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| **Software design** |
| Student Management System |
| Version 1.0 |
| Prepared by class SE1316, Group 5  Hoàng Hồng Quang  Nguyễn Minh Hiếu  Đỗ Huy Hoàng  Đỗ Thành Đạt  April 2, 2020 |

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**Revision history**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Authors** | **Modifications** | **Version** |
| 02-April | Group 5 |  | 1.0 |
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1. **Document description**
2. **SRS overview**

***2.1. List of system users***

1

***2.2. List of use cases***

2

***2.3. Use case diagram***

**2.3.1. Preliminary use case diagram**

3

**2.3.2. Use case detail diagrams**

***2.3.2.1. Use case “”***

4

***2.4. Activity diagrams of use case scenarios***

**2.4.1. Activity diagram for use case “”**

Copy type?

Check reservations for this book?

Borrow (Update copy type & reservation status)

Referenced or Borrowed

Reserved by any other user or Borrower is not the first in reservation

Not reserved by any other user or Borrower is the first in reservation

Yes

Available

1. **Table details**

Note: Attribute with underline is Primary key

* + 1. **Table name: Student**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Size** | **Note** |
| StudentID | Integer | Unlimited | Primary key |
| Name | Nvarchar | 500 | Not null |
| Gender | Boolean | Unlimited | Not null |
| Date Of Birth | Date | Unlimited | Allows null |
| Address | Nvarchar | 500 | Allows null |
| Phone | Nvarchar | 500 | Allows null |
| Email | Nvarchar | 500 | Allows null |

* + 1. **Table name: Class**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Size** | **Note** |
| ClassID | Integer | Unlimited | Not null |
| ClassName | Nvarchar | 500 | Not null |

* + 1. **Table name: Mark**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Size** | **Note** |
| MarkID | Integer | Unlimited | Not null |
| StudentID | Integer | Unlimited | Not null |
| SubjectID | Integer | Unlimited | Not null |
| Test1 | Integer | Unlimited | Allows null |
| Test2 | Integer | Unlimited | Allows null |
| Test3 | Integer | Unlimited | Allows null |
| FinalTest | Integer | Unlimited | Allows null |

* + 1. **Table name: Study**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Size** | **Note** |
| StudyID | Integer | Unlimited | Not null |
| StudentID | Integer | Unlimited | Not null |
| ClassID | Integer | Unlimited | Not null |

* + 1. **Table name: Teach**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Size** | **Note** |
| ID | Integer | Unlimited | Not null |
| TeacherID | Integer | Unlimited | Not null |
| SubjectID | Integer | Unlimited | Not null |

* + 1. **Table name: Teacher**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Size** | **Note** |
| TeacherID | Integer | Unlimited | Not null |
| Name | Nvarchar | 500 | Allows null |
| Gender | Nchar | 10 | Allows null |
| Date Of Birth | Date | Unlimited | Allows null |
| Address | Nvarchar | 500 | Allows null |
| Phone | Nvarchar | 500 | Allows null |
| Email | Nvarchar | 500 | Allows null |

* + 1. **Table name: Subject**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Size** | **Note** |
| SubjectID | Integer | Unlimited | Not null |
| SubjectName | Nvarchar | 500 | Allows null |
| SubjectCode | Nchar | 10 | Allows null |

* + 1. **Table name: Subject**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Size** | **Note** |
| ID | Integer | Unlimited | Not null |
| ClassID | Integer | Unlimited | Not null |
| TeacherID | Integer | Unlimited | Not null |

1. **Class diagram (p.61 – p70)**
   1. **List of classes in the Layers**

Layer GUI

Layer DA

Student Database

TeacherDAO

TeacherGUI

ClassGUI

SubjectGUI

StudentGUI

Note: Allow to use

BL: Business logic DT: Data transfer

DA: Data access

Layer DT

Teacher

MainFormGUI

Student

Class

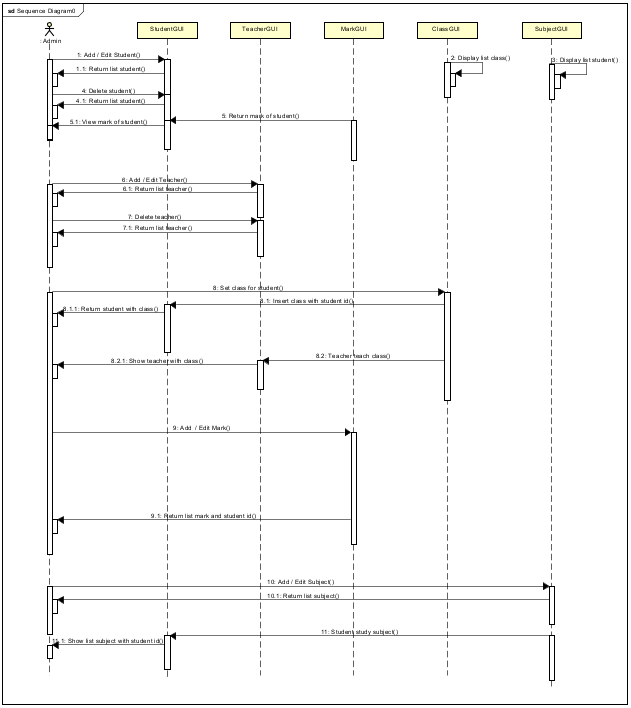
Subject

ClassDAO

StudentDAO

SubjectDAO

* 1. **Modeling the Class Behaviors - sequence diagrams (p. 66, 77)**

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1. **User Interface Model Design**
   1. **User interface model design**

**51.1. Screen “”**

**51.2. Screen “”**

**51.3. Screen “”**

**51.4. Screen “”**

**51.5. Screen “”**

* 1. **Interface Flow Diagrams (p. 51)**

Main form (main menu)

Subject

Class

Teacher

Student

[Click]

[Click]

[Click]

[Click]