

***WebRegistrationApp v1.0.0***

*Database Design Document (DDD) v 1.0.0*

**Program Chair: Stephanie Cook**

Prepared by:

**Kimberly Garnto**

**State College of Florida**

**DATE:** April 15, 2015

Coordination/Approval

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**SCHEMA CHANGES:**

The following changes have been made to the schema since the last version of the database:

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| Schema Ver/ Change # | Change | Affected Pages |
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List of Document Versions

Version 1.0.0 April 15, 2015

Document Changes

The following changes have been made to this document:

| Schema Ver/ Change# | Change | Affected Pages |
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## Chapter 1: Scope

### 1.1 Identification

*This paragraph should identify the system and the software to which this document applies, including, as applicable, identification number(s), title(s), abbreviation(s), version number(s), and release number(s).*

### 1.2 Database Schema Overview

The [schema name] [describe the purpose of the database and describe the general nature of the database; summarize the history of its development, use and maintenance; and identify the field user(s) of the application.]

### 1.3 Document Overview

This DDD will describe the overall database design including all database objects, database diagrams and maintenance plans.

## Chapter 2: Database-Wide Design Decisions

###

### 2.1 Database Platform and Description

The Production, Test and Development databases exist on servers running SQL Server 2012. The [schema name] schema contains the actual [application name] data while the [schema name] schema contains information regarding report definitions.

### 2.2 Database Design Approach

[Describe the database design approach.]

Below are some of the key areas of the database design. Not every database element is mentioned in this section. Refer to chapter 3 for more details.

[Insert subparagraphs to list and briefly describe the key elements of the database, include information about users and the user setup to access the database

Create at least (2) different user accounts, and provide credentials for each account. Provide DML scripts to test the different access for each account. – (+5 points)

Include DML scripts here that would be used to test Triggers, Stored Procedures or Functions (+10 points)

]

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## Chapter 3: Detailed Design of the Database

###  WebRegistrationApp Database Objects

* + 1. Tables
			1. dbo.Buildings

The dbo.Buildings table maintains a listing of the different Buildings and Building\_Ids for which classes can be held. Each unique building is associated with a campus.

* + - * 1. Structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Nullable** | **Description** | **Default** |
| BldgCode\_Id | INT | No | PK: Unique Numeric Identifier |  |
| BldgCode | NVARCHAR(4) | No |  Building Code |  |
| BldgCode\_Desc | NVARCHAR(50) | No |  Building Description |  |
| BldgCode\_Campus\_Id | INT | No |  FK: Campus\_Id; REF: Campuses |  |

* + - * 1. Indexes

There are no indexes for this table.

* + - * 1. Constraints

|  |  |  |
| --- | --- | --- |
| 1. **Constraint Name**
 | **Type** | **Columns** |
| UNQ\_Building | Unique | BldgCode\_Id |

* + - * 1. Foreign Keys

|  |  |  |  |
| --- | --- | --- | --- |
| **Foreign Key Constraint Name** | **Affected Field** | **Source Schema** | **Source Table** |
| FK\_Buildings\_Campuses\_on\_Campus\_Id | Campus\_Id | WebRegistrationApp | Campuses |

* + - * 1. Triggers

There are no triggers for this table.

* + - 1. dbo.Campuses

The dbo.Campuses table maintains a listing of the different Campuses and Campus\_Ids for which classes can be held.

* + - * 1. Structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Nullable** | **Description** | **Default** |
| Campus\_Id | INT | No | PK: Unique; FK REF: Buildings, Courses |  |
| Campus | NVARCHAR(30) | No |  Campus Value |  |

* + - * 1. Indexes

There are no indexes for this table.

* + - * 1. Constraints

There are no constraints for this table.

* + - * 1. Foreign Keys

There are no Foreign Keys for this table.

* + - * 1. Triggers

There are no Triggers for this table.

* + - 1. dbo.CourseMeetings

The dbo.CourseMeetings table maintains the information about Course Schedule Meeting Dates, Days of the Week the classes meet, and the times that the classes meets. The dbo.CourseMeetings table must join with the dbo.Courses table to get Course\_Id and Course Details.

* + - * 1. Structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Nullable** | **Description** | **Default** |
| CourseMeet\_Id | INT | No | PK: Unique Numeric Identifier |  |
| CourseMeet\_Course\_Id | INT | No |  FK |  |
| CourseMeet\_TermCode | NVARCHAR(6) | No |  |  |
| CourseMeet\_BldgCode\_Id | INT | No |  |  |
| CourseMeet\_RoomNumb | NVARCHAR(5) | No |  |  |
| CourseMeet\_BeginDate | Date | Yes |  |  |
| CourseMeet\_EndDate | Date | Yes |  |  |
| CourseMeet\_Monday | BIT | Yes |  |  |
| CourseMeet\_Tuesday | BIT | Yes |  |  |
| CourseMeet\_Wednesday | BIT | Yes |  |  |
| CourseMeet\_Thursday | BIT | Yes |  |  |
| CourseMeet\_Friday | BIT | Yes |  |  |
| CourseMeet\_BeginTime | Time | Yes |  |  |
| CourseMeet\_EndTime | Time | Yes |  |  |

* + - * 1. Indexes

There are no indexes for this table.

* + - * 1. Constraints

[Insert table constraints here.]

* + - * 1. Foreign Keys

[Insert Table Foreign Keys here.]

* + - * 1. Triggers

[Insert Table Triggers here with SQL Code if Trigger on Table.]

* + - 1. dbo.Courses

The dbo.Courses table maintains the detailed information about the Course, such as the Name of the Course, the course number, and the enrollment of the course.

* + - * 1. Structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Nullable** | **Description** | **Default** |
| Course\_Id | INT | No | PK: Unique Numeric Identifier |  |
| Course\_SubjCode | NVARCHAR(4) | No |  |  |
| Course\_CrseNumb | NVARCHAR(4) | No |  |  |
| Course\_Title | NVARCHAR(50) | No |  |  |
| Course\_Description | NVARCHAR(1000) | No |  |  |
| Course\_SeatsAvail | NUMERIC(18,0) | No |  |  |
| Course\_MaxEnrl | NUMERIC(18,0) | No |  |  |
| Course\_Lec | BIT | Yes |  |  |
| Course\_Lab | BIT | Yes |  |  |
| Course\_Enrl | NUMERIC(18,0) | Yes |  |  |
| Course\_CreditHrs | NUMERIC(18,0) | Yes |  |  |
| Course\_Campus\_Id | INT | No |  FK:  |  |

* + - * 1. Indexes

[Insert table indexes here.]

* + - * 1. Constraints

[Insert table constraints here.]

* + - * 1. Foreign Keys

|  |  |  |  |
| --- | --- | --- | --- |
| **Foreign Key Constraint Name** | **Affected Field** | **Source Schema** | **Source Table** |
| FK\_Courses\_Campus\_on\_Campus\_Id | Courses\_Campus\_Id | WebRegistrationApp | Campuses |

* + - * 1. Triggers

 Trigger: tr\_CourseEnrl

USE [WebRegistrationApp]

GO

/\*\*\*\*\*\* Object: Trigger [dbo].[tr\_CourseEnrl] Script Date: 4/16/2015 5:36:34 PM \*\*\*\*\*\*/

SET ANSI\_NULLS ON

GO

SET QUOTED\_IDENTIFIER ON

GO

-- =============================================

-- Author: Garnto, Kimberly

-- Create date: April 15, 2015

-- Description: When inserting a new course with the max enrollment, go ahead -- and set the course\_enrl

-- and the Course\_SeatsAvail to the same value as the Course\_MaxEnrol

-- =============================================

CREATE TRIGGER [dbo].[tr\_CourseEnrl] ON [dbo].[Courses]

 INSTEAD OF INSERT

 AS

 BEGIN

 INSERT Courses (Course\_SubjCode, Course\_CrseNumb, Course\_Title, Course\_Description,

 Course\_SeatsAvail, Course\_MaxEnrl, Course\_Lec, Course\_Lab, Course\_Enrl,

 Course\_CreditHrs, Course\_Campus\_Id)

 SELECT Course\_SubjCode, Course\_CrseNumb, Course\_Title, Course\_Description,

 Course\_MaxEnrl, Course\_MaxEnrl, Course\_Lec, Course\_Lab, Course\_MaxEnrl,

 Course\_CreditHrs, Course\_Campus\_Id

 FROM inserted;

* + - 1. dbo.Faculty

The dbo.Faculty table maintains a listing of the different Faculty, with First Name, Last Name and Middle Initial Information. The Faculty\_FullName column is a computed column.

* + - * 1. Structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Nullable** | **Description** | **Default** |
| Faculty\_Id | INT | No | PK: Unique Numeric Identifier |  |
| Faculty\_FirstName | NVARCHAR(25) | No |  Faculty First Name |  |
| Faculty\_LastName | NVARCHAR(30) | No |  Faculty Last Name |  |
| Faculty\_MiddleInitial | NVARCHAR(1) | Yes |  Faculty Middle Initial |  |
| Faculty\_FullName |  |  |  Computed Column |  |

* + - * 1. Indexes

There are no indexes for this table.

* + - * 1. Constraints

|  |  |  |
| --- | --- | --- |
| 1. **Constraint Name**
 | **Type** | **Columns** |
| UNQ\_Faculty\_Id | Unique | Faculty\_Id |

* + - * 1. Foreign Keys

There are no foreign keys for this table.

* + - * 1. Triggers

There are no triggers for this table.

* + - 1. dbo.FacultyAssignments

The dbo.FacultyAssignments table is a joining table that links Faculty Information with Course Information so that you can have an association of the different types of data.

* + - * 1. Structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Nullable** | **Description** | **Default** |
| FacultyAssign\_Id | INT | No | PK: Unique Numeric Identifier |  |
| FacultyAssign\_Faculty\_id | INT | No |  FK: REF dbo.Faculty |  |
| FacultyAssign\_CourseId | INT | No |  FK: REF dbo.Courses |  |
| FacultyAssign\_PrimInd | BIT | Yes |  Primary Instructor Indicator – Default ‘Y’ |  |
| FacultyAssign\_TermCode | NVARCHAR(6) | NO |  Term Code |  |

* + - * 1. Indexes

There are no indexes for this table.

* + - * 1. Constraints

|  |  |  |
| --- | --- | --- |
| 1. **Constraint Name**
 | **Type** | **Columns** |
| UNQ\_FacultyAssign\_Id | Unique | FacultyAssign\_Id |

* + - * 1. Foreign Keys

There are no foreign keys for this table.

* + - * 1. Triggers

There are no triggers for this table.

* + - 1. dbo.Registrations

The dbo.Registrations table is a joining table that maintains the classes that each student is taking for the term.

* + - * 1. Structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Nullable** | **Description** | **Default** |
| Registration\_Id | INT | No | PK: Unique Numeric Identifier |  |
| Student\_Id | INT | No |  FK: dbo.Students |  |
| Course\_Id | INT | No |  FK: dbo.Courses |  |
| Registration\_TermCode | NVARCHAR(6) | Yes |  Term Code Information |  |

* + - * 1. Indexes

There are no indexes for this table.

* + - * 1. Constraints

|  |  |  |
| --- | --- | --- |
| 1. **Constraint Name**
 | **Type** | **Columns** |
| UNQ\_Registration\_Id | Unique | Registration\_Id |

* + - * 1. Foreign Keys

There are no foreign keys for this table.

* + - * 1. Triggers

There are no triggers for this table.

* + - 1. dbo.Students

The dbo.Students table maintains a listing of the different Students, with First Name, Last Name and Middle Initial Information. The Student\_FullName column is a computed column.

* + - * 1. Structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Nullable** | **Description** | **Default** |
| Student\_Id | INT | No | PK: Unique Numeric Identifier |  |
| Student \_FirstName | NVARCHAR(25) | No |  Faculty First Name |  |
| Student \_LastName | NVARCHAR(30) | No |  Faculty Last Name |  |
| Student \_MiddleInitial | NVARCHAR(1) | Yes |  Faculty Middle Initial |  |
| Student \_FullName |  |  |  Computed Column |  |

* + - * 1. Indexes

There are no indexes for this table.

* + - * 1. Constraints

|  |  |  |
| --- | --- | --- |
| 1. **Constraint Name**
 | **Type** | **Columns** |
| UNQ\_ Student \_Id | Unique | Student \_Id |

* + - * 1. Foreign Keys

There are no foreign keys for this table.

* + - * 1. Triggers

There are no triggers for this table.

* + 1. Views

[List and describe all the views associated with the database. This should include the Structure, Dependencies, and Definition.]

* + 1. Stored Procedures

[List and describe all the stored procedures associated with the database.]

* + 1. Stored Functions

[List and describe all the stored functions associated with the database.]

## Appendix A: Acronym List

| Acronym | Definition |
| --- | --- |
| App | Application |
| Bldg | Building |
| Numb | Number |
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## Appendix B: Entity Relationship Diagram (+5 Points)

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Appendix C: Maintenance Plan (+5 Points)