In this assignment you are to create a class diagram for MISys. Note that your class diagram must cover all the goals, actors, and interactions that you identified in your use-case diagram in HW2. You have the choice of using your own use-case diagram or the solution sketch provided on the course website (available on Friday, January 26, 2007).

Here are the key concerns that your class diagram should address:

1. (Security) All the users of MISys are required to login through a username and a password. Each username is mapped to personal attributes of the user: (1) name, (2) period of employment, and (3) position Upon login MISys determines group membership of the user (doctors, nurses, etc) and authorizes him/her based on access permissions defined next.

2. (Access authorization)

   2.1. The receptionist is not able to modify the history of diagnoses, prescriptions, and tests. However, he/she is able to read them. In addition, the receptionist should be able to modify other fields of patient’s record such as personal attributes and appointments.

   2.2. Similarly, the radiologist and pharmacist are only authorized to modify their respective, specialty-related information.

   2.3. Doctors and nurses have full access to the systems.

3. (Transaction traceability) MISys should keep track of all transactions. A transaction comprises its (1) date, (2) time, (3) username of the person who begins the transaction, (4) the old and new data record, and (5) reason for change.

4. (Emergency) Patients can dial a number for after-hours medical assistance for non-emergency care; this option is applicable when a patient wishes to contact a doctor or nurse for advice regarding a particular medical condition. (Urgent medical care should be treated at an Emergency room at a local hospital; and for life-threatening cases, patients should dial 9-1-1.) MISys is equipped with specialized telecommunication hardware that decodes the patient’s phone number, retrieves his/her patient information, and automatically contacts one of the on-call nurses or doctors. This service means that MISys maintains a list of on-call nurses and doctors.
Assignment Requirements:

1- Using ArgoUML, create a class diagram for **MISys**.

2- Attach a copy of the use-case diagram upon which you created your class diagram. (Include as much documentation from your use case description to understand the class diagram entities.)

3- Create a data dictionary entry for each class. Use the below data dictionary template.

4- Be sure to include prose description for all of your diagram elements, in addition to the information provided in the data dictionary.

Extra Credit:

5- In addition to the above-enumerated concerns, identify three other issues related to **MISys**. Add the corresponding information to your class diagram and data dictionary.

Class data dictionary entry template:

<table>
<thead>
<tr>
<th>Class</th>
<th>Description (responsibilities)</th>
<th>Export control (public: yes/no)</th>
<th>Associations:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aggregations:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Generalization:</td>
</tr>
<tr>
<td><strong>Name</strong></td>
<td><strong>Relationships</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>List of attributes and their primitive types</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>List of operations (include parameters and results)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>