Network Manager

- _network : Network

+ load (filename : String) : void
+ Save () : void
+ saveAs (filename : String) : void
+ import File (filename : String) : void
+ open File (filename : String) : void
+ save File (filename : String) : void
+ open Menu Client () : void
+ open Menu Lookups () : void
+ open Menu Terminals () : void

Network

- _totalComms : int
- _clients : HashMap <String, Client>
- _terminals : HashMap <String, Terminal>

+ disable Client Notifications (id : String) : void
+ enable Client Notifications (id : String) : void
+ register Client (id : String, name : String, nif : int) : void
+ show All Clients () : void
+ show Client (id : String) : void
+ show Client Payments And Debts (id : String) : void
+ show All Communications () : void
+ show Clients With Debts () : void
+ show Clients without Debts () : void
+ show Communications From Client (id : String) : void
+ show Communications To client (id : String) : void
+ show Terminals with Positive Balance () : void
+ show Unused Terminals () : void
+ show Global Balance () : void
+ open Menu Terminal console () : void
+ register Terminal (idTerminal : String, idClient : String) : void
+ show All Terminals () : void

Client

- _tariff : Tariff
- _id : String
- _name : String
- _nif : int
- _terminals : HashMap <String, Terminal>
- _payed : ArrayList <Integer>
- _owed : ArrayList <Communication>
- _received Communications : ArrayList <Communications>
- _notifications : ArrayList <Notification>
- _balance : int

+ change Tariff (newType : String) : void
+
+
+ add Payed (price : int) : void
+ add Owed (com : communication) : void
+ read Notifications () : void

Notification

- type : String
- idTerminal : Terminal

Communication

- type : String
- id : int
- id Sender : String
- id Receiver : String
- limit : int
- price : int
- status : String

+ end Communication (limit : int, tariff : Tariff) : void

Tariff

- ready : boolean

Normal

+ text (N : int) : int
+ voice (N : int) : int
+ video (N : int) : int

Gold

- consecutive : int

+ text (N : int) : int
+ voice (N : int) : int
+ video (N : int) : int

Platinum

- consecutive : int

+ text (N : int) : int
+ voice (N : int) : int
+ video (N : int) : int

Terminal

- state : String
- id : String
- balance : int
- friends : HashMap < String, Terminal >
- payed : ArrayList (Integer)
- owed : ArrayList < Communication >
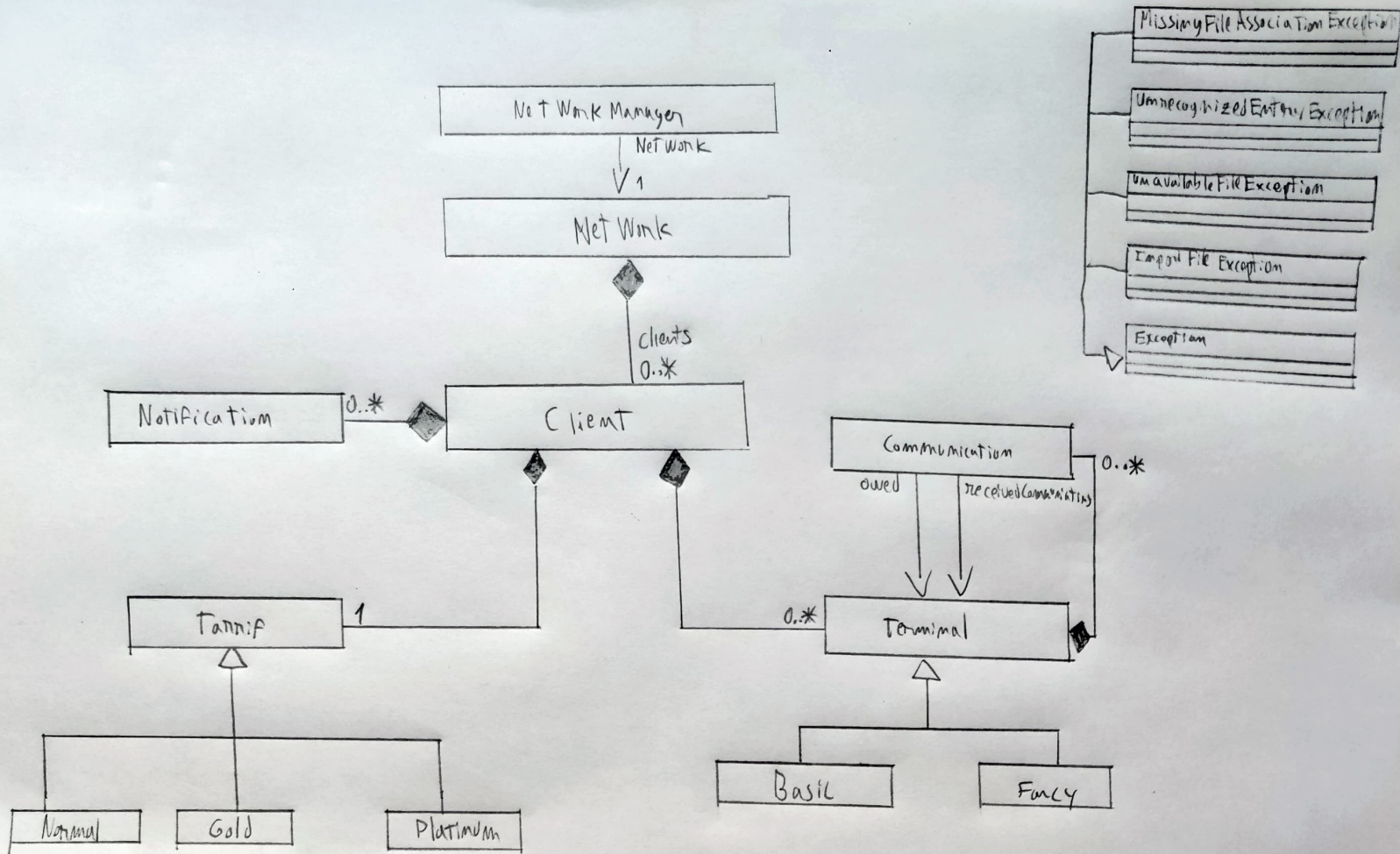- receiveCommunications : ArrayList < Communications >

+ updateBalance () : void
+ communicationEnded (price : int) : void
+ addFriend (friend : Terminal) : void
+ removeFriend (id : String) : void
+ startCommunication (type : String, receiver : Terminal) : void
+ <> canEndCurrentCommunication () : boolean
+ <> canStartCommunication () : boolean

Basic

+ canEndCurrentCommunication () : boolean
+ canStartCommunication () : boolean

Fancy

+ canEndCurrentCommunication : boolean
+ canStartCommunication () : boolean

UML class diagram (hand-drawn):

- **Net Work Manager**
  - Network 1 → **Net Work**
- **Net Work** ◆ Clients 0..* → **Client**
- **Notification** 0..* ◆—— **Client**
- **Client** ◆—— 1 **Tarrif**
  - **Tarrif** △
    - **Normal**
    - **Gold**
    - **Platinum**
- **Client** ◆—— 0..* **Terminal**
- **Communication** — owed / receivedCommunication → **Terminal**
  - **Communication** 0..*
  - **Terminal** ◆ 0..*
  - **Terminal** △
    - **Basic**
    - **Fancy**

Exception hierarchy (right side):
- Missing File Association Exception
- Unrecognized Entry Exception
- Unavailable File Exception
- Import File Exception
- Exception