|  |
| --- |
|  |
| Capstone Project Document |

**DANDELION**

Report #2 – Class Design

|  |  |  |
| --- | --- | --- |
| **Dandelion** | | |
| **Group Members** | Vũ Công Chính | SE02585 |
| Lưu Ngọc Mạnh | SE02619 |
| Nguyễn Minh Huy | SE02723 |
| Dương Đức Anh | SE02700 |
| Vũ Ngọc Trung | SE02967 |
| Cao Thị Phương Mai | SE02908 |
| **Supervisor** | Mr. Nguyễn Văn Sang | |
| **Project code** | DDL | |

**- Hanoi, 09/2015 -**

# SIGNATURE PAGE

AUTHOR: Lưu Ngọc Mạnh 28/09/2015

Project Manager

REVIEWERS: Nguyễn Minh Huy 30/09/2015

Team member

APPROVAL: Nguyễn Văn Sang --/--/--15

Supervisor

Record of change

\*A - Added M - Modified D – Deleted

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Effective Date | Changed Item | A,M,D | Change Description | Reason for Change | Rev. Number |
| 28/Sep/2015 | Create Class Design | A | First version | Create Class Design | 1.0 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

TABLE CONTENTS

[SIGNATURE PAGE 1](#_Toc430709025)

[1 Introduction 4](#_Toc430709026)

[1.1 Purpose 4](#_Toc430709027)

[1.2 Definitions and Acronyms 4](#_Toc430709028)

[2 PROJECT OVERVIEW 5](#_Toc430709029)

[2.1 Project Description 5](#_Toc430709030)

[2.2 Scope and Purpose 5](#_Toc430709031)

[2.2.1 Purpose of Project 5](#_Toc430709032)

[2.2.2 Scope of Project 5](#_Toc430709033)

[2.2.3 The functions of Project 5](#_Toc430709034)

[2.3 Assumptions and Constraints 7](#_Toc430709035)

[2.4 Project Objectives 8](#_Toc430709036)

[2.4.1 Standard Objectives 8](#_Toc430709037)

[2.4.2 Specific Objectives 8](#_Toc430709038)

[2.5 Critical Dependencies 9](#_Toc430709039)

[2.6 Project Risk 9](#_Toc430709040)

[3 PROJECT DEVELOPMENT APPROACH 10](#_Toc430709041)

[3.1 Project Process 10](#_Toc430709042)

[3.1.1 FPT Software Process Model 10](#_Toc430709043)

[3.1.2 Project Life Cycle 11](#_Toc430709044)

[3.2 Requirement Change Management 12](#_Toc430709045)

[3.3 Quality Management 12](#_Toc430709046)

[3.3.1 Defect Prevention Strategy 12](#_Toc430709047)

[3.3.2 Review Strategy 13](#_Toc430709048)

[3.3.3 Unit Testing Strategy 13](#_Toc430709049)

[3.3.4 Integration Testing Strategy 14](#_Toc430709050)

[3.3.5 System Testing Strategy 14](#_Toc430709051)

[3.3.6 Estimates of Defects to be detected 14](#_Toc430709052)

[3.3.7 Measurements Program 15](#_Toc430709053)

[4 ESTIMATION 15](#_Toc430709054)

[4.1 Size 15](#_Toc430709055)

[4.2 Effort 15](#_Toc430709056)

[4.3 Schedule 15](#_Toc430709057)

[4.3.1 Project Milestone & Deliverables 15](#_Toc430709058)

[4.3.2 Activity Schedule 18](#_Toc430709059)

[4.4 Resource 19](#_Toc430709060)

[4.5 Infrastructure 19](#_Toc430709061)

[4.6 Training Plan 20](#_Toc430709062)

[4.7 Finance 20](#_Toc430709063)

[5 PROJECT ORGANIZATION 21](#_Toc430709064)

[5.1 Organization Structure 21](#_Toc430709065)

[5.2 Project Team 21](#_Toc430709066)

[5.3 External Interfaces 23](#_Toc430709067)

[5.3.1 FPT Software Interfaces 24](#_Toc430709068)

[5.3.2 FPT University’s Interfaces 24](#_Toc430709069)

[6 COMMUNICATION & REPORTING 25](#_Toc430709070)

[7 CONFIGURATION MANAGEMENT 27](#_Toc430709071)

# Introduction

## Purpose

Dandelion class design document contains descriptions of all classes of the Dandelion. It includes: Class diagrams that describe the static relation of all classes in the system.

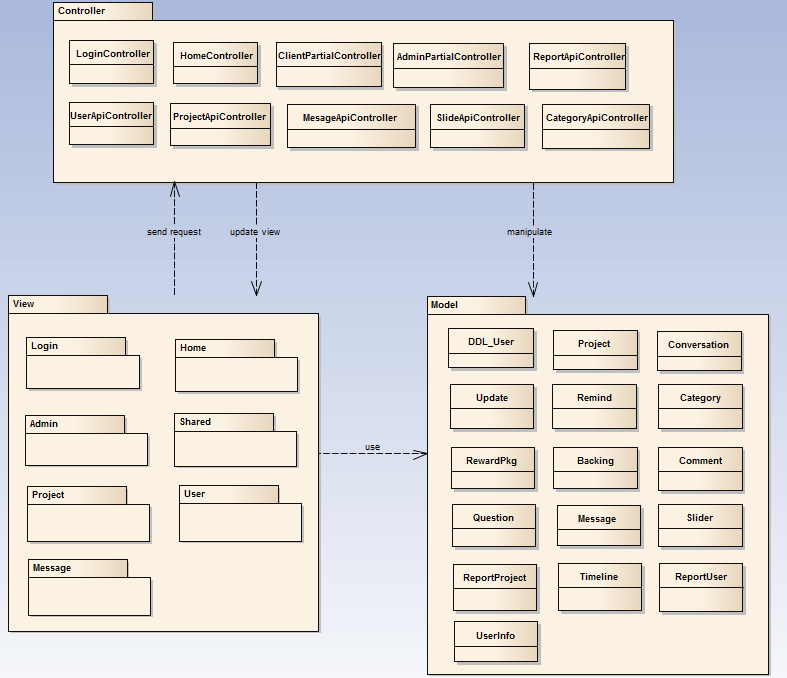
## Definitions, Acronyms and Abbreviations

|  |  |  |
| --- | --- | --- |
| Abbreviations | Description | Comment |
| FAP | Fly Away Plus |  |
| FAQ | Frequently Asked Question |  |

1. Definitions, Acronyms and Abbreviations

# Package

## Package Diagram



1. Package Diagram

## Package Description

### Model

#### User

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | UserID | int |  | public | User’s ID |
|  | UserName | String |  | public | User’s name |
|  | Password | String |  | public | User’s password |
|  | IsActive | bool |  | public | User’s active status (inactive, active) |
|  | CreatedDate | Datetime |  | public | User’s created date |
|  | LoginType | int | 1 | public | User’s created type includes: normal, Facebook or both |
|  | LastLogin | Datetime |  | public | User’s last login |
|  | UserType | Int | 2 | public | User’s type (admin or nomal user) |
|  | IsVerify | bool |  | public | User’ email verify status |

1. User model

#### Userinfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | UserID | int |  | public | Person’s ID |
|  | Email | String |  | public | Person’s email |
|  | FullName | String |  | public | Person’s full name |
|  | ProfileImage | String |  | public | Person’s profile image |
|  | Biography | String |  | public | Person’s biography |
|  | Address | String |  | public | Person’s address |
|  | Gender | String |  | public | Person’s gender |
|  | Phone | String |  | public | Person’s phone number |
|  | DateOfBirth | Datetime |  | public | Person’s date of birth |
|  | Country | String |  |  | Person’s country |
|  | Website | String |  |  | Person’s website |
|  | FacebookURL | String |  |  | Person’s facebook link |

1. UserInfo model

#### Project

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | ProjectID | int |  | public | Project’s ID |
|  | ProjectCode | String |  | public | Project’s code with fixed format |
|  | CategoryID | int |  | public | Project’s category |
|  | UserID | int |  | public | Project’s UserID who created project |
|  | ProjectTitle | String |  | public | Project’s title |
|  | Risk | String |  | public | Project’s risk |
|  | ImageLink | String |  | public | Project’s image link |
|  | SubDescription | String |  | public | Project’s sub description |
|  | Location | String |  | public | Project’s location created |
|  | IsExpired | bool |  | public | Is Project’s expired |
|  | CurrentFunded | int |  | public | Project’s funded status |
|  | IsFunded | bool |  | public | Is Project’s funded |
|  | CreatedDate | datetime |  | public | Project’s createdDate |
|  | ExpiredDate | datetime |  | public | Project’s expired date |
|  | FundingGoal | int |  | public | Project’s funding goal |
|  | Description | String |  | public | Project’s description |
|  | LinkVideo | String |  | public | Project’s video link |
|  | Story | String |  | public | Project’s story |
|  | PopularPoint | int |  | public | Project’s popular point |
|  | Status | Int |  | public | Project’s status ( draft, pending, approved, suspended) |

1. Project model

#### Question Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | QuestionID | Int |  | public | question’s ID |
|  | ProjectID | Int |  | public | question’s project id |
|  | Question | String |  | public | question’s question |
|  | Answer | String |  | public | question’s answer |
|  | CreatedDate | Datetime |  | public | question’s created date |

1. Question Model

#### Category model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | CategoryID | int |  | public | Category’s ID |
|  | Name | String |  | public | Category’s name |
|  | IsActive | bool |  | public | Category’s active status |
|  | Description | String |  | public | Category’s description |

1. Category Model

#### Update Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | UpdateID | int |  | public | Update’s ID |
|  | ProjectID | Int |  | public | Update’s project id |
|  | Title | String |  | public | Update’s title |
|  | Description | String |  | public | Update’s description |
|  | CreatedDate | datetime |  | public | Update’s created date |

1. Update Model

#### Timeline Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | TimelineID | int |  | public | Timeline’s ID |
|  | ProjectID | int |  | public | Timeline’s project id |
|  | Title | String |  | public | Timeline’s title |
|  | Description | String |  | public | Timeline’s description |
|  | DueDate | datetime |  | public | Timeline’s due date |

1. Timeline Model

#### ReportProject Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | ReportID | int |  | public | Report ’s ID |
|  | ProjectID | int |  | public | Report ’s project id |
|  | UserID | int |  | public | Report ’s user id, who report project |
|  | Subject | String |  | public | Report ’s subject |
|  | ReportContent | String |  | public | Report ’s content |
|  | ReportDate | datetime |  | public | Report ’s report date |
|  | Status | String |  | public | Report’s status (new, viewed, done) |

1. ReportProject Model

#### Remind Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | RemindID | int |  | public | Remind’s ID |
|  | ProjectID | int |  | public | Remind’s |
|  | UserID | int |  | public | Remind’s |

1. Remind Model

#### Backing Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | BackingID | int |  | public | Back’s ID |
|  | UserID | int |  | public | Back’s user id |
|  | ProjectID | int |  | public | Back’s project id |
|  | BackedDate | Datetime |  | public | Back’s date |
|  | PledgeAmount | Int |  | public | Back’s pledge amount |
|  | Description | String |  | public | Back’s description |
|  | IsPublic | bool |  | public | Is Back public |

1. Backing Model

#### Comment Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | CmtID | int |  | public | Comment’s ID |
|  | UserID | int |  | public | Comment’s user id |
|  | ProjectID | int |  | public | Comment’s project id |
|  | CmtContent | String |  | public | Comment’s content |
|  | CmtDate | Datetime |  | public | Comment’s date |
|  | IsHide | bool |  | public | Is Comment’s hide |

1. Comment Model

#### ReportUser Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | ReportID | int |  | public | Report’s ID |
|  | ReportUserID | int |  | public | Report’s report user ID |
|  | ReportedUserID | int |  | public | Report’s reported user ID |
|  | Status | String |  | public | Report’s status (new, viewed, done) |
|  | Subject | String |  | public | Report’s Subject |
|  | ReportContent | String |  | public | Report’s content |
|  | ReportDate | datetime |  | public | Report’s date |

1. ReportUser Model

#### Slide Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | SlideID | int |  | public | Slide’s ID |
|  | UserID | Int |  | public | user id of user who create slide |
|  | SlideTitle | String |  | public | Slide’s title |
|  | Order | int |  | public | Slide’s order |
|  | Description | String |  | public | Slide’s description |
|  | ImageLink | String |  | public | Slide’s image link |
|  | IsActive | bool |  | public | Slide’s isActive status |
|  | SliderURL | String |  | public | Slide’s slide URL |
|  | ButtonColor | String |  | public | Slide’s button color |
|  | CreatedDate | datetime |  | public | Slide’s created date |
|  | ButtonText | String |  | public | Slide’s button text |

1. Slide Model

#### Conversation Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | ConversationID | int |  | public | Conversation’s ID |
|  | CreatorID | int |  | public | Conversation’s creator id |
|  | ReceiverID | int |  | public | Conversation’s receiver |
|  | Subject | String |  | public | Conversation’s subject |
|  | CreatedDate | Datetime |  | public | Conversation’s created date |
|  | UpdatedDate | Datetime |  | public | Conversation’s update date |
|  | DeleteStatus | int |  | public | Conversation’s user delete status |
|  | ViewStatus | int |  | public | Conversation’s user view status |

1. Conversation Model

#### Message Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | MessageID | int |  | public | Message’s ID |
|  | ConversationID | int |  | public | Message’s conversation id |
|  | UserID | int |  | public | Message’s user id |
|  | MessageContent | String |  | public | Message’s content |
|  | SentTime | Datetime |  | public | Message’s sent time |

1. Message Model

#### RewardPkg Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Field Name** | **Type** | **Default** | **Note** | **Description** |
|  | RewardID | int |  | public | Reward’s ID |
|  | ProjectID | int |  | public | Reward’s project id |
|  | LimitedQuantity | String |  | public | Reward’s limited quantity |
|  | Type | int |  | public | Reward’s type (noReward, hasReward) |
|  | Description | String |  | public | Reward’s description |
|  | EstimatedDeliveryDate | datetime |  | public | Reward’s estimated delivery date |
|  | IsHide | bool |  | public | Is Reward hide |

Table 2‑15: reward packet table

### View

Contain many .cshtml files to display user interface.

### Controller

#### LoginController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | AuthenFacebook |  |  | User login with Facebook |
|  | ForgotPassword |  |  | Set user’s password to a random string and send to user |
|  | Login | String, string |  | User login with registered account |
|  | Logout |  |  | User logout from FAP |
|  | SendMail | String, string |  | Send mail to user |
|  | VerifyAccount | String, int |  | Verify email |

1. Login Controller

#### HomeController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | Index |  | ActionResult | Display index page |
|  | Login |  | ActionResult | Display login page |
|  | Error |  | ActionResult | Display error page |
|  | AdminLogin |  | ActionResult | Display login page for admin |

1. Home Controller

#### ClientPartialController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | Home |  | ActionResult | Display home page |
|  | Register |  | ActionResult | Display Register page |
|  | ForgotPassword |  | ActionResult | Display ResetPassword page |
|  | Discover |  | ActionResult | Display discovery page |
|  | CreateProject |  | ActionResult | Display create project page |
|  | ProjectDetail |  | ActionResult | Display project detail page |
|  | EditProject |  | ActionResult | Display Edit Project page |
|  | Statistic |  | ActionResult | Display Statistic page |
|  | BackingFirstStep |  | ActionResult | Display first Backing page |
|  | BackingSecondStep |  | ActionResult | Display second Backing page |
|  | PublicProfile |  | ActionResult | Display Public Profile page |
|  | AccountInfo |  | ActionResult | Display Account Info page |
|  | EditProfile |  | ActionResult | Display Edit Profile page |
|  | Message |  | ActionResult | Display Message page |
|  | BackedProject |  | ActionResult | Display Backed Project page |
|  | CreatedProject |  | ActionResult | Display Created Project page |
|  | RemindedProject |  | ActionResult | Display Reminded Project page |
|  | About |  | ActionResult | Display About page |
|  | Help |  | ActionResult | Display Help page |
|  | Error |  | ActionResult | Display Error page |

1. ClientPartialController

#### AdminPartialController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | Dashboard |  | ActionResult | Display Dashboard page |
|  | ForgotPassword |  | ActionResult | Display Forgot Password page |
|  | UserDashboard |  | ActionResult | Display User Dashboard project page |
|  | UserList |  | ActionResult | Display User List page |
|  | UserDetail |  | ActionResult | Display User Detail page |
|  | ProjectDashboard |  | ActionResult | Display Project Dashboard page |
|  | PendingProjectList |  | ActionResult | Display Pending Project List page |
|  | ProjectList |  | ActionResult | Display Project List page |
|  | ProjectDetail |  | ActionResult | Display Project Detail page |
|  | BackingList |  | ActionResult | Display Backing List page |
|  | ManageCategory |  | ActionResult | Display Manage Category page |
|  | ManageSlide |  | ActionResult | Display Manage Slide page |
|  | UserReportList |  | ActionResult | Display User Report List page |
|  | ProjectReportList |  | ActionResult | Display Project Report List page |
|  | Message |  | ActionResult | Display Message page |
|  | AdminProfile |  | ActionResult | Display Admin Profile page |

1. AdminPartialController

#### UserApiController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | GetCurrentUser |  | JsonResult | Get current user |
|  | CreateUser |  | JsonResult | Create new account |
|  | EditProfile | int, object | JsonResult | Edit personal information |
|  | LockUser | int | JsonResult | Lock a reported user |
|  | UnlockUser | int | JsonResult | Unlock a reported user |
|  | CancelReportUser | int | JsonResult | Delete an user from report list |
|  | AddToReminder | int | JsonResult | Add a project to reminder |
|  | RemoveFromReminder | int | JsonResult | Remove a project from reminder |
|  | ChangePassword | int, string | JsonResult | Change account’s password |
|  | GetListRemindProject | int | JsonResult | Get remind project list of current user |
|  | GetListUsers |  | JsonResult | Get all users list |
|  | ChangeUserStatus | int, Boolean | JsonResult | Change user’s status |

Table -21: User API Controller

#### ProjectApiController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | GetProject | int | JsonResult | Get project detail information |
|  | CreateProject |  | JsonResult | Create a new project |
|  | EditProject | int, object | JsonResult | Edit project informaiton |
|  | BackProject | int, decimal | JsonResult | Current user back a project |
|  | GetBackedProjectList |  | JsonResult | Get backed project list of current user |
|  | GetCreatedProjectList |  | JsonResult | Get created project list of current user |
|  | SearchProject | String | JsonResult | Search a project’s name |
|  | GetProjectList |  | JsonResult | Get projects list |
|  | ChangeProjectStatus | int, int | JsonResult | Change project’s status |

Table -22: User API Controller

#### MessageApiController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | CreateConversation | int, int | JsonResult | Create conversation between 2 users |
|  | SentMessage | int, string | JsonResult | User sent a message to another user |
|  | GetMessages | int, string | JsonResult | User get messages from another user |
|  | GetConversationList | int | JsonResult | Get conversation list of a user |

Table -23: Message API Controller

#### SlideApiController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | AddSlide |  | JsonResult | Add new slide |
|  | EditSlide | int, object | JsonResult | Edit slide’s information |
|  | ChangeSlideStatus | int, boolean | JsonResult | Change slide’s status |
|  | DeleteSlide | int | JsonResult | Delete a slide |
|  | GetSlider | int | JsonResult | Get a slider’s information |

Table -23: Message API Controller

#### ReportApiController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | ReportUser | int, int | JsonResult | An user report another user |
|  | ReportProject | int, int | JsonResult | An user report a project |
|  | GetReportUserList |  | JsonResult | Admin get report user list |
|  | GetReportProjectList |  | JsonResult | Admin get report project list |
|  | ChangeReportStatus | int, int | JsonResult | Admin change a report status |
|  | GetReportUserDetail | int | JsonResult | Get a report user detail information |
|  | GetReportProjectDetail | int | JsonResult | Get a report project detail information |

Table -24: Report API Controller

#### CategoryApiController

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Method | Parameter | Return | Description |
|  | AddCategory |  | JsonResult | Add new category |
|  | GetCategory | int | JsonResult | Get category detail information |
|  | ChangeCategoryStatus | int, Boolean | JsonResult | Change category’s status |
|  | GetCategoryList |  | JsonResult | Get category list |
|  | EditCategory | int, object | JsonResult | Edit category’s information |

Table -25: Category API Controller

# Function

## Common

### Class diagram

### Sequence diagram

#### Login

#### Logout

#### Register

#### Forgot Password

## Project

### Class diagram

### Sequence diagram

## Comment

### Class diagram

### Sequence diagram

## Message

### Class diagram

### Sequence diagram

## User Profile

### Class diagram

### Sequence diagram

## Manage Report

### Class diagram

### Sequence diagram

## Manage User

### Class diagram

### Sequence diagram

## Manage Slide

### Class diagram

### Sequence diagram

## Manage Category

### Class diagram

### Sequence diagram

## Manage Backing/Backer

### Class diagram

### Sequence diagram

## View Statistic

### Class diagram

### Sequence diagram