The class diagram of “Exchange” is shown above. The class diagram has 30 classes at this time. These classes, their attributes and their functions are created by considering users’ needs and authority levels.

First of all, we have two different main classes which are “Actor” and “System”. Actor class is created to organize the authority hierarchy in the application process and maintain the “Exchange” app. Also, this class has 3 subclasses called “Admin”, “User” and “Guest” whose details are explained below.

As mentioned above, there is also “System” class which enables the user to use our application’s functions properly. We decide to divide the whole code into 2 different main classes because the processes of implementation and maintenance will be easier before and after release.

Now, we start to talk about subclasses of the Actor class:

**Admin:**

Admin class is created to develop and maintain the Exchange application. This class has access to change the application’s code and get/post data from/to the database with some limitations which secure the privacy of the user.

**Guest:**

This class enables the user to view a couple of pages without login (e.g Forum page). They cannot upload or download anything. Also, they cannot see the pages which are exclusive for the logged-in users. This class is a representation for out of campus students and not applied students yet. When they log in, they transform into the User class.

**User:**

Basically, this class is one of the very important classes of our diagram. Whether the user is an authority or not, he/she is a part of this class. The User class has some important attributes such as name and email. Also, this class has 3 subclasses which are Exchange Office, Management and Student.

**Exchange Office:**

This class is very simple class. Exchange Office can only upload the students’ data and download files about the application process.

**Management:**

Management class is a class in which the authority people except the Exchange Office are a part of. Members of this class can follow the application process and use special functions of our application to organize and manage the process. The Management class also has 3 subclasses to give the user more specific functions that everyone cannot use. These subclasses are:

* Department Coordinator
* Instructor
* Exchange Coordinator

**Department Coordinator:**

This class has a different function from the other subclasses of the Management class which enables the user to approve nominations.

**Instructor:**

This class has a different function from the other subclasses of the Management class which enables the user to approve courses.

**Exchange Coordinator:**

**Student:**

This is the class that consists of all applied students or students who completed their Exchange process and came back. The Student class is designed to make the application process easy for both the applying students and authority people. This class have 2 subclasses:

* Applying Student
* Former Student

**Applying Student:**

Applying Student class has two different and important attributes which are called checklist and documents in the diagram. Thanks to these attributions, the applying students will know what he/she must do and the authority people can see which documents belong to that student. Also, this class has functions about the application process so that the user can easily implement their application.

**Former Student:**

This class is a representation of the ones who completed their Exchange Program and the difference is that they can review the Erasmus experience while there is no class that can do it.

We have also the “System” class which is one of the main classes as mentioned above. In the System class, we have three main subclasses which are called “Contact”, “Info” and “Procedure”. The main reason for this is that we can easily add or delete different attributes or functions to classes according to their specific area.