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Preliminary Design: Iteration 1

Client: Dr. Erik Eddy
Teammate Evaluation Software

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Product Overview

Teammate Evaluation will be a core web application on the TEAMS 101 (Team Evaluation and Management System) dashboard, and it will give students an easily-accessible interface to provide teammate evaluations periodically during group projects. Dr. Erik Eddy realizes the importance that team evaluations hold within a group dynamic, not only in regards to the final grade for the assignment, but for the overall cohesiveness and harmony of the group. Team Evaluation will not only provide Siena College students with the ability to communicate more productively, it will provide professors and administrators the ability to be better acquainted with the team member's participation and performance.

Development and Production Environment

2.1 Development Environment:

Window's Computer (Software Lab):
Model: Dell OptiPlex 760
Operating System: Windows Vista
Proc: Intel Core 2 Duo E7500 @2.93GHz
RAM: 4GB
HDD: 500GB

Software:
Adobe Dreamweaver, Google Chrome, Internet Explorer, Mozilla Firefox, MySQL, Notepad ++

NOVA Tech will also be using personal laptops throughout the development process.

2.2 Production Environment:

Server Hostname: oraserv.cs.siena.edu
            CentOS 5.2 (final)
            Kernel: 2.6.18-92.el5
            Intel Xeon 2.66 GHz CPU
            8 GB of Memory
          Java SE Runtime Environment (build 1.6.0 10-rc-b28)
          GCC Version 4.1.2 20071124 (Red Hat 4.1.2-42)

NOVA Tech will be using a web based application located on Siena College's Oraserv

Database Server. Team Evaluations will utilize an Oracle database with an Apache Web server.

Data Flow Diagrams

The data flow diagrams will contain the context diagram, a level 0 diagram, and multiple level 1 diagrams. These diagrams visually depict the movement of data between both internal processes and external entities. From these diagrams, the structure of the system can be analyzed as well as the ways in which data moves throughout the system, outside of the system, and is stored and retrieved. The following symbols will be used in the data flow diagrams:

3.1 Data Flow Diagram Legend

	Process: System components that can receive, modify, and output data.
	Entity: Contributes data and information to system. Entities can also receive information from the system.
	Data Flow: Indicates the movement of data to or from a process.
	Data Store: The location where data is held either temporarily or permanently.
	System Boundary: The definition between internal processes and external entities.

3.2 Context Diagram
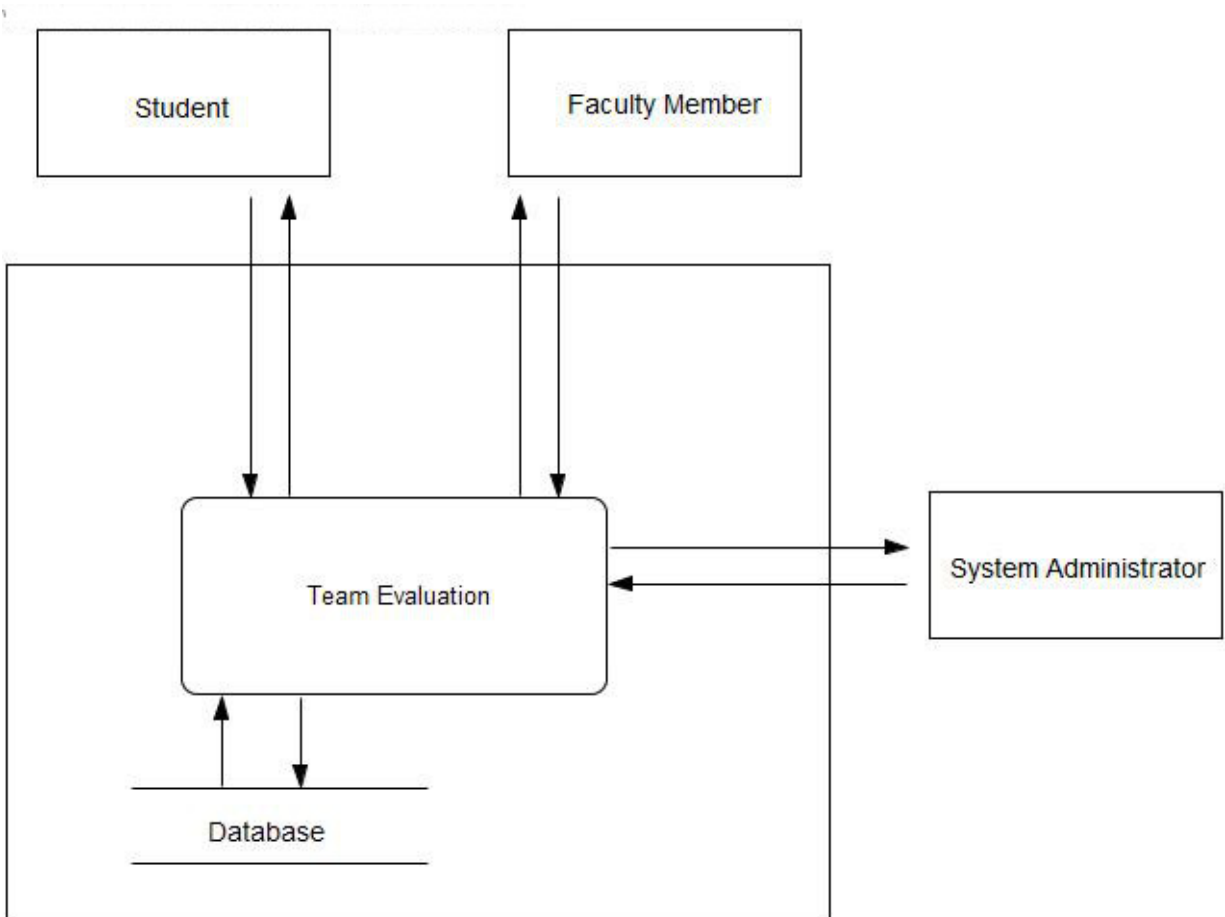
3.3 Level 0 Diagram
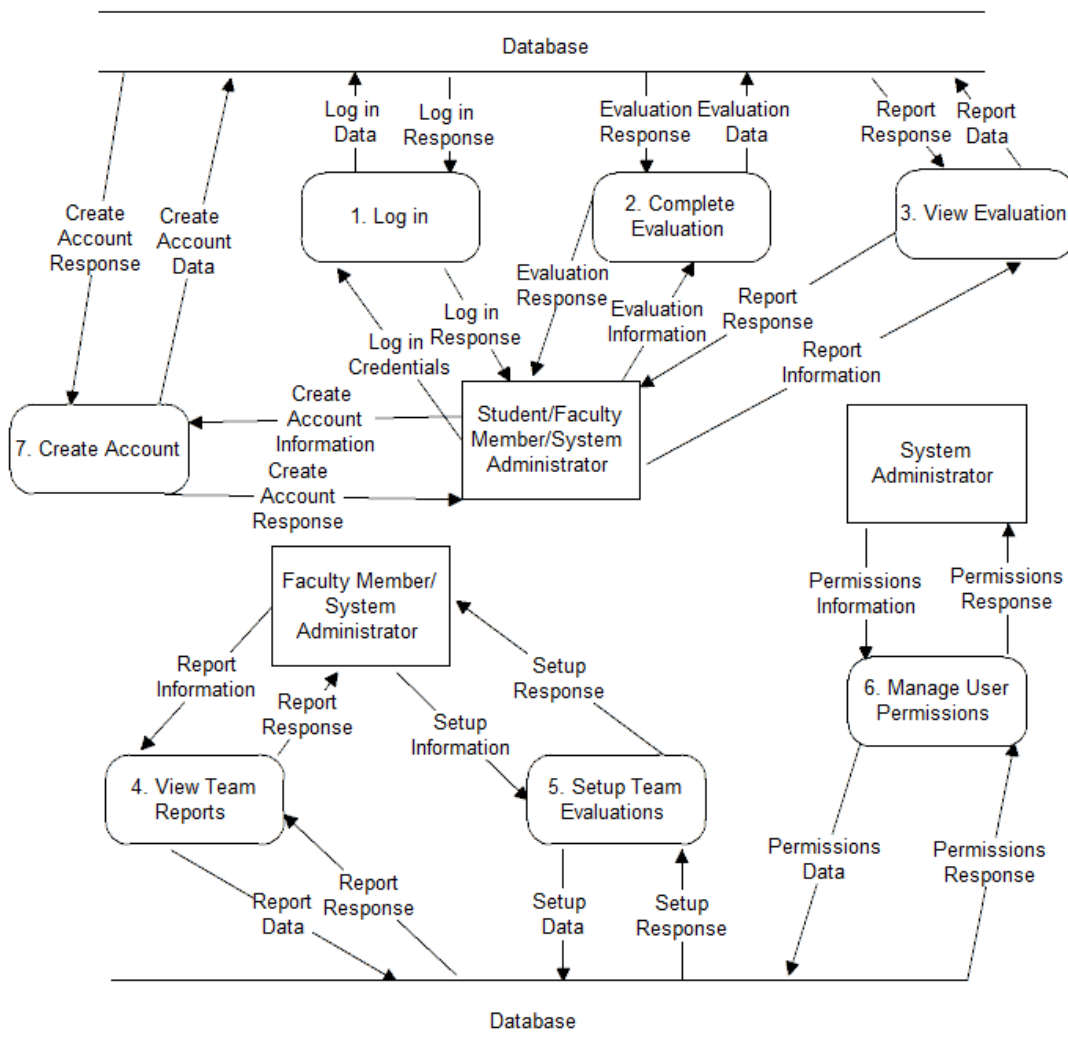
Notes:
System Administrator
has access to all
processes

Faculty Member has
Student access to all
processes

3.4 Level 1 Diagrams
3.4.1 Create Account

Visual Paradigm Community Edition [not for commercial use]

3.4.2 Login

Visual Paradigm Community Edition [not for commercial use]
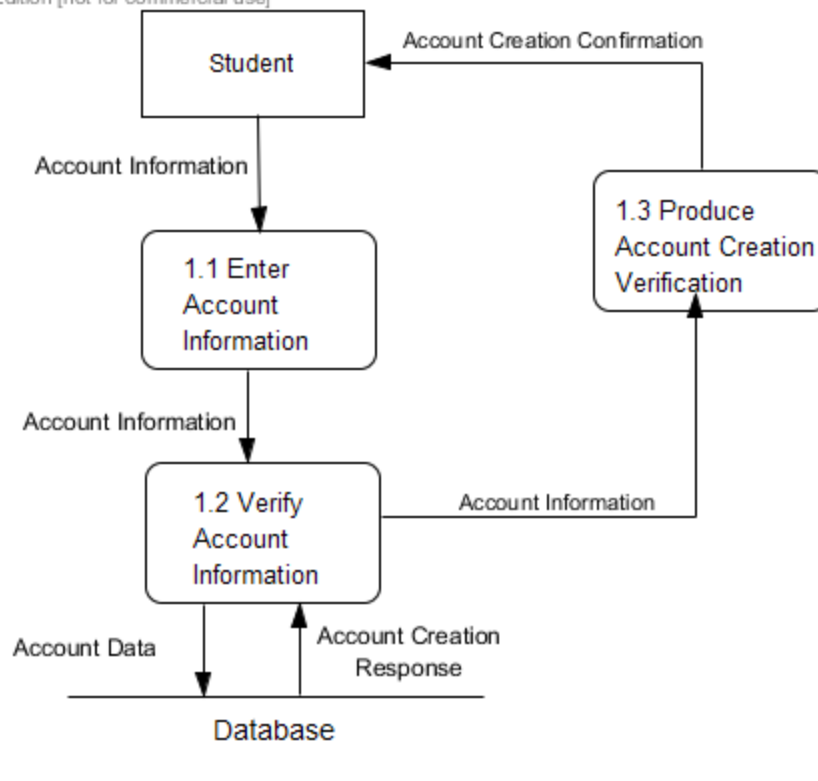
```
                    Student  ────────── Login Response ──────────┐
                       │                                          │
                 Login Credentials                                │
                       │                                          │
                       ▼                                          │
                2.1 Enter Login                            2.3 Produce
                  Information                            Login Verification
                       │                                          ▲
                 Login Credentials                                │
                       │                                          │
                       ▼                                          │
                2.2 Verify Login  ──── Student Information ───────┘
                  Information
                  │        ▲
          Login Credentials │ Login Verification
                  │        │    Response
                  ▼        │
        ─────────────────────────────
                  Database
        ─────────────────────────────
```
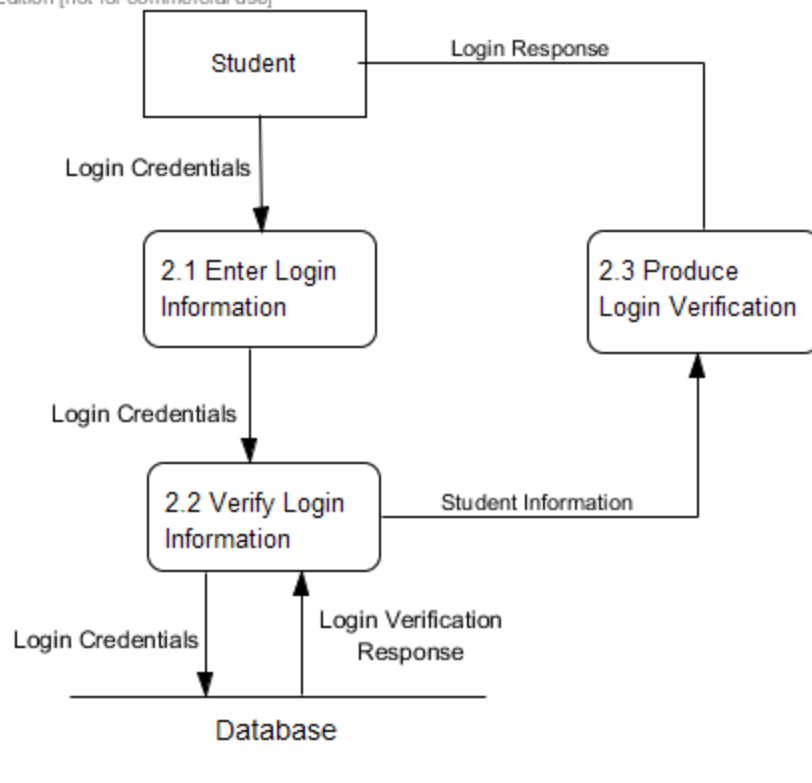
3.4.3 Evaluate Teammate

Visual Paradigm Community Edition [not for commercial use]

```
                                        Evaluation Confirmation
   ┌──────────────┐  ◄────────────────────────────────────────────┐
   │   Student    │                                                │
   └──────────────┘                                                │
          │                                            ┌───────────────────┐
  Evaluation                                           │   3.4 Generate    │
  Information                                          │   Confirmation    │
          ▼                                            └───────────────────┘
   ┌──────────────┐                                            ▲
   │ 3.1 Evaluate │                                            │
   │   Teammate   │                                            │
   └──────────────┘                                            │
          │                                                    │
  Evaluation                                              Evaluation
  Information                                             Response
          ▼                                                    │
   ┌──────────────┐  Evaluation Information  ┌──────────────┐  │
   │ 3.2 Process  │ ───────────────────────► │  3.3 Submit  │  │
   │  Evaluation  │                          │  Evaluation  │  │
   │  Information  │                         │  Information  │  │
   └──────────────┘                          └──────────────┘  │
                                                    │          │
                                              Evaluation        │
                                                 Data           │
                                                    ▼           │
   ─────────────────────────────────────────────────────────────────
                              Database
   ─────────────────────────────────────────────────────────────────
```
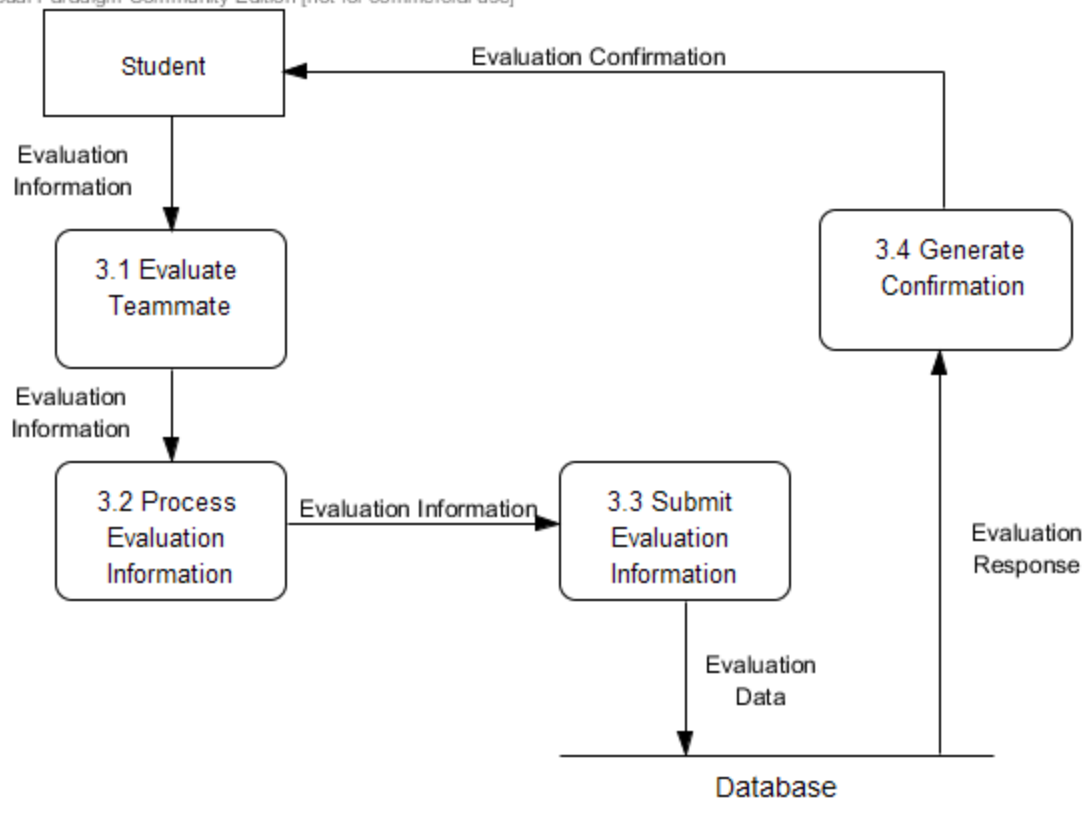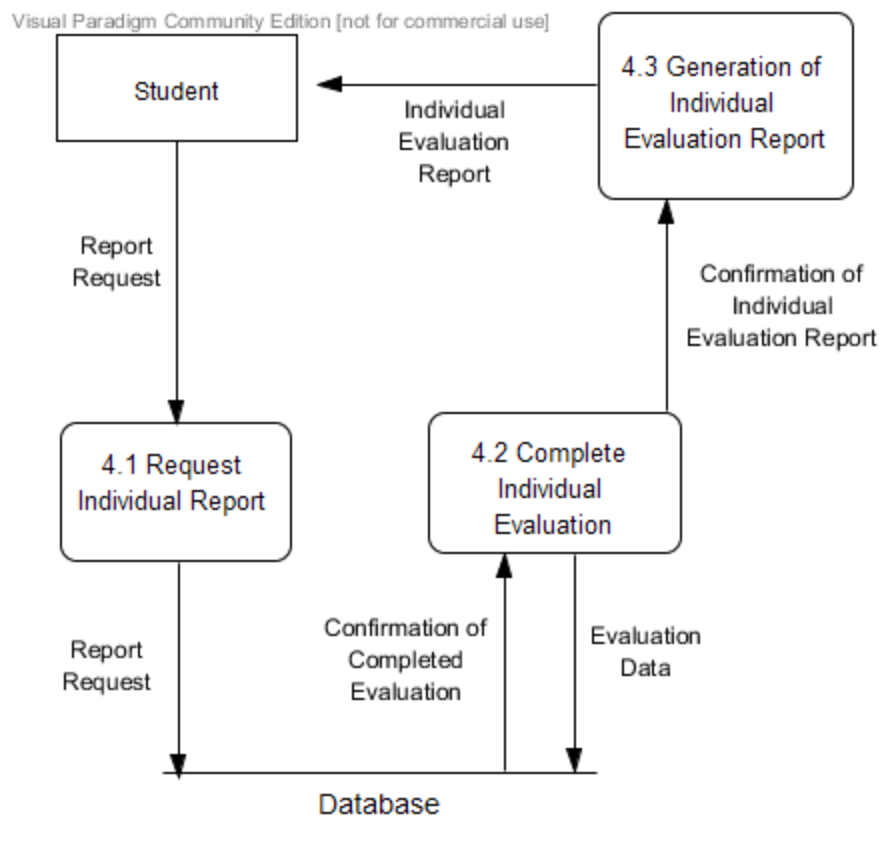
3.4.4 View Individual Report

3.4.5 View Team Report
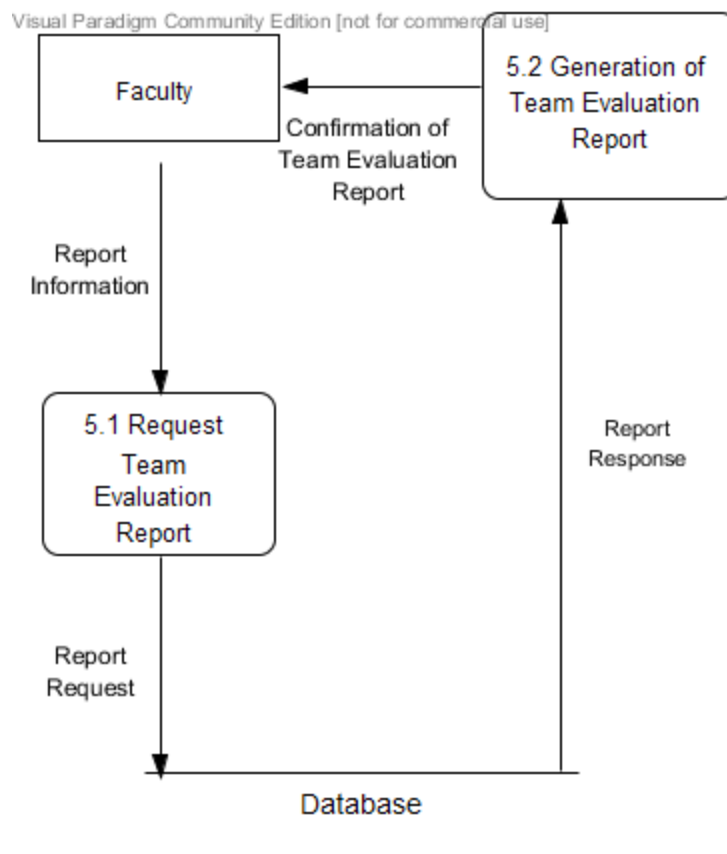
3.4.6 Establish Class Roster/Team Profile

Visual Paradigm Community Edition [not for commercial use]

```
  Faculty  ◄──────────────────────  6.4 Generate Class
                         Class        Roster/Team Profile
                      Roster/Team         Confirmation
                        Profile
                      Confirmation
     │
     │ Class Roster/Team                              │ Class Roster/Team
     │ Profile  Request                               │ Profile Response
     ▼                                                ▼
  6.1 Setup Class                            ─────────────────────────
   Roster/Team                                      Database
   Profile Form                              ─────────────────────────
     │                                                ▲
     │ Class Roster/Team                              │ Class
     │ Profile Information                            │ Roster/Team
     ▼                                                │ Profile Data
  6.2 Process  ─────────────►  6.3 Submit Class
  Form Request      Class      Roster/Team Profile
               Roster/Team        Information
             Profile Information
```

3.4.7 Manage Team Evaluations

Visual Paradigm Community Edition [not for commercial use]

```
        ┌─────────────────┐                    Confirmation of
        │     Faculty     │◄───────────────    Team Evaluation
        └─────────────────┘                         Setup
                │
                │ Evaluation
                │ Information
                ▼
        ┌─────────────────┐              ┌─────────────────┐
        │ 7.1 Setup Team  │              │ 7.2 Generation of│
        │   Evaluations   │              │ Team Evaluations │
        └─────────────────┘              └─────────────────┘
                │                                 │
                │                                 │ Evaluation
         Team Data                                │ Setup
                │                                 │ Response
                ▼                                 │
        ──────────────────────────────────────────────
                          Database
        ──────────────────────────────────────────────
```
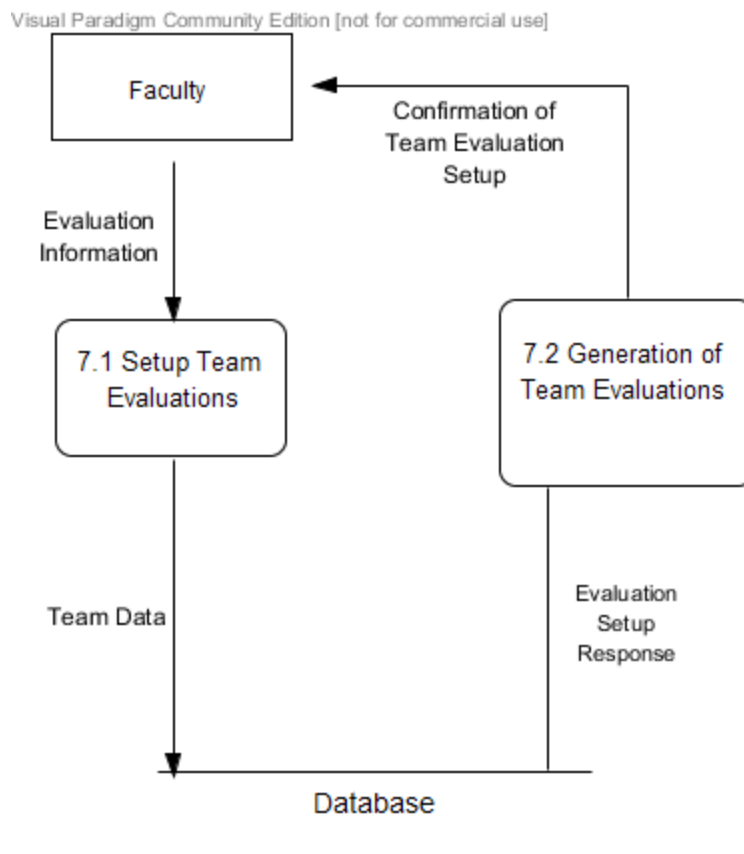
3.4.8 Manage User Permissions

TEST PLANS

4.1 Test Directory

System Test - Test Results for All Unit Tests						

Team Name	NOVA Tech
Project Name	Team Evaluation
Client Name	Dr. Erik Eddy

Directory of *Unit Tests* (note: this could also be called an *Index* or a *Catalog*)

Pass/Fail Status		Unit Number	Unit Test Name	Date Last Tested	Comments or brief description	Integrated with these units
#REF!	0%	1	Register	#NAME?	Allows a user to create an account.	
F	0%	2	Login	01/00/00	Allows a user to sign into Team Evaluation.	
F	0%	3	Take Evaluation	01/00/00	Allows a user to complete an evaluation.	1,2
#DIV/0!	of Test Cases Passed (99.44% passes the Ivory Snow Test)						

4.2 Unit Test 1

Create Account on Team Evaluation
Unit 1
Allows user to create an account.

		Test Cases								
Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	1.001	Null Username Field	Leave username blank.	Fill out remainder of form and press submit.	Empty form	Display "Please enter Username" message.				
	1.002	One Password Field is Null	Leave either initial password or confirm password blank.	Fill out initial password or confirm password.	Null password fields.	Display "Cannot leave Password blank" message.				
	1.003	Both Password Fields Are Blank	Leave both initial password and confirm password blank.	Press submit	Null password fields.	Display "Cannot leave Password blank" message.				
	1.004	Password Contains Illegal Characters	Enter special character into password field.	Press submit	Empty form	Display "Invalid Password, please try again" message.				
	1.005	Username Contains Illegal Characters	Enter special character into username field.	Press submit	Empty form	Display "Invalid Username, please try again" message.				
	1.006	Initial Password Is Not At Least 6 Characters Long	Enter a password with less than 6 characters.	Press submit	Empty form	Display "Password must be at least 6 characters long"				
	1.007	Username is Already Taken	Enter a username that has already been created.	Press submit	Empty form	Display "Username is not available. Please try again." message.				
	1.008	Initial Password and Confirmed Password Do Not Match	Enter different passwords into initial and confirm password.	Press submit	Empty form	Display "Paswords do not match" message.				
	1.009	Email Is Not a Siena Email Account	Enter an email that does not end in "@siena.edu"	Press submit	Empty form	Display "Please enter a Siena College email address" message.				
	1.010	First Name Is Null	Leave first name field blank.	Fill out remainder of form and press submit.	Empty form	Display "Enter first name" message.				
	1.011	Last Name Is Null	Leave last name field blank.	Fill out remainder of form and press	Empty form	Display "Enter last name" message.				
	1.012	Confirm Email Does Not Match Initial Email	Enter different email addresses into email and confirm email.	Fill out remainder of form and press submit.	Empty form	Display "Email addresses do not match" message.				
F	= Unit Summary			0% passing		0 passed			Date of last test =	1/0/00
	10	tests				0 failed				

4.3 Unit Test 2

17

Login to Team Evaluation

Unit 2

Allows user to Login to Team Evaluation

		Test Cases								
Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	1.001	Username Contains Illegal Character	Enter a special character into username.	Enter password and press submit.	Null username and password.	Display "Username is not valid" message.				
	1.002	Password Contains Illegal Character	Enter a special character into password.	Enter username and press submit.	Null username and password.	Display "Password is not valid" message.				
	1.003	Username and Password Do Not Match	Enter a username with an incorrect password.	Press submit.	Null username and password.	Display "Username and password do not match" message.				
	1.004	Null Username Field	Leave username blank.	Enter password and press submit.	Null username and password.	Display "Enter a username" message.				
	1.005	Null Password Field	Leave password blank.	Enter username and press submit.	Null username and password.	Display "Enter a password"				
	1.006	Null Username and Password Field.	Leave username and password blank.	Press submit.	Null username and password.	Display "Enter a username and password" message.				
	1.007	Username Does Not Exist	Enter a username that has not been created.	Enter password and press submit.	Null username and password.	Display "Invalid username" message.				
	1.008	Link to Password Reset Form	Click "Reset Password" Button	Click "Reset Password" Button	Null username and password.	Redirect to "Reset Password" page.				
	1.009	Correct Username and Password.	Enter valid username and password.	Press submit.	Null username and password.	No error message. Proceed to home page.				
F	= Unit Summary			0% passing		0 passed		Date of last test =		1/0/00
	9	tests				0 failed				

4.4 Unit Test 3

Complete Evaluation on Team Evauation

Unit 3

Allows user to complete a course evaluation.

Pass/Fail Status	Test Cases									
Pass/Fail Status	Test Number	Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
	1.001	Questions Not Answered For All Team Members	Only answer some questions for some team members.	Press Submit.	Blank survey.	Display "You must evaluate all team members" message.				
	1.002	All Team Members Evaluated, But Some Behaviors Left Blank.	Evaluate all team members, but leave some behaviors blank.	Press Submit.	Blank survey.	Display "You must evaluate all behaviors" message.				
	1.003	Leave Entire Survey Blank.	Leave survey blank.	Press Submit.	Blank survey.	Display "You must evaluate all behaviors" message.				
	1.004	All Behaviors Evaluated For All Team Members	Evaluate all team members and all behaviors.	Press Submit.	Blank survey.	No error message, display confirmation.				
F	= Unit Summary		0%	passing		0	passed		Date of last test =	1/0/00
	4	tests				0	failed			

website map

5.1 Website Map Legend

	Home Page: The first page a user accesses when navigating to T.E.A.M.S. 101
	System Interaction: Option visible on current web page for user to interact with
	Web Page: Name of web page user is currently accessing
	System Action: Action being carried out by system
	Page Redirect: Relocates a user to another web page
	Link: Connection between web pages and system interactions

5.2 Login Website Map
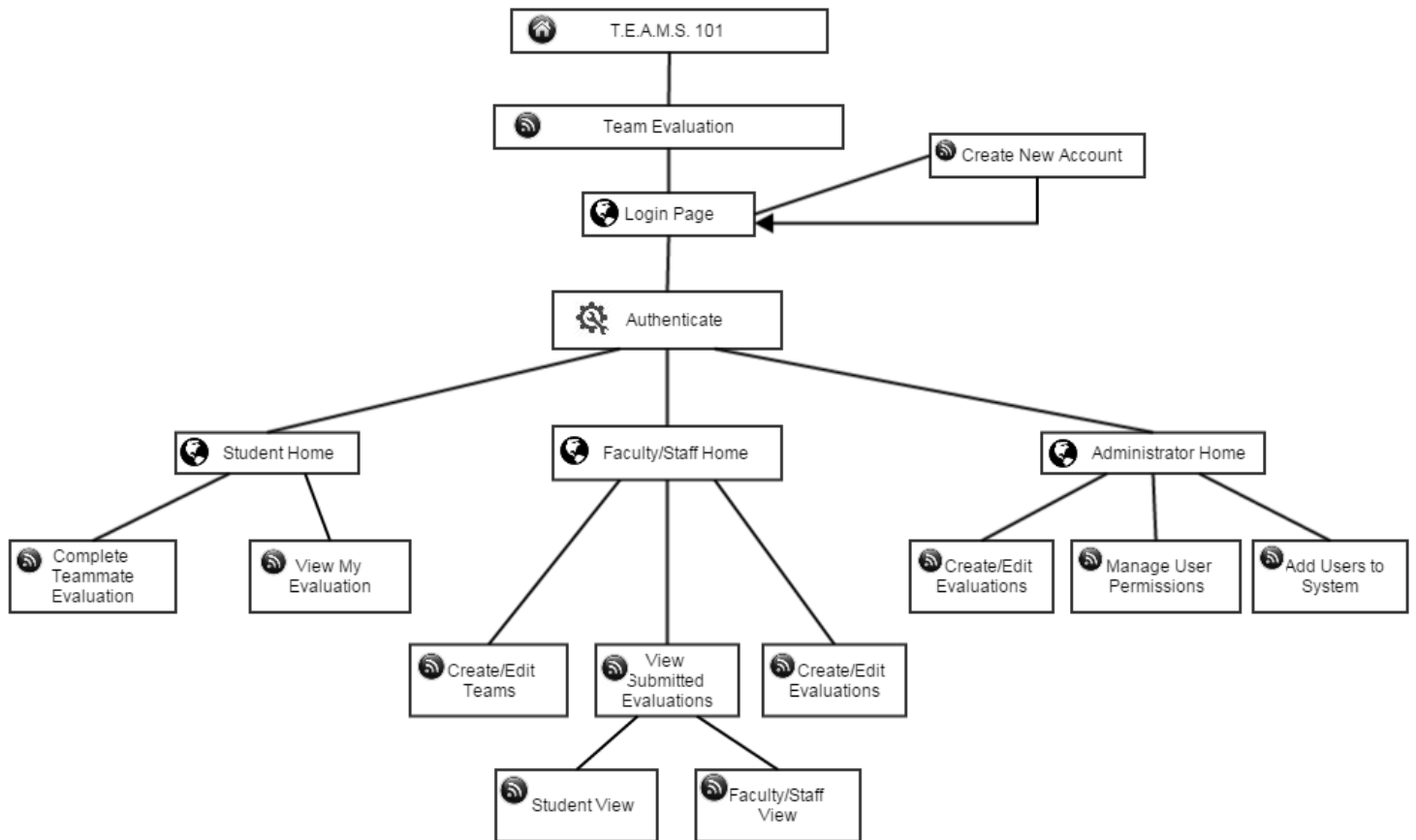
UML ACTIVITY DIAGRAMS

6.1 Activity Diagram Legend
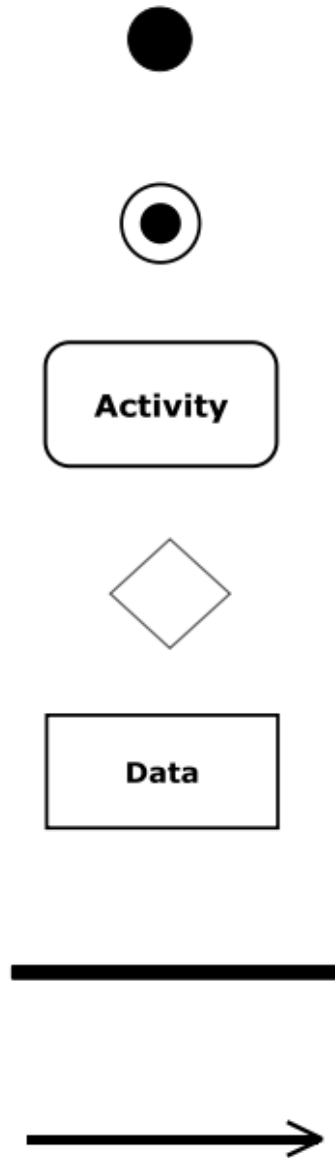
Symbol	Description
●	**Initial Node** – This is the first node in the process. The initial node is the starting point for all movement.
◉	**Final Node** – The final node is the last node in the process. When the activity flow has reached here, the process is over.
Activity	**Activity Node** – The activity node describes the activity or step to be done to help complete the process when the flow reaches the node.
◇	**Decision Node** – The decision node is used to branch the activity. A decision node is usually posed in question form, with multiple unique answers. The flow must follow one of the branches after the decision.
Data	**Data Object** - Data that is used during the process. The data object can be either input or output.
▬▬▬	**Split/Join** – Can either separate activity flow to run two activities simultaneously or join them back together after simultaneous activities are completed.
→	**Flow** – Shows the movement of action from one node to another.

6.2 Login Activity Diagram
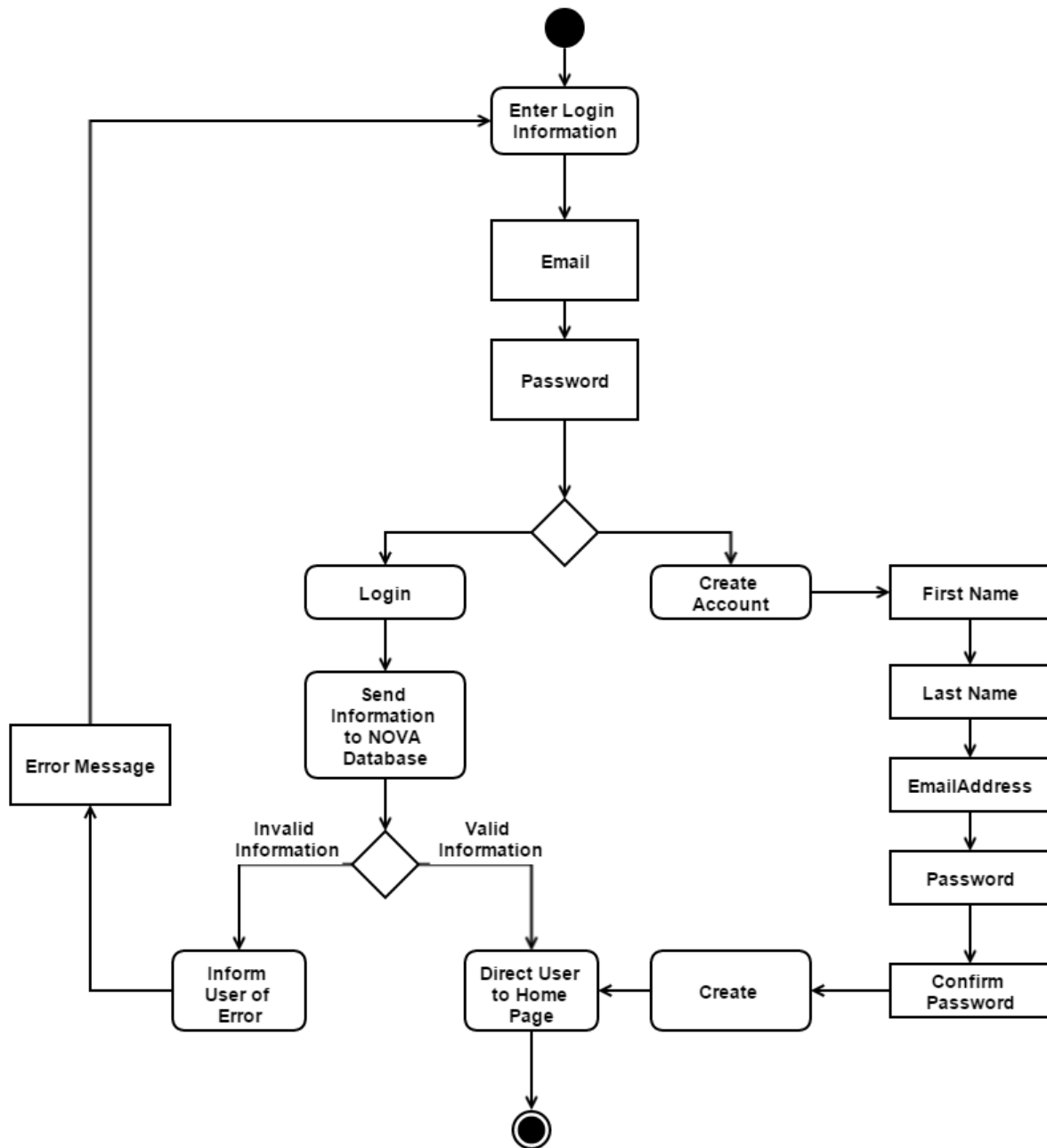
UML DEPLOYMENT DIAGRAMS

7.1 Deployment Diagram Legend

<HTTP>	**HTTP - Hypertext Transfer Protocol defines how messages are formatted and transmitted, and what actions web servers and browsers should take in response to various commands.**
<SCP>	**SCP - Securely transfers computer files between a local host and a remote host**
<ODBC>	**ODBC - Open Database Connectivity is a standard programming language middleware for accessing database management systems.**
	System Boundary - This is where all the interactions occur. Represents what is within the system and outside of it.
	Connection - Displays a relationship between boundaries.

7.2 Deployment Diagram

Deployment Diagram
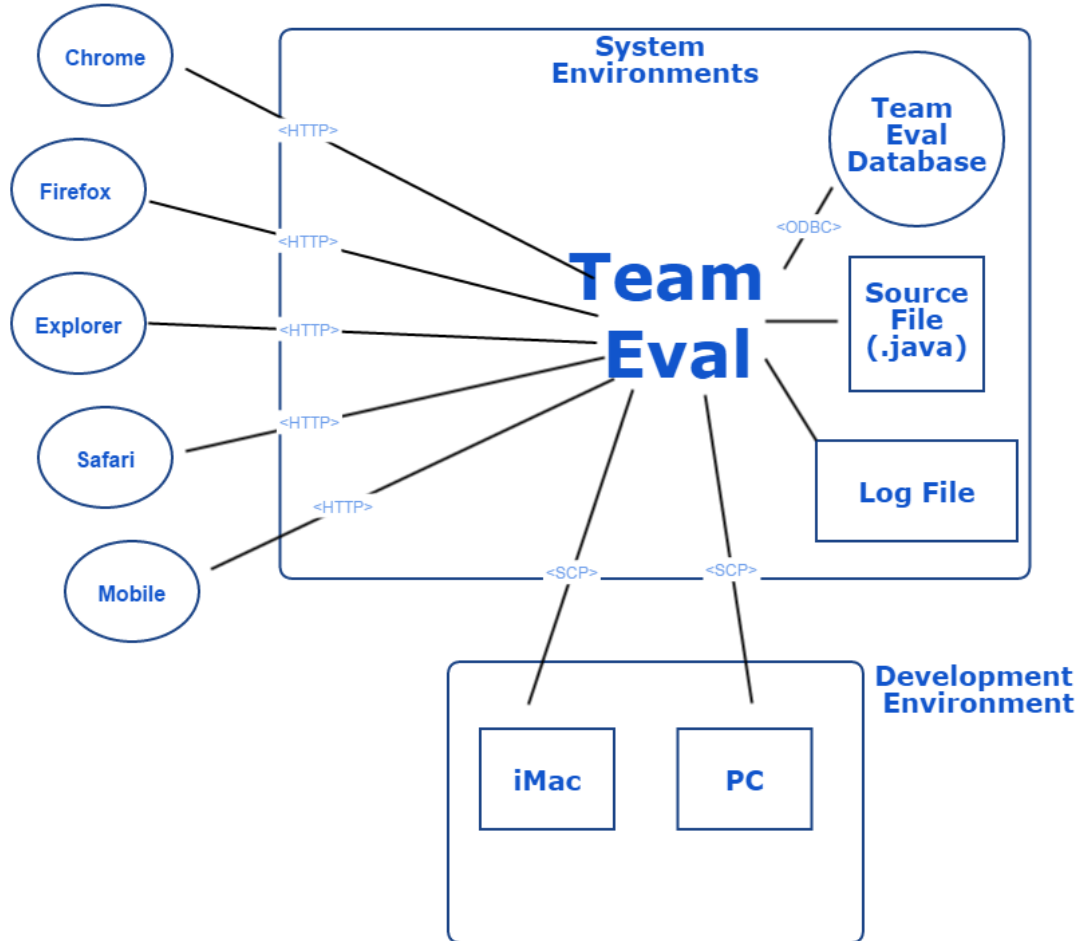
team website

8.1 NOVA Home Page

NOVA Tech   Home   About Us   Status   Documents   Notes   Project

Nova Technology

Software solutions made simple.

From left: Kevin Conner, Sara Pinti, Emma Bostian, David Hall, Justin Rose

Siena College | Siena CS Department | Siena School of Science | Siena Software Engineering

NOVA Technologies 515 Loudon Road Loudonville, NY 12211

8.2 NOVA Status Page

8.3 NOVA Notes Page

NOVA Tech   Home   About Us   Status   Documents   Notes   Project

Notes

September

Team Meetings   Client Meetings

September 10, 2014   Data

October

November

December

Prototype

9.1 Login Page

Teams

Improving team synergy has never been this easy.

Email	Email
Password	Password
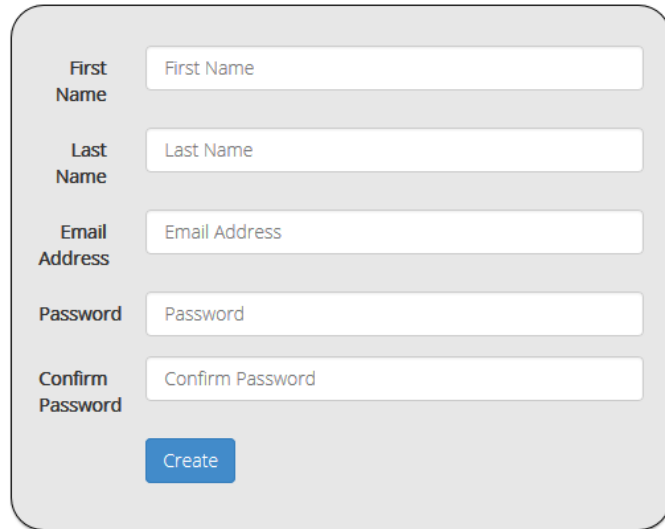
Sign in | Create an Account

9.2 Create an Account

Team Evaluation   About   Create Account   More Information ▾

Create an Account

First Name   [First Name   ]

Last Name   [Last Name   ]

Email Address   [Email Address   ]

Password   [Password   ]

Confirm Password   [Confirm Password   ]

[Create]

Appendix/Glossary

Glossary of Terms

Actor: Actors that interact with the system through sues/actors can be human or non human

Agile method: Agile software development is a group of software development methods in which requirements and solutions evolve through collaboration between self-organizing, cross-functional teams

Apache HTTP Server: Apache Hypertext Transfer Protocol Server, Web server application

Apple Safari: Web browser designed by Apple

Data Stores: A component of a Data Flow Diagram that represents a location in which information or data is stored

Database: Organizes data, typically through a computer, so that the data is easily accessible

Data Flow: Data/information flowing to or from a process in a Data Flow Diagram

Data Flow Diagram: A graphical representation of the "flow" of data through an information system

Data Store: Location where data is held temporarily or permanently in a Data Flow Diagram

External Entities: A component of a Data Flow Diagram that represents any human or non-human user of a Software System

Functional Requirements Inventory: Defines what the system will be able to do and what is testable about the system

Gantt Chart: Bar chart typically used to project scheduling

GIMP (GNU Image Manipulation Program): Image retouching and editing tool released as free and open-source software by creators Spencer Kimball and Peter Mattis

Google Chrome: Web browser designed by Google

Inclusion Arrow: An arrow that points from a scenario to another scenario to show that something must be included for the scenario

Inheritance Arrow: An arrow that points from one use to another; the use of being pointed at is the parent and the other is the sub

Internet Explorer: Web browser designed by Microsoft

Level-0 Diagram: A data flow diagram that represents a system's major processes, data flows, and data stores at a high level of detail

Level-1 Diagram: Provides an overview of the major functional areas of the undertaking

Mozilla Firefox: Web browser designed by Mozilla Foundation and the Mozilla Corporation

mySQL (Structured Query Language): Programming language designed to manage data and develop databases

Non-Functional Requirements Inventory: Requirements that are not necessarily specific features that exist in a system, but what the system is intended to do

Nova Tech: Team name

Notepad++: Text editor specializing in syntactic highlighting of various programming languages

Oracle Database: An object-relational database management system produced and marketed by Oracle Corporation

Oraserv Database: Siena College's database server

Participation Line: Shows what scenarios an actor can interact with in a UML Use Case Diagram

Process: Transforms or manipulates data in a Data Flow Diagram

Prototype: An early sample, model or release of a product built to test a concept

Scenarios: The actions that occur within a system and how the user interacts with the system

SQL: Structured Query Language, language used to query databases

SQL Developer: Program used to create and modify database

System Boundary: The boundary between the system and the external entities in a Data Flow Diagram

TEAMS 101 - Team Evaluation: Project name

UML Use Case Diagram: A type of behavioral diagram to present a graphical overview of the functionality provided by a system

UML (Unified Modeling Language): A specification language used in software engineering

Unit Te
sting: A testing method where the system is broken down into units and each unit is tested

UPC (User Permission Chart): Chart that demonstrates the permissions of the different users in Team Evaluation

Visual Paradigm: a UML CASE Tool supporting UML 2, SysML and Business Process Modeling Notation (BPMN) from the Object Management Group (OMG). In addition to modeling support, it provides report generation and code engineering capabilities including code generation. It can reverse engineer diagrams from code, and provide round-trip engineering for various programming languages.

Website Map: A list of pages of a website accessible to users