**2. Relational Schema**

The following relational schema is presented in bold, and the description of its constraints will be presented in [...] directly below it.

**user (uid: INTEGER, email: CHAR, password: CHAR, profile: CHAR)**

**posts (pid: INTEGER, title: CHAR, content: CHAR, datetime: DATETIME, uid: INTEGER)**

[ uid is the foreign key reference to user and uid is not null. If a post is deleted, the user table has no action. ]

**comments (cid: INTEGER, content: CHAR, datetime: DATETIME, uid: INTEGER, pid: INTEGER)**

[ Respectively, uid and pid are foreign key reference to user and posts and both are not null. If a comments is deleted，the user table and posts table both have no action. ]

**admin (uid: INTEGER, permission\_level: INTEGER)**

**advertisement (id: INTEGER, content: CHAR, uid: INTEGER)**

[ uid is the foreign key reference to admin. ]

**categories (cat\_id: INTEGER, cat\_name: CHAR, cat\_desc: CHAR)**

**manage (uid: INTEGER, cid: INTEGER)**

**subscribe (uid: INTEGER, cid: INTEGER)**

**classify (pid: INTEGER, cat\_id: INTEGER)**

[ cat\_id is the foreign key reference to categories ]

**groups ( gid: INTEGER, des: CHAR, uid: INTEGER)**

[ uid is the foreign key reference to admin ]

**join ( gid: INTEGER，uid: INTEGER)**

**announcement (gid: INTEGER, aid: INTEGER, title: CHAR, content: CHAR)**

[ aid is the partial key of announcements and gid is the primary key of groups. The two key combines the primary key of announcements. gid is not null. If a announcement is deleted, Delete the corresponding row from the group table( ON DELETE CASCADE ) ]