provide License Plate* | *access to larger databases* | *highly receptive but concern with technology and high usability* | *1.fewer procedures for registering or upgrading licenses*  *2. save all information of users* | *1.training staff to adapt to new technology* |
| *Government* | *Save money for road staff in the long term* | *receptive, but big concern about money and time to implement* |  | *1.May focus on short-term problems and gains.*  *2.Take a long time to change the old system or integrate with current one* |
| *Parking area management* | *Reduce money to hire staff* | *highly receptive, but expect high usability* | *1. No need to check drivers or give out tickets or hire a guard in the entrance* |  |
| *BOT Staff* | *No benefit*  *May lose job* | *unwelcome* |  |  |
| *Credit Card Agencies* | *Increased revenue* | *highly receptive* | *1. cooperate with agencies that provide license plate to let users pay through their services* |  |

## Project Priorities

|  |  |  |  |
| --- | --- | --- | --- |
| ***Dimension*** | ***Driver (state objective)*** | ***Constraint (state limits)*** | ***Degree of Freedom (state allowable range)*** |
| *Schedule* | *release 1 planned to be available by end of this year, release 2 by middle of next year* |  |  |
| *Features* |  | *All features scheduled for release 1.0 must be fully operational.* |  |
| *Quality* |  | *80% of user acceptance tests must pass before release the official version.* |  |
| *Staff* |  | *maximum team size is 1 PM, 1 BA, 6 developers + 3 testers* |  |
| *Cost* |  |  | *budget overrun up to 15% acceptable without sponsor review* |

## Deployment Considerations

*The server of software and itself will need to be always up-to-date. This software will have to be developed for both Windows and Linux operating system. Only people with authorities are allowed to access the software, as well as be able to see, change and move the records for each situation. Records will be automatically added/updated and classified by the system. A video lasts about 10 minutes in length shall be created to train the users for each operating system.*