1. **Dynamic Perspective**

**Component and Connector View**

* 1. **Primary presentation:**



* 1. **Element catalog:**
     1. **Elements and their properties**

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| **Elements** | | **Properties** |
| **Client tier** | **Web Browser** | A component that send a request to web server and receive a reply is sent by web server. And then it displays UI to user. |
| **Student management** | This GUI help user manage student record such as: import student record, edit student, view student list. |
| **Statistics** | User can view student record following criteria. The student information are displayed on grid view. |
| **Database tier** | **Primary Database** | It’s main database server which uses frequently when the system work properly. It’s responsible for store data such as sales data, user data, customer data, store data, product data, and category data. In the certain time, it will synch with temporary database as a backup data. |
| **Backup Database** | It’s a temporary database which uses rarely. It only uses when the system doesn’t work properly, crash or not available. In the certain time, it will synch all data with primary. |
| **Server Tier** | **StudentControllers** | The StudentController class contains action methods that render view pages. |
| **UserControllers** | The UserController class contains action methods that render view pages (related AddUser, EditUser, ViewUser) |
| **StatisticsControllers** | The StatisticsController class contains action methods that render view pages (related Statistics) |
| **Web Service** | Web service is a method of communication between two electronic devices via the Web (Internet). It is designed to support [interoperable](http://en.wikipedia.org/wiki/Interoperability) machine-to-machine interaction over a [network](http://en.wikipedia.org/wiki/Computer_network)". It uses [SOAP](http://en.wikipedia.org/wiki/SOAP) protocol, typically conveyed by using [HTTP](http://en.wikipedia.org/wiki/HTTP) with an [XML](http://en.wikipedia.org/wiki/XML) [serialization](http://en.wikipedia.org/wiki/Serialization) in conjunction with other Web-related standards. |
| **IIS 7** | IIS 7 is a major enhancement to the Windows web platform and plays a central role in unifying Microsoft web platform technologies - ASP.NET, Windows Communication Foundation web services, and Windows SharePoint Services.  It handle requests and replies that are send between client tier and server tier. |
| **ViewUser** | This GUI helps the user to view the User. |
| **AddUser** | This GUI helps the user to add a new User. |
| **ViewStudent** | This GUI helps the user to view the Student. |
| **UserModels** | Storing and retrieving the User information and return a message back to view pages (AddUser, EditUser, ViewUser) |
| **StudentModels** | Storing and retrieving the Student information and return a message back to view pages. |
| **AuthorityBL** | This class contains functions that perform business logic for user management such as: add new user, edit user, view user. |
| **StudentBL** | Contains function that perform business logic for student record management such as: import student, view student, edit student |
| **StatisticsBL** | Contains fucntion that help user to review list of student following criteria. |
| **UserEntity** | Consists of function to retrieve data from database or store, update data - which related User - to database. It is frequently called by class Authority**,** Logon. |
| **StudentEntity** | Consists of function to retrieve data from database or store, update data - which related Student - to database. It is frequently called by class Data Handle, Statistics. |
| **DepartmentEntity** | Consists of function to retrieve data from database or store, update data - which related Department - to database. It is frequently called by class Statistics, Data Handle. |

* + 1. **Relations and their properties**

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| **Connector** | **Properties** |
| **Request/ Reply** | Connector between client and server style, used by a client to invoke services on a server. |
| **Call and return** | Responsible for conveying the service request from the requester to the provider and for returning any results. Use by interface to request data from Filter/Object |
| **Synchronous Replication** | The technique for replicating data by two or more databases (or file systems) where the system being replicated does waits for the data to have been recorded on the duplicate system before proceeding. |
| **Soap/Http** | Stand for Simple Object Access Protocol. It is the kind of protocol for communtication in Web Service. It chooses XML for a standard message format. Usually, it relies on other [Application Layer](http://en.wikipedia.org/wiki/Application_Layer) protocols, mostly HTTP. |
| **File I/O** | Refer the communication in access data in a file to perform operation such as: read file and write file. |
| **ODBC** | Stands for Open Database Connectivity. It is the standard method which allows any application to connect data. ODBC uses a middle layer called the database driver to handles the connection in between the application and the relational database management system. |