StudyBook

Design Document, version 2

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Group Number: 4-2

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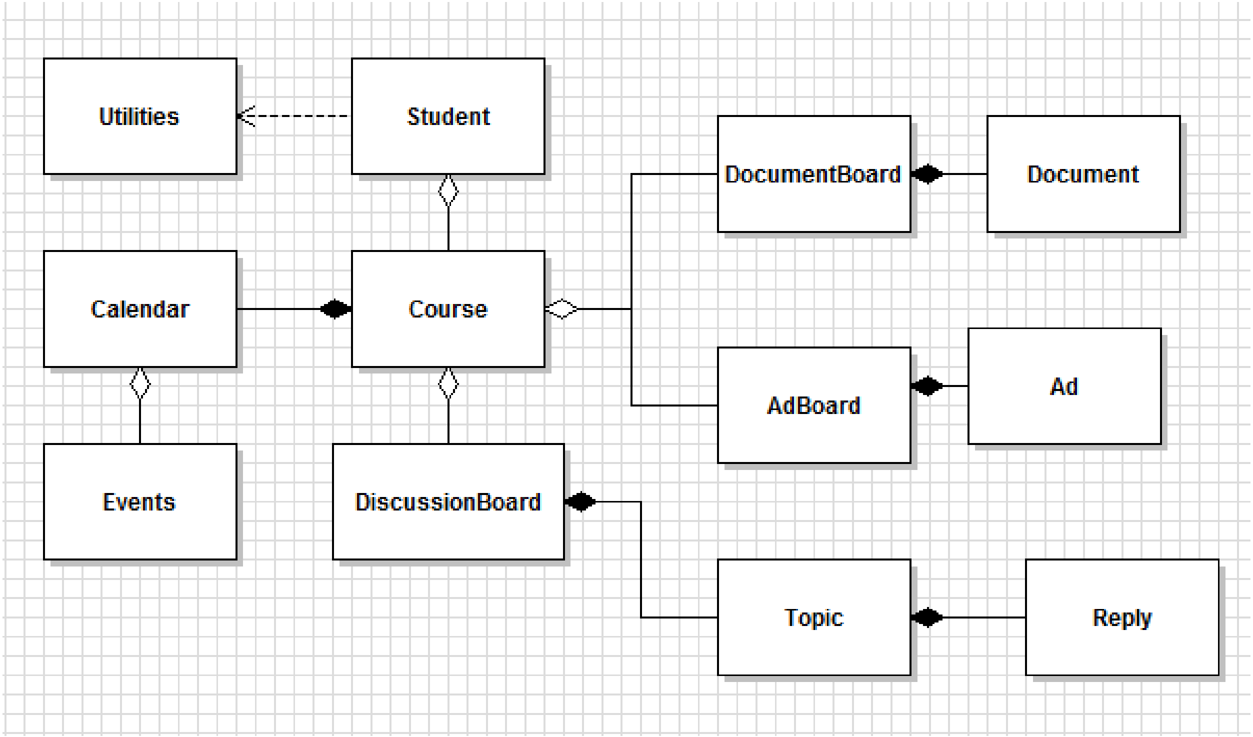
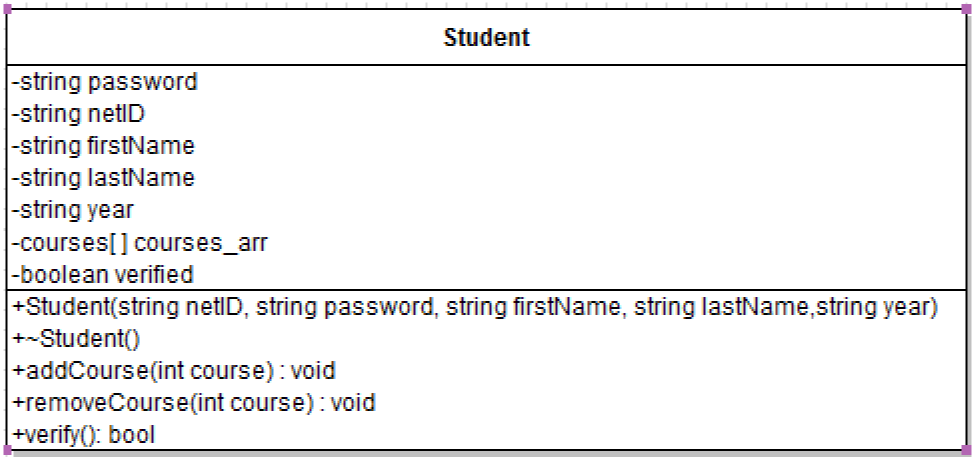
1. Overview Class Diagram



2. Detailed Class Diagrams

2.1. Data Classes

2.1.1. Student



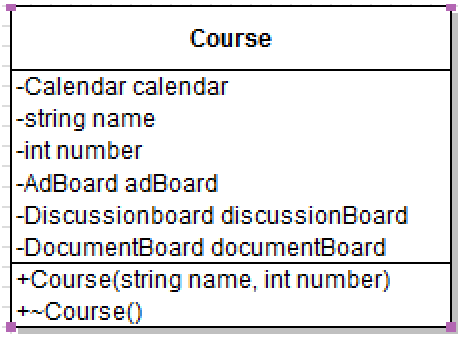
Student

-string password
-string netID
-string firstName
-string lastName
-string year
-courses[ ] courses_arr
-boolean verified

+Student(string netID, string password, string firstName, string lastName,string year)
+~Student()
+addCourse(int course) : void
+removeCourse(int course) : void
+verify(): bool

- Student(string netID, string password, string firstName, string lastName,string year) : Constructor. Creates a new student in the database with the attributes given in the parameters.
- ~Student() : Destructor to delete the student from the database permanently.
- addCourse(int course): Adds a course to the student’s courses[]. The course to be added is specified by the course number passes as a parameter to the method.
- removeCourse(int course): Deletes a course from the student’s courses[]. The course to be deleted is specified by the course number passes as a parameter to the method.
- verify() : Returns a boolean value as to whether the student is valid by sending an email with a randomly generated code to the student’s msstate email account. If the student then enters the correct code, the method returns a True value.

2.1.2. Course



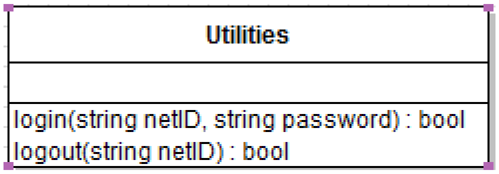
Course

-Calendar calendar
-string name
-int number
-AdBoard adBoard
-Discussionboard discussionBoard
-DocumentBoard documentBoard

+Course(string name, int number)
+~Course()

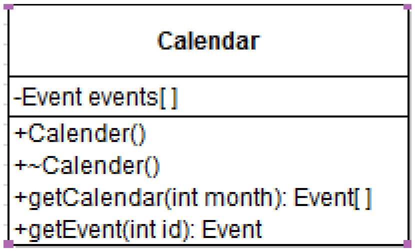
- Course() : Constructor. Creates a new course in the database with the attributes given in the parameters
- ~Course() : Destructor to delete a course from the database

2.1.3. Utilities


Utilities
login(string netID, string password) : bool
logout(string netID) : bool

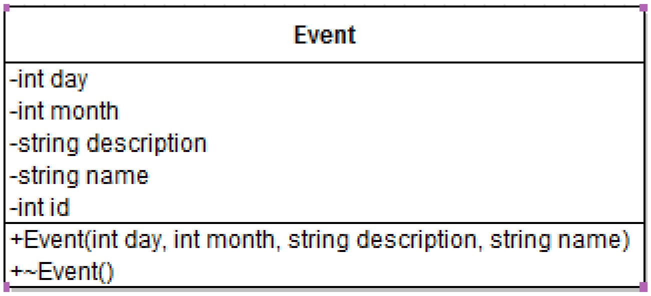
- login(string netID, string password) : Queries the database for the student’s password depending on the netID. Logs a student into the application and starts a new session provided the username and password are correct. Else, returns an Boolean false value.
- logout(string netID) : Terminates the student’s current session and logs out the student. In case of any error, returns a boolean false value

2.1.4. Calendar



- Calender(): Constructor which will create a new calendar in the database and initialize an Event array.
- ~Calender(): Destructor to delete a calendar from database
- getCalendar(int month) : Returns an array of Events with the matching month integer.
- getEvent(int id) : Returns the event matching the given id number.

2.1.5. Event



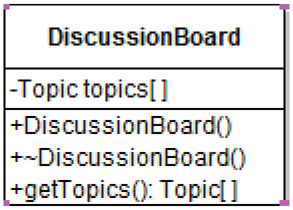
Event

-int day
-int month
-string description
-string name
-int id

+Event(int day, int month, string description, string name)
+~Event()

- Event(int day, int month, string description, string name) : Constructor. Creates an event with the given data and generates an id number.
- ~Event(int id): Deletes the event from the database.

2.1.6. DiscussionBoard



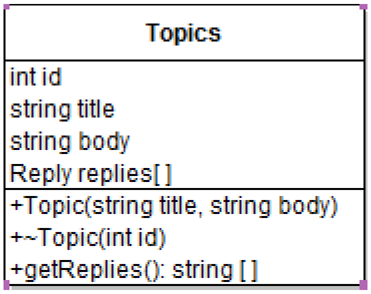
DiscussionBoard

-Topic topics[ ]

+DiscussionBoard()
+~DiscussionBoard()
+getTopics(): Topic[ ]

- DiscussionBoard(): Constructor which will create a new DiscussionBoard in the database and initialize a Topics array.
- ~DiscussionBoard():Destructor to delete a DiscussionBoard from database
- getTopics(): Returns an array of topics held in the Discussion board.

2.1.7. Topic



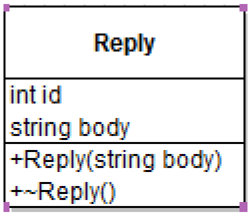
Topics

int id
string title
string body
Reply replies[ ]

+Topic(string title, string body)
+~Topic(int id)
+getReplies(): string [ ]

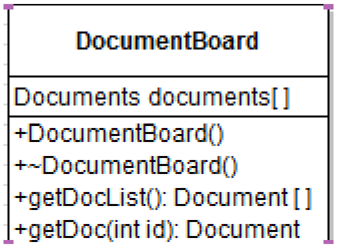
- Topic(string title, string body) : Constructor. Creates a topic with the given data and generates a unique id number. Also initializes an array of Replies.
- ~Topic() : Deletes a topic from the database
- getReplies(): Returns the Reply array as an array of strings.

2.1.8. Reply



- Reply(string body) : Constructor. Creates a reply with the given data and generates a unique id number.
- ~Reply() : Deletes the reply from the database.

2.1.9. DocumentBoard



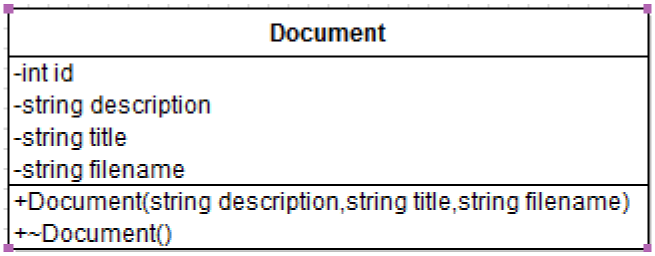
DocumentBoard

Documents documents[ ]

+DocumentBoard()
+~DocumentBoard()
+getDocList(): Document [ ]
+getDoc(int id): Document

- DocumentBoard : Constructor which will create a new DocumentBoard in the database and initialize an array of documents
- ~DocumentBoard : Destructor to delete a DocumentBoard from database
- getDocList() : Returns an array of Documents from the database.
- getDoc(int id) : Returns the Document with the specified id number from the database.

2.1.10. Document



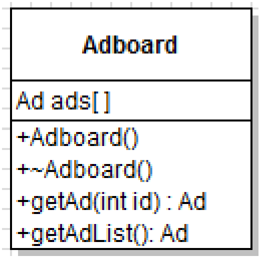
Document

-int id
-string description
-string title
-string filename

+Document(string description,string title,string filename)
+~Document()

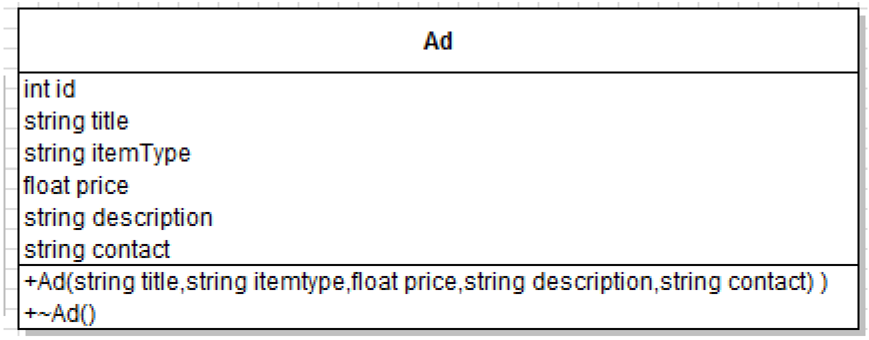
- Document(string description, string title, string filename) : Constructor. Creates up a Document with a title, filename, and description.
- ~Doc() : Deletes the specified Document from the database.

2.1.11. AdBoard



- Adboard() : Constructor. Creates an Adboard in the database and initializes an array of Ads.
- ~Adboard() : Deletes an Adboard from the database
- getAd(int id) : The getAd function returns the ad with the specified id number.
- getAdList() : The getAdList returns an array of Ads.

2.1.12. Ad



Ad

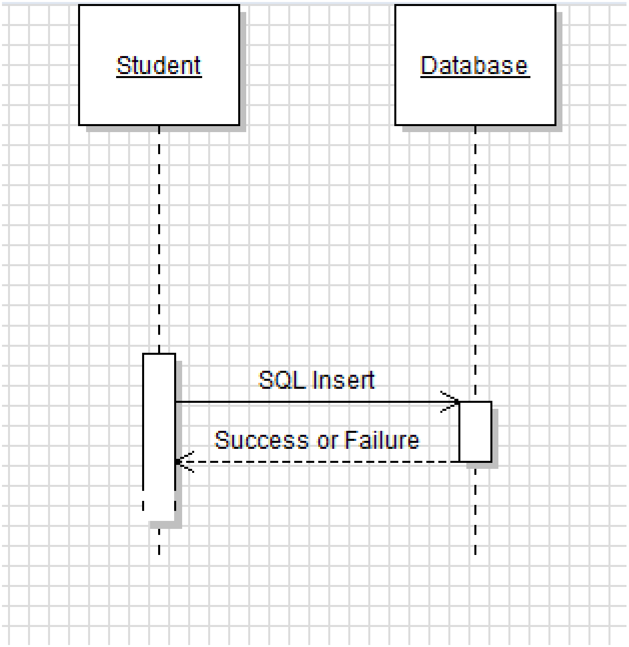
int id
string title
string itemType
float price
string description
string contact

+Ad(string title,string itemtype,float price,string description,string contact))
+~Ad()

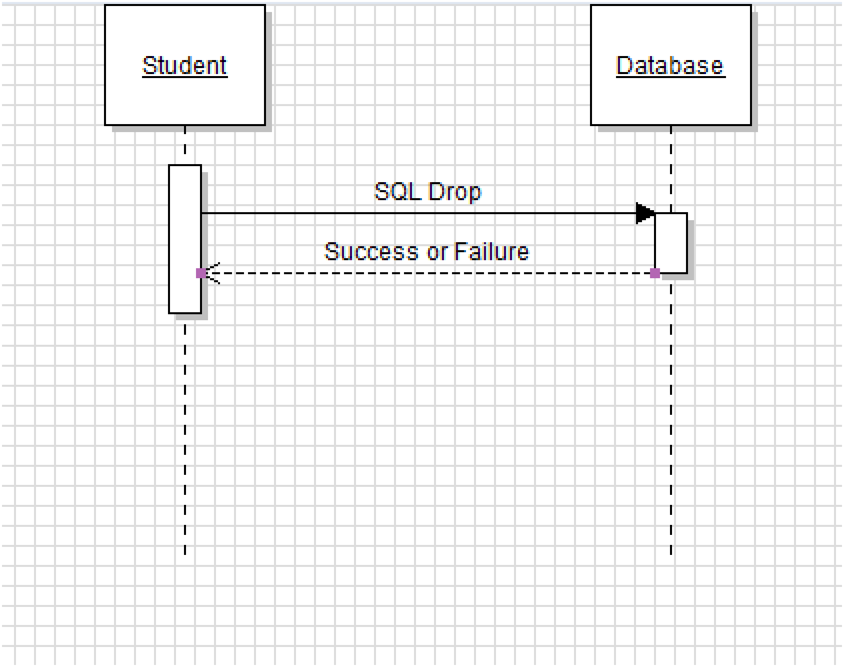
- Ad(string title, string itemtype, float price, string description, string contact) : Constructor. Creates a new Ad in the database with the given attributes.
- ~Ad() : Deletes the Ad from the database.

3. Sequence Diagrams

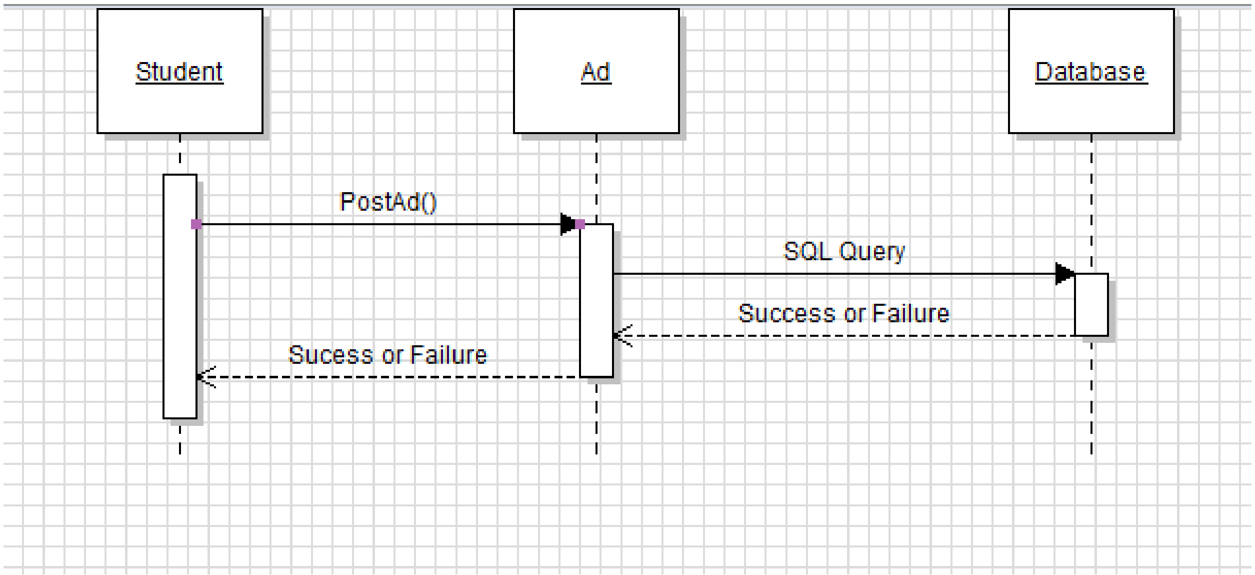
3.1. Add Course



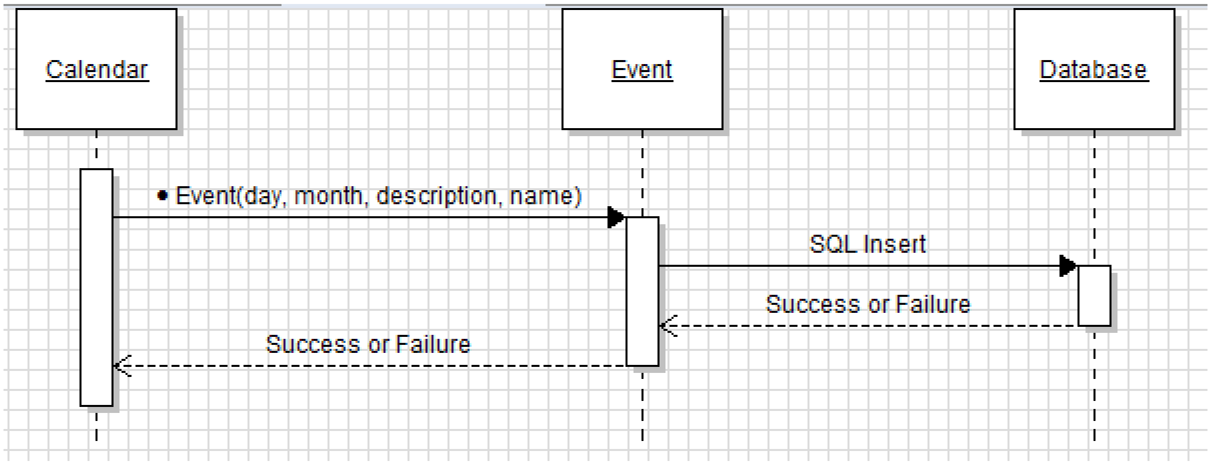
3.2. Remove Course



3.3. Post Ad


Student
Ad
Database
PostAd()
SQL Query
Success or Failure
Sucess or Failure

3.4. Create Event



Appendix A: Database Design

("*" = Primary Key, "#" = Foreign Key)

A.1 STUDENT table

*NETID
NAME
YEAR
PASSWORD

A.2 COURSE table

*COURSENUMBER
NAME

A.3 DOCUMENT table

*DOCUMENTID
#COURSENUMBER
TITLE
FILENAME
FILE
DESCRIPTION

A.4 TOPIC table

*TOPICID
#COURSENUMBER
TITLE
BODY

A.5 REPLY table

*REPLYID
#TOPICID
BODY

A.6 AD table

*ADID
#COURSENUMBER
TITLE
TYPE
PRICE
DESCRIPTION
CONTACT

A.7 EVENT table

*EVINTID
#COURSENUMBER
DAY
MONTH
NAME
DESCRIPTION

A.8 STUDENT_COURSE table
*NETID
*COURSENUMBER

A.8 STUDENT_IN_COURSE

#NETID
#COURSENUMBER

Appendix B: Initial Task and Role Assignments

- Presentation Assignments:
    - Requirements - Chris Freels
    - Design - Naveen Neelakandan
    - Final - Douglas Gorman

- Current Task Assignments:
    - Registration, Login/Logout, Document Board– Naveen Neelakandan
    - Advertisement Board, Web layout – Douglas Gorman
    - Calender, Discussion Board– ChrisFreels