**IT 432**

**Name: Eric Agyemang**

|  |
| --- |
| You will be performing three major analysis activities on the system supporting the platform: [numer.ai](http://numer.ai)  You will be wearing the hat of a *system analyst* behind the creation of this platform. This platform has been chosen because it is a relatively new area in which information technology is making an impact (machine learning –based hedge fund industry) and therefore a certain level of discovery work will be required by you.  You will sign up for a free account on the platform and perform activities similar to what you have performed in your lab exercises and in class. |
|  |
| **Question 1. Domain Model Class diagram.** Start with identifying 4 major classes that are part of the domain model for this platform. Identify at least four attributes for each; define associations (where needed), identify multiplicity (1-1, 1-M, or M-M) and constraints (optional vs. mandatory). Draw your diagram on GenMyModel and place a picture of it here. Is there a need for adding an association class to your diagram? Yes or No? If the answer is yes, make sure your diagram includes said association class. If your answer is no, explain why. |
| **Question 2. Use Case diagram.** Start by identifying at least two user groups. Then create a use case diagram that shows 4 use cases for each of the user groups; make sure your diagram includes features that are exclusively available to one or the other user groups that you have identified. Examine the platform carefully and try to identify at least one instance of ‘include’ OR ‘extend’ relationship that you may be able to add to your use case diagram. Note that you do not need to have both, just an example of one of them would suffice.    **Question 3. Activity diagram.** Pick one of the major processes that you have observed on the platform or pick a use case you have listed in Question 2 and show the steps required to complete that process or use case in an activity diagram. Create your activity diagram in GenMyMode and include a picture here. Also, briefly introduce the process or the use case that you are modeling.    The use case here is **user sign up for community account**. In this activity diagram, the user launches his/her app and login to numerai platform. The user then goes through the series of steps in the diagram above to join the any listed available communities on the platform after which he/she is registered into the system.  **Questions 4. Non-functional requirements.** List one (only one) non-functional requirement that is a prominent part of the system. In 1-2 sentences explain why that specific non-functional requirement is important to the system. Summarize your thoughts in the following table.   |  |  |  | | --- | --- | --- | | Non-functional Requirement type | description | Relevance/importance | | Usability | This requirement relates to more abstract features, how the system and its environment operates in the contest of user interface and ease of use. | If users find a new system difficult to use, they will be reluctant to deactivate their account from using the Numerai system, and so the user interface is made familiar and user may need to follow a single set of rules to navigate through the system. These will enhance user satisfaction, and success in modeling. |   **Questions 5. Events and use cases to handle them.** List one event that happens that would require the system to handle/record/act. Summarize the information about the event in the following table.   |  |  |  | | --- | --- | --- | | Event | type | Related use case(s) | | Administrators request for tournament data preprocessing | External | Clean and regularize incremental data in tournament | |

**Question 6. CRUD for identifying missing features.** Complete the table by listing the 4 classes that you identified in Question 1 and use cases that you identified in Question 2. Go through the CRUD determination process and identify the actions (CRUD) that have not been covered by use cases that you have listed in your Question 2 diagram. List one use case or feature that would address one of the missing actions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Use case Vs domain class** | **User** | **Connect Index** | **Tournament** | **Community** |
| Create user tournament account | C |  | C |  |
| Sign up for community account |  |  |  | C |
| Update and share new files through connect index |  | U D |  |  |
| Update submitted model for automation |  |  | U D |  |
| Produce user usage report | R | R | R | R |
| Update user community account | U D |  |  | U D |
| Update leader board notification in tournament |  |  | U D |  |
| clean and regularize incremental data in tournament |  |  | U D |  |
|  |  |  |  |  |
| **Missing actions** |  | C |  |  |

1. One use case that would address the missing action C in Connect Index is: Create a user meet-up account in connect index

**Question 7. Fully Developed Use Case Description and Systems Sequence Diagram.** For the use case Add agent to real estate office from Multiple Listing Services systems, see the fully developed use case description. Review the table and complete it by adding (a) one actor and (b) one Post-condition.

|  |  |  |
| --- | --- | --- |
| **Use case name:** | Add agent to real estate office | |
| **Scenario:** | MLS clerk adding agent | |
| **Triggering event:** | New agent hired in a real estate office | |
| **Brief description:** | The correct real estate office is identified, and the new real estate agent information is entered into the system. | |
| **Actors:** | 1. MLS clerk | |
| **Related use cases:** | Real estate office adds new agent (Web based version scenario) | |
| **Stakeholders:** | Real estate office, real estate agent | |
| **Preconditions:** | The real estate office must exist | |
| **Postconditions:** | **(b) Agent record is created- agent record is associated with the office** | |
| **Flow of activities** | **Actor** | **System** |
| 1. Find correct real estate office  2. Enter new agent information | 1.1 Display real estate office information  2.1 Create new agent record, including with relationship to real estate office |
| **Exception conditions:** | 1.1 No real estate office found for requested id/name. Display not found message. | |

See the sequence diagram for the use case above, *Add agent to real estate office*, complete the sequence diagram by adding appropriate messages (include parameters).

*Write on the diagram or write below:*

(a) findREOffice(officeName)

(b)addREAgent(name, address, phone)

