Design Concept

1. **Member** has all users' profile including: name, gender, date of birth; which is listed by primary key: member_ID
2. **Privileged Member** which is a subset of **Member** stores the payment confirmation_ID (confirmation ID should not be included in **Member;** this table might be locked for security access)

   Example:
   Table1: Member

Member_ID(PK)	Name	Gender	Birth Date
1001	Namo	Male	…
1002	Jason	Male	…
1003	Joanna	Female	…
1004	Jessy	Male	…
1005	Min	Male	…

   Table2: Privileged Member

Member_ID(PK)	Confirmation_ID
1001	abcxxx
1005	Defyyy

3. All pictures are grouped into albums. Each picture belongs to only one album and each album is owned by a single user.
   (= a user can have multiple albums and each album can have multiple pictures)

   Example:
   Table3: Album

album_ID(PK)	Member_Id(FK)
A	1001
B	1001
C	1003

   Table4: Picture

pic_ID(PK)	Link(addr)	album_ID(FK)
i.	…	A
ii.	…	C
iii.	…	B
iV.	…	A

4. A picture may contain persons and users can be tagged by other users in the picture. Each tag can refer to only one user in the picture. A picture can have multiple tags when there are may users in it, while a tag can belong to only one picture.

   Table6: Tags

Tag_ID(PK)	member_Id(FK)	pic_Id(FK)
1	1001	i.
2	1001	ii.
3	1004	i.
4	1005	v.

5. A regular user can post a status with text and multiple pictures. A privileged user can post an advanced status with text, multiple pictures and a video. For each status a user posts, including advanced status, any user can comment on it with text and one picture. Assume one picture can only appear in one status (including advanced status) or in one comment. (= a disjoint relationship between **Picture** vs **Status**, **Advanced Status** and **Comment**)

   Table7: SinglePic (1:1)

pic_ID(PK)	comment_ID(FK)
1	1
2	4
3	7

   Table 8: MultiplePicToAdvStatus (N:1)

pic_ID(PK)	advStatus_Id(FK)
4	100005
5	100005
6	100001

   Table 9: MultiplePicToStatus (N:1)

pic_ID(PK)	status_Id(FK)
7	201
8	201
9	203

6. Users have friendships, which are bi-directional

   Assume that Member 1001 and 1002 are friends. It can be presented by two different ways.

Method1: redundant but search fast!

Friendship_Id(PK)	Member_id(FK1)	Member_Id(FK2)
1	1001	1002
2	1002	1001

Method2: only one item left in the table but search slow

Friendship_Id(PK)	Member_id(FK1)	Member_Id(FK2)
1	1001	1002

For ER diagram, there is no difference.

Example:

Friendship_Id(PK)	Member_id(FK1)	Member_Id(FK2)
1	1001	1002
2	1001	1003
3	1001	1007
4	1002	1005
5	1002	1008
6	1005	1008