

**HANOI UNIVERSITY**

**Faculty of Information Technology**

**SYSTEM ANALYSIS AND DESIGN FINAL REPORT**

**Faculty : Information Technology**

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**Topic: Computer Shop System**

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**Abstract**

*Technological Revolution substantially changed our-life. Computers has become more and more important in our work and entertainment. The need of computer is increasing each year. Therefore, a System that helps Computer Shops and customers in sale, management will make it easier to bring those technology products to many people. Computer Shop Management System is a solution for customers ordering PCs, laptops and computer components online as well as management them in store inventory. The goal of our project is to followed the Rational Unified Process (RUP) to capture the business context of the system, collect and specify requirement for the system, analysis the requirements to provide an architectural design solution for the Computer Shop Management System. . The Computer Shop Management System is designed to fulfil both functional and non-functional requirements. The results of our works consist of system documentations for three workflows: business modeling, requirements and analysis & design; Unified Modeling Language (UML) model artifacts (using draw.io and Star UML); and a runnable prototype of the system.*

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**GROUP ROLES**

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| --- | --- |
| **Members** | **Roles** |
| Hoàng Trung Hiếu (1701040054) | Business Designer, Business Process Analyst |
| Trần Văn Đạt (1701040028) | Designer |
| Phạm Thị Hồng Trang (1701040174) | Requirements Specifier |
| Phùng Minh Nguyệt (1701040123) | Software Architecture |
| Đào Văn Quang (1701040139) | Database Designer |

1. **Business Modeling (Hoàng Trung Hiếu)**

Hieu is the business designer and business process analyst. He is responsible for the business architecture. He describes target-organization assessment, business vision, business usecase, supplementary bussiness specification Target-organization assessment is used by the Business-Process Analyst as a basis for configuring the business modeling discipline for a particular project. The Target-Organization Assessment is also used to explain to the stakeholders why there is a need to change the business processes, create motivation and a common understanding among the people in the target-organization that are directly or indirectly affected and as input to the Development Case and the Iteration Plans. Secondly, The Business Vision document captures very high-level objectives of a business modeling effort. It provides input to the project-approval process and is, therefore, intimately related from a software engineering effort to the Business Case as well as the Vision document. It communicates the fundamental "whys and whats" related to the project and is a gauge against which all future decisions should be validated. In business use case part, Hieu describes 15 use-case which realted to Computer management system. Finally, a Business-Process Analyst is responsible for the integrity of the Supplementary Business Specification, which is an important complement to the Business Use-Case Model and Business Object Model. The Supplementary Business Specifications, the Business Use-Case Model, and the Business Object Model together should capture all information needed about the business to understand the context of the system.

1. **Require Definition (Phạm Thị Hồng Trang)**

Hong Trang is the requirements specifier. She detailed the specification of a part of the system's functionality by describing the Requirements aspect of one or several use cases and other supporting software requirements. She is also responsible for the use-case package, and maintains the integrity of that package. She detailed the use cases and the supplementary requirements and made them consistent with other requirements discipline artifacts. Besides, She captured requirements on the user interface, including usability requirements.

1. **Prototype (Trần Văn Đạt & Đào Văn Quang)**

They have implemented a prototype to demonstrate the Computer Shop Management System functionality using HTML, CSS & JavaScript (with additional libraries and frameworks such as Bootstrap, jQuery,…). The prototype is provided a simple Graphical User Interface and have some function of the system specified in requirements definition such as view product, add computers, …

The prototype is to demonstrate the system functionality; therefore, there are no server-side code and dedicated database yet. Also, in the prototype, models and controllers are putted into a single file.

Acount for testing prototype:

|  |  |
| --- | --- |
| E-mail | Password |
| [admin@gmail.com](mailto:admin@gmail.com) | 123456 |

1. **Analysis and Design (Phùng Minh Nguyệt)**

Nguyet describes software architecture document which provides a comprehensive overview of the architecture of the software system. It serves as a communication medium between the software architect and other project team members regarding architecturally significant decisions which have been made on the project. Then, she describes all the fuctions by explaning use case belonged to this function and draw class diagram for them.

1. **Conclusion**

Based on knowledge acquired from this course (FIT329 SAD) and previous courses, we have designed a management system with requirement match real world business (Computer Shop Management System). In our project, we have modeled business context for the system, capture and describe system requirement using both textual and UML notation. Moreover, we have designed the system using Model-View-Controller models as a foundation; therefore, improve robustness and reusability of system components. Nevertheless, there is still room for improvement in project. Because our knowledge base limit and inexperience in System Analysis & Design particularly and Information Technology in general, erroneous in our work are inevitable. Therefore, we will continue improve our knowledge to deliver better product in the future.