# **8.1 Introduction**

Main reason for conducting an evaluation phase is to recognize the extent which the developed solution fulfills the requirements of the real users. And along with that to measure the usability aspects of the system. Therefore the chapter has attempted to emphasize on key areas of the system evaluation and also the evaluation of system practices

# **8.2 Types of Evaluation**

Evaluation is a systematic process of acquiring and assessing the system related information in order to provide useful feedback about system. Questions such as “whether the current system process is in the right track and meeting the users’ requirement?” or “whether the developed system has met the user requirements?” are answered by conducting system evaluation at different stages of the development. Formative Evaluation and Summative Evaluation are two types of evaluations performed during the system development.

Formative evaluations strengthen or improve the system being evaluated. They help form it by examining the delivery of the program or technology, the quality of its implementation, and the assessment of the organizational context, personnel, procedures, inputs, and so on. Summative evaluations, in contrast, examine the effects or outcomes of some object. This is done on finished system in order to assess the success of it. High-fidelity prototype method which uses the materials that are similar to the finished product, is use to perform the summative evaluation in order to measure the success of the system.

# **8.3 Evaluation of Project Outcome**

The key purpose of the product evaluation is to check whether the system is operating as expected and has achieved the objectives. Outcomes of the product evaluation helps to determine whether the functional requirements or the user requirements of the new system had being executed during the stage of development. The functional evaluation is used to evaluate the outcomes of the project. Functionality tests are carried out by using several groups such as user group and evaluators in order to make sure whether the system had continuously attempted to meet the functionalities and to find out any faults that could be occurred during the functionality of the new system.

Results of some evaluations tasks done are presented below. In each scenarios application were installed on the devices before evaluating and the user accounts were provided when necessary.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Participants | 1 | 2 | 3 | 4 | 5 |
| Demographic Details |  | | | | |
| User Type | Claim Agents | | | | |
| Sex | Male | Male | Male | Male | Male |
| Experience with smart devices | Mid | Mid | High | Low | Mid |
| Tab Application Tasks |  | | | | |
| Login to the application | √ | √ | √ | √ | √ |
| Enable agent to claim | √ | √ | √ | √ | √ |
| Enter Policy Id and retrieve policy information | √ | √ | √ | √ | √ |
| Enable agent to press the claim button | √ | √ | √ | √ | √ |
| Enable agent to fill the necessary forms | √ | √ | √ | √ | √ |
| Enable agent to add/remove spare parts from list | √ | √ | √ | √ | √ |
| Enable agent to attach images | √ | √ | √ | √ | √ |
| Enable agent to complete the form and submit the claim to ground office for approval | √ | √ | √ | √ | √ |
| Evaluation Criteria’s |  | | | | |
| Time taken to submit claim | 12m | 11m | 10m | 15m | 12m |
| Number of faults made | 0 | 1 | 0 | 2 | 1 |
| Number of times user expressed satisfaction | 2 | 0 | 1 | 2 | 1 |
| Number of times where the user got frustrated | 0 | 1 | 0 | 1 | 0 |
| Number of times users needed help | 1 | 0 | 0 | 1 | 0 |

Table : Evaluation of Tab Application

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Participants | 1 | 2 | 3 | 4 | 5 |
| Demographic Details |  | | | | |
| User Type | Clients | | | | |
| Sex | Male | Male | Female | Male | Female |
| Experience with smart devices | High | High | Mid | Low | Mid |
| Mobile Application |  | | | | |
| Open the application | √ | √ | √ | √ | √ |
| Enable to type the policy number and report | √ | √ | √ | √ | √ |
| Evaluation Criteria’s |  | | | | |
| Time taken to submit claim | 2m | 3m | 2m | 3m | 3m |
| Number of faults made | 0 | 0 | 0 | 1 | 0 |
| Number of times user expressed satisfaction | 1 | 1 | 0 | 2 | 1 |
| Number of times where the user got frustrated | 0 | 0 | 0 | 0 | 0 |
| Number of times users needed help | 0 | 0 | 0 | 0 | 0 |

Table : Evaluation of Mobile Application

In order to make the evaluation process fruitful, it is vital to find the overall aspects of the system which could be improved further. Analyzing the design findings against the usability principle will be a very good approach to this. From evaluating the screen designs of the MVCS according to data obtained by interviewing and observing.

|  |  |  |  |
| --- | --- | --- | --- |
| Component | Tab Application | Web Application | Mobile Application |
| Usability Principle |
| Keep it simple & clear | √ | √ | √ |
| Visibility of system status | √ | √ | √ |
| Match between system and the real world | √ | √ | √ |
| User control and freedom | √ | √ | √ |
| Familiarity | √ | √ | √ |
| Help users recognize, diagnose and recover from errors | √ | ⅹ | √ |
| Error prevention | ⅹ | √ | √ |
| Recognition rather than recall | √ | √ | √ |
| Flexibility and efficiency | ⅹ | √ | √ |
| Aesthetic and modern UI design | √ | √ | √ |
| Help users recognize, diagnose, and recover from errors | √ | √ | √ |

Table : User Interface Evaluation

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# **8.4 Significance of the Solution**

As an overall by using the tablet application agent were able to access and confirm the policy details real time in a speedy manner. Another functional requirement was to provide agent with the real updated value of the vehicle parts avoiding the estimating the market value of spare parts according to the agents experience. It was also successfully achieved through allowing the agent to access the exact market price by accessing to the company’s database via the web service. Agent can be easily accessed to the database and get the details of added vehicle component of a particular vehicle. All the documents that the agent needs to carry out are replaced by a small portable tablet application which includes connects with the company database. Photos which are used to perform the claim process accurately can take instantly via that tablet application and can be uploaded to the companies’ database at that instance.

|  |  |
| --- | --- |
| Solutions to the Problem Domain | |
| Problem to Address | **Solution Provided** |
| Agent needs to contact the head office in order to verify the particular customers’ policy number and to get the relevant details under that policy number. This requires various resources like communication tools and time. | Agent can do this by entering the policy number to the tablet application. Solution to the mentioned problem was provided. |
| Agent will only name the current market value for the damaged vehicle part by his market experience and that value may not be the real updated value for that particular vehicle spare part. | Agent can gain the exact market price by accessing to the company’s database via the web service. |
| Special components (such as high tech car setups, defending buffers) added to the vehicle cannot be easily assessed due to the lack of information (since the agent has no information regarding the insurance of those components and verification provided by the insurance company). | Agent can be easily accessed to the database and get the details of added vehicle component of a particular vehicle. |
| An agent needs to carry out and review lots of documents in order perform an accurate claiming process | All the documents can be replaced by a small portable yet powerful tablet pc which includes the access to company database |
| Agent needs several instruments such as cameras in order to perform an accurate claiming process. And also take considerable amount of time to approve the claiming amount by the claiming officer at the head office. | All devices and utilities needed are integrated in to single device and can upload images instantly. |
| Client have to call and specifically tell the location of the accident which may be sometimes not clear to the agent. | Client can easily report the accident with a one click along with the GPS coordinates |

Table : Solutions to Problems Summary

# **8.5 Evaluation of Project Practices**

Evaluation of project practices is mainly performed to assess the process and actions in order to evaluate how it was done, to assess the level of success, find out any alternative ways of doing process & actions and to figure out any limitations that were arise at the each stage of the software development.

Since the agile approach was used in developing the system, requirement gathering, designing, development, testing were conducted con currently. Several meetings were conducted with the clients to get the requirements and then a working prototype was developed. By demonstrating the prototype to the clients feedback was obtained for the prototype as well as the additional requirements. By adapting to this method developers were able to identify the erroneous places in the requirements at the early stage in module wise. Not only that but also client feedback about the design gathered in order to provide them with more user friendly interfaces. Less complex UML techniques were also used in designing the system during development process. They were also demonstrated to customer to get the feedback. By doing so developer was able to fine tune the requirements to exactly what the client wants and it led to saving lot of development time.

Once the development started, the system was tested with the use of different types of system strategies such as unit testing, integration testing and system testing. Testing was done concurrently with the development of the system before conducting the meeting with clients. Several test cases were designed in order make sure system behaves as the client requested. After identifying the necessary changes to the system prototype was again fine-tuned with the changes before the next meeting. This whole process was conducted iteratively until clients were satisfies with the developed system. In general, the customer feedback meetings was successfully accomplished though smaller amount of shortcomings were reported. The shortcomings that were found out were mainly due to the short of knowledge on insurance industry, motor vehicle market and also for not having a similar system in the industry or any other industry at the present in Sri Lanka.

# **8.6 Summary**

This chapter was dedicated to provide a detailed evaluation on the project practices and the product developed to the reader. Process evaluation was done by evaluating phase by phase while product was evaluated discussing the problems of the current system and functional requirements of the new system.