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| |  |  |  | | --- | --- | --- | | **Logo_FPT_University_doc** | **MINISTRY OF EDUCATION AND TRAINING** | | | **FPT UNIVERSITY** | | |
| Capstone Project |
| Software Module for Delivery Helper  Software Project Management Plan |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  | | --- | --- | --- | --- | | **Group 5** | | | | | **Group Members** | Nguyễn Hoàng Việt Khánh |  | 60566 | | Nguyễn Thị Yên Thịnh |  | 60269 | | Nguyễn Đỗ Vượng |  | 60075 | | An Ngọc Anh |  | 60223 | | **Supervisor** | Lâm Hữu Khánh Phương | | | | **Capstone Project code** | SMDH | | | | |
| * Ho Chi Minh City, Jan / 2013 - |

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# Problem Definition



## Name of this Capstone Project

Project Full name: **Delivery Helper**

Project Code: **SMDH (Software Module for Delivery Helper)**

## Problem Abstract

Tiktak là một công ty chuyên về vận chuyển hàng hóa. Hệ thống CNTT của công ty hiện nay đã cơ bản hoàn thành. Nó đã hỗ trợ công ty các chức năng cơ bản nhất như Xử lý các đơn hàng, các yêu cầu của khách hàng, cho phép tạo các Kế hoạch Gom hàng và kế hoạch giao hàng. Do nhu cầu mở rộng, công ty quyết định thêm các tính năng khác như là : thêm nhiều phương thức giao hàng và thanh toán hơn, quản lý nhân viên giao hàng, cung cấp quản lý hàng hóa cho ng bán hàng ko có website, cung cấp các report để hỗ trợ các bên kinh doanh …

## Project Overview

### The Current System

Hệ thống hiện tại đủ để thực hiện các task vụ cơ bản như Xử lý các đơn hàng, các yêu cầu của khách hàng, cho phép tạo các Kế hoạch Gom hàng và kế hoạch giao hàng.

### The Proposed System

SMDH là một tập hợp các module cho nhiều chức năng

* *Management*: Cho phép Vendor quản lý được hàng hóa buôn bán của họ. Customer có thể tracking được order của họ. Tiktak staff có thể manage được số delivery men
* *AutoSchedule:* Chức năng mới cho phép Tiktak staff tạo Các CollectionPlan 1 cách tự động dựa trên trọng số của các request. Tiktak Staff có thể Manual điều chỉnh trọng số.
* *AutoPricing:* Chức năng cho phép Vendor mỗi lần submit request với các info thì sẽ tự động tính ra giá cả của các Order trong request đó
* *Reporting* : Báo cáo theo ngày, theo tuần hay theo một khoảng thời gian nào đó sẽ được hệ thống in ra 1 cách rõ ràng và 9 xác.

### Boundaries of the System

* Hệ thống sẽ được sử dụng bởi
  + Tiktak Staff
  + Vendor (những ng buôn bán hàng qua mạng)
  + Customer. (người mua hàng)
  + Hub (Những người của Convinient Store)
* Tất cả các chức năng này được xây dựng dựa trên nhu cầu của Tiktak Company, khách hàng của Tiktak.
* Tác vụ chính vẫn là tập trung đến các tác vụ liên quan giao nhận hàng, tuy nhiên có vài tác vụ sẽ hỗ trợ cho E-Commerce.

### Development Environment

***Hardware Requirements:***

* Personal computers for developing with the minimum configuration: 2 GB of RAM, 40GB of hard disk, Core 2 Duo 2.0 GHz

***Software Requirements:***

* Operating system: Windows 7
* IDE: Visual Studio 2010 SP1
* Microsoft Office (Word, Excel)
* DBMS: SQL Server 2008 R2 Express
* Source Control: SVN
* Browser: Chrome/Firefox

# Project organization

## Software Development Process Model

Chúng tôi sử dụng Mô hình Waterfall.



## Roles and Responsibilities

|  |  |  |
| --- | --- | --- |
| Full name | Role in Group | Responsibilities |
| Lâm Hữu Khánh Phương | Supervisor | * Tracking & managing progress * Advising Idea & solutions * Suggesting & supporting in technologies |
| Nguyễn Hoàng Việt Khánh | Team Leader, Developer, Business Analyst, Tester, QA | * Tracking & managing progress * Designing database * Creating coding framework * Analyzing requirements * Planning & scheduling * Coding * Testing * Writing documents & reports |
| Nguyễn Thị Yên Thịnh | Developer, Business Analyst, Tester | * Analyzing requirements * Coding * Writing documents * Testing |
| Nguyễn Đỗ Vượng | Developer, Business Analyst, Tester | * Analyzing requirements * Coding * Writing documents * Testing |
| An Ngọc Anh | Developer, Business Analyst, Tester | * Analyzing requirements * Coding * Writing documents * Testing |

Table 1 - Roles and Responsibilities

## Tools and Technologies

***Tools:***

* *Microsoft Visual Studio 2010*: Used to implement software modules.
* *Microsoft SQL server 2008 R2 Express*: Used as the database of the system.
* *Microsoft Excel*: For the team leader to manage tasks of the members and the progress of the project.
* *Microsoft Project 2010*: for team tracking
* *TortoiseSVN*: Control Source code of the whole project.
* *VisualSVN*: extension for using subversion (SVN) inside Visual Studio.
* *Google Cloud Connect*: Connect and synchronize the documents.
* *Google Code:* SVN Repository
* *Enterprise Architect:7.5:* Draw Diagram and Use case
* *Balsamiq Mockup:* for prototyping
* *Crystal Report 13:*for reporting function
* *Google Chrome, Firefox*: Used to test the system

**Technologies:**

* ASP.NET MVC 3
* LINQ
* HTML 5, CSS 3, AJAX, jQuery, Bootstrap
* Google Maps API

# Project Mangement Plan

## Tasks

|  |  |
| --- | --- |
| **Scope Study and Technology** | |
| Description | General requirements analysis, technology & business process study |
| Deliverables | The feasibility report and decisions for the project |
| Resources Needed | 25 man-days |
| Dependencies and Constraints | N/A |
| Risks | * The project or the chosen technology is not feasible. * Team members don’t |
| **Documentation and review** | |
| Description | Create all the necessary documents for research and delivery |
| Deliverables | 1. Project Management Plan (PMP) 2. Software Requirements Specification (SRS) 3. Create Software Architecture Design (SAD) 4. Software Design Description (SDD) 5. Software Test Documentation (STD) 6. Software User’s Manual (SUM) |
| Resources Needed | FPT templates,  75 man-day |
| Dependencies and Constraints | Follow FPT templates |
| Risks | * Not follow FPT Templates * Team members lack experience in creating documents, * Bootle-Neck in review because lack of resources that have experience in review * Requirements are changing so quickly, CR appears |
| **GUI design and implementation** | |
| Description | Design user interface |
| Deliverables | Prototype (in HTML & PNG format) |
| Resources Needed | 25 man-days |
| Dependencies and Constraints | Web Application |
| Risks | * CR appears frequently * Lack of Desinger and HCI experience * Not all team members can design front-end (2/4 Members can design) |
| **Implementation** | |
| Description | Create the executable files |
| Deliverables | Solution (SLN) with all needed project files. |
| Resources Needed | Visual Studio 2010, .NET framework 4, Web browsers  200 man-days |
| Dependencies and Constraints | * All Teammembers should understand their module precisely * All Teammember have to experience the MVC3.0, and EF4.1 |
| Risks | * Team members don’t have experience with Technologies * Some function and modules are underestimate so can keep the deadline * Coding not follow conventions. |
| **Release and deployment** | |
| Description | Release the complete application and deploy it on the server |
| Deliverables | SDMH installation file and all the related documents (SUM) |
| Resources Needed | Installation package  10 man-days |
| Dependencies and Constraints | Meet the user requirements |
| Risks | * Can’t baseline and release on time |
| **Quality control** | |
| Description | Testing application’s performance and usability |
| Deliverables | STD |
| Resources Needed | QA, testers (team member),members), FPT template test case  75 man-days |
| Dependencies and Constraints | Follow FPT template test case |
| Risks | * Bug rate is very high * Some bugs can detect from Implementation by Perform UT not by IT * Test cases doesn’t meet the LOCs |
| **Human resource management** | |
| Description | Manage human resource, task assignments and member’s performances |
| Deliverables | Project Task List – Assignment Table sheet |
| Resources Needed | Project Task List |
| Dependencies and Constraints | N/A |
| Risks | * First time teamwork together * Communication Risk |

## Task sheet

|  |  |  |  |
| --- | --- | --- | --- |
| **Task Name** | **Duration** | **Start** | **Finish** |
| **Initiating** | **1 day** | **Thu 1/3/13** | **Thu 1/3/13** |
| Hold kick off meeting | 1.13 days | Thu 1/3/13 | Thu 1/3/13 |
| **Planning** | **5.62 days** | **Fri 1/4/13** | **Mon 1/7/13** |
| Prepare project introduction | 1 day | Fri 1/4/13 | Fri 1/4/13 |
| Develop Software Management Plan | 2 days | Sat 1/5/13 | Sun 1/6/13 |
| Review Project Plan | 1 day | Mon 1/7/13 | Mon 1/7/13 |
| **Executing** | **65.4 days** | **Thu 12/27/12** | **Tue 4/30/13** |
| **Vendor Plugin** | **16.08 days** | **Fri 1/4/13** | **Sat 1/26/13** |
| Create Mockup | 1 day | Fri 1/4/13 | Fri 1/4/13 |
| Review Mockup | 1 day | Sat 1/5/13 | Sat 1/5/13 |
| Create Basic Design (Architecture Design) | 6.12 days | Fri 1/4/13 | Tue 1/8/13 |
| Review Basic Design | 1 day | Wed 1/9/13 | Wed 1/9/13 |
| Create Detail Design | 4 days | Thu 1/10/13 | Mon 1/14/13 |
| Review Detail Design | 1 day | Sun 1/13/13 | Sun 1/13/13 |
| Coding | 5 days | Mon 1/14/13 | Sun 1/20/13 |
| Coding Review | 1 day | Mon 1/21/13 | Mon 1/21/13 |
| Unit Testing | 2 days | Tue 1/22/13 | Wed 1/23/13 |
| Vendor Plugin Deliverables | 0 days | Thu 1/24/13 | Thu 1/24/13 |
| **AutoSchedule** | **16.44 days** | **Thu 1/3/13** | **Fri 2/1/13** |
| Create Mockup | 1 day | Thu 1/3/13 | Thu 1/3/13 |
| Review Mockup | 1 day | Fri 1/4/13 | Fri 1/4/13 |
| Create Basic Design (Architecture Design) | 6 days | Sat 1/5/13 | Sun 1/13/13 |
| Review Basic Design | 1 day | Mon 1/14/13 | Mon 1/14/13 |
| Create Detail Design | 5 days | Tue 1/15/13 | Mon 1/21/13 |
| Review Detail Design | 1 day | Tue 1/22/13 | Tue 1/22/13 |
| Coding | 5 days | Wed 1/23/13 | Tue 1/29/13 |
| Coding Review | 1 day | Wed 1/30/13 | Wed 1/30/13 |
| Unit Testing | 2 days | Thu 1/31/13 | Fri 2/1/13 |
| AutoSchedule Deliverables | 0 days |  |  |
| **Report** | **13.5 days** | **Thu 1/3/13** | **Sat 1/26/13** |
| Report list | 2 days | Thu 1/3/13 | Fri 1/4/13 |
| Review Report List |  |  |  |
| Report Design + Reviewing |  |  |  |
| Report Deliverables |  |  |  |
| **Hub Management** | **18.93 days** | **Fri 1/4/13** | **Wed 2/6/13** |
| Create Mockup | 2 days | Fri 1/4/13 | Sat 1/5/13 |
| Review Mockup | 1 day | Sun 1/6/13 | Sun 1/6/13 |
| Create Basic Design (Architecture Design) | 5 days | Mon 1/7/13 | Sun 1/13/13 |
| Review Basic Design | 1 day | Mon 1/14/13 | Mon 1/14/13 |
| Create Detail Design | 6 days | Tue 1/15/13 | Wed 1/23/13 |
| Review Detail Design | 1 day | Thu 1/24/13 | Thu 1/24/13 |
| Coding | 8 days | Fri 1/25/13 | Tue 2/5/13 |
| Coding Review | 1 day | Wed 2/6/13 | Wed 2/6/13 |
| Unit Testing | 2 days | Mon 1/7/13 | Tue 1/8/13 |
| AutoSchedule Deliverables | 0 days | Tue 1/8/13 | Tue 1/8/13 |
| **Web For Vendor Management Product** |  |  |  |
| Create Mockup | 4.12 days | Sat 1/12/13 | Sun 1/13/13 |
| Review Mockup | 1 day | Mon 1/14/13 | Mon 1/14/13 |
| Create Basic Design (Architecture Design) | 12 days | Sat 1/26/13 | Sun 2/24/13 |
| Review Basic Design | 1 day | Sun 2/24/13 | Sun 2/24/13 |
| Coding | 10 days | Mon 2/25/13 | Tue 3/12/13 |
| Coding Review | 1 day | Wed 3/13/13 | Wed 3/13/13 |
| Unit Testing | 2 days | Thu 3/14/13 | Fri 3/15/13 |
| Deliverables | 0 days | Sat 2/16/13 | Sat 2/16/13 |
| **Testing** | **33.52 days** | **Fri 3/1/13** | **Mon 4/22/13** |
| Project Scope Studying | 7 days | Fri 3/1/13 | Sun 3/10/13 |
| Create Test View Point Document | 7 days | Mon 3/11/13 | Thu 3/21/13 |
| Review Test Viewpoint Document | 1 day | Thu 3/21/13 | Thu 3/21/13 |
| Create Integration Test Case Document | 10 days | Wed 3/20/13 | Thu 4/4/13 |
| Review Integration Test Case Document | 1 day | Thu 4/4/13 | Thu 4/4/13 |
| Perform Test | 10 days | Fri 4/5/13 | Sat 4/20/13 |
| Review Test Report | 1 day | Sat 4/20/13 | Sat 4/20/13 |
| Deliverable: Test Report | 0 days | Sat 4/20/13 | Sat 4/20/13 |
| **Monitoring and Controlling** | **57.04 days** | **Mon 1/7/13** | **Sun 4/28/13** |
| **Weekly Report** | **53.8 days** | **Sun 1/13/13** | **Sun 4/28/13** |
| Weekly Report 1 | 1 day | Sun 1/13/13 | Sun 1/13/13 |
| Weekly Report 2 | 1 day | Sun 1/20/13 | Sun 1/20/13 |
| Weekly Report 3 | 1 day | Sun 1/27/13 | Sun 1/27/13 |
| Weekly Report 4 | 1 day | Sun 2/3/13 | Sun 2/3/13 |
| Weekly Report 5 | 1 day | Sun 2/10/13 | Sun 2/10/13 |
| Weekly Report 6 | 1 day | Sun 2/17/13 | Sun 2/17/13 |
| Weekly Report 7 | 1 day | Sun 2/24/13 | Sun 2/24/13 |
| Weekly Report 8 | 1 day | Sun 3/3/13 | Sun 3/3/13 |
| Weekly Report 9 | 1 day | Sun 3/10/13 | Sun 3/10/13 |
| Weekly Report 10 | 1 day | Sun 3/17/13 | Sun 3/17/13 |
| Weekly Report 11 | 1 day | Sun 3/24/13 | Sun 3/24/13 |
| Weekly Report 12 | 1 day | Sun 3/31/13 | Sun 3/31/13 |
| Weekly Report 13 | 1 day | Sun 4/7/13 | Sun 4/7/13 |
| Weekly Report 14 | 1 day | Sun 4/14/13 | Sun 4/14/13 |
| Weekly Report 15 | 1 day | Sun 4/21/13 | Sun 4/21/13 |
| Weekly Report 16 | 1 day | Sun 4/28/13 | Sun 4/28/13 |
| **Monthly Assesment** | **45.08 days** | **Mon 1/7/13** | **Sun 4/7/13** |
| Monthly Assesment 1 | 1 day | Mon 1/7/13 | Mon 1/7/13 |
| Monthly Assesment 2 | 1 day | Thu 2/7/13 | Thu 2/7/13 |
| Monthly Assesment 3 | 1 day | Thu 3/7/13 | Thu 3/7/13 |
| Monthly Assesment 4 | 1 day | Sun 4/7/13 | Sun 4/7/13 |
| **Closing** | **4.12 days** | **Wed 5/1/13** | **Thu 5/2/13** |
| Closing project Document | 1 day | Wed 5/1/13 | Wed 5/1/13 |
| Post-Morterm meeting | 1 day | Wed 1/2/13 | Wed 1/2/13 |

# Coding Convention

## Naming Convention

* Private Fields: underscore followed by lowerCamelCase. ( ex: int \_privateField)
* Non-private Fields and properties: UpperCamelCase. (ex: int PublicField)
* Local variables: lowerCamelCase. (ex: int localVariable)
* Do not use consecutive underscores in name.
* Do not use Hungarian style.

## Lengths

* Public name should not be longer than 32 characters or 7 words.
* Methods should contain no more than 70 lines of code (if it is, it must be divided into methods).
* Methods should contain no more than 5 levels of indentation (if it is, it must be divided into methods).
* A line of code should contain no more than 80 characters.