Written Report for P1:

Manuel Baez
Kelvin Roche
Herbert Perez

ENTITIES:

- **User:**
  - One of the essential entities, this holds the information that identifies each user.
    - UID
    - Username
    - FName
    - LName
    - Region
    - isAdmin
- **Supplier**
  - a specific kind of user that can supply **resources** on the system
    - SID
- **Requester**
  - A specific kind of user that can request **resources** in the system
    - NID
- **Resource**
  - Another of the essential entities, the resource represents each of the elements that are traded/sold on the application.
    - RID
    - RName
- **Category**
  - The category tells us what *kind* of resource we are dealing with, and allows to have subcategories.
    - catID
    - catName
    - parent
- **ResourceRequest**
  - The ResourceRequest saves the information of what **resources** the **Requester** is asking for at a given time.
    - ReqID
    - Date
- **ResourceRequestDetails**
  - The ResourceRequestDetails is an entity which helps the **ResourceRequest**, allowing the Requester to request more than one item per each **ResourceRequest**
    - RRD_ID
    - Qty
- **AvailabilityAnnouncement**

    - The AvailabilityAnnouncement saves the information of what **resources** the **supplier** is supplying the system at a given time.
        - AnnID
        - Qty
        - Date
- **ResourceTransaction**
    - The resource transaction serves as a record of all the purchases/reserves of **resources** that have been done in the system, an by which **users.**
        - TID
        - Date
        - Qty
- **Stock**
    - The stock basically tells us what **resources** are available at the moment per **user** in the system.
        - RID
        - SID
        - QtySum
        - PricePerItem

RELATIONSHIPS:

- isSupplier: User->Supplier [One to One]
    - the supplier is a type of user, so the UID serves as a foreign key
- isRequester: User -> Requester [One to One]
    - the requester is a type of user, to the UID serves as a foreign key
- issuesAnnouncement: Supplier -> AvailabilityAnnouncement [One to Many]
    - the availabilityAnnouncement needs the information of who made the items available, thus the SID is provided as a foreign key
- suppliesItem: Supplier-> ResourceTransaction [One to Many]
    - the ResourceTransaction needs the information of who made the items available, thus the SID is provided as a foreign key
- receivesItem: User -> ResourceTransaction [One to Many]
    - the ResourceTransaction needs the information of who receives the items, thus the UID is provided as a foreign key. The UID is used instead of the NID (Requester ID) because a user can buy/reserve an item without requesting it first. This ID also helps us find the stock from which the resource will be taken.
- issuesRequest: Requester -> ResourceRequest [One To Many]
    - the ResourceRequest needs the information of who made the request, thus the NID (Requester ID) is provided as a foreign key.
- hasStock: Supplier -> Stock [One to Many]
    - the Stock uses the ID of the Supplier as part of its Primary Key, since the idea is to know how many of each resource each user has available.
- isInStock: Resource -> Stock [One to Many]
    - the stock uses the ID of the Resource as part of its Primary Key, since the idea Is to know how many of each resource each user has available
- hasCategory: Resource -> Category [Many to One]
    - the Resource uses needs the information pertaining to its category, thus the catID is provided as a foreign key
- hasDetails: ResourceRequest -> ResourceRequestDetails [One to Many]
    - the ResourceRequest is designed so the user can request many different resources in one request, and for this we make one ResourceRequestDetails per requested resource. Thus, the RRD_ID is provided as a foreign key.
- isResourceRequested: Resource -> ResourceRequestDetails [One to Many]
    - The ResourceRequestDetails needs the information of the requested resource, thus the RID is provided as a foreign key
- isPurchased: Resource -> ResourceTransaction [One to Many]
    - The ResourceTransaction needs the information of which Resource has been purchased/reserved, thus the RID is provided as a foreign key. This ID also helps us find the stock from which the resource will be taken.