**Active Teaming System**

This system will facilitate active teaming of people with similar interest and skill-set to forge groups for a certain do-good project.

Type of users:

* *visitor*: no need to login, just surf around

Visitors are allowed to browse projects.

* *ordinary user* (OU): all self registered users who are approved by SU, need login
* *VIP*: OUs whose reputation scores exceed a threshold set by SU
* *super-user* (SU): one founding SU who initializes the system; one democratic SU who is voted by VIPs

Registration email is sent to superuser’s email to inform of new registration and request for acceptance.

System features:

* For a random visitor, the system provide a GUI showcasing the top 3 rated projects and top rating OU profiles and SU profiles to showcase the power of the system. A visitor can surf around to find more OUs/VIPs and projects
* Give visitor an option to register to be OU: the visitor has to fill in basic personal information such as name, email address, interest, credential and reference who are already an OU or VIP of the system. One SU will check these info to either approve or reject. If approved, the SU will send an email with account id and password, when the new OU first login, s/he is required to change the password. If rejected, the applicant has one chance to appeal and the SU will make a final decision to reverse the rejection: if still reject, then this visitor will be put in blacklist forever. The approved OU will receive an initial reputation score by the reference: an OU can give a score 0-10; a VIP can give score 0-20.

Full registration for visitor to become OU. Email sent to SU to approve or deny. Temporary password sent back to OU and they can change it. Blacklist is used to make certain that user may not apply to group in the future. Initial reputation for a OU is 0.

* OUs can form groups by inviting other OU(s) for a certain purpose: the other OUs can accept or reject the invite. If reject, the OU should respond by the reason. An OU can put some OUs to his/her white-box: accept all invites or black-box: reject all invites with automatic message. For instance, the group could be some students taking 32200 as a study group.

OU’s can invite other users to the group. If they get invited, they are sent an email invite code, unless the sender is on the whitelist for a user. If this is the case, it gets automatically accepted into the groups. If black box is the case, we reject all invites.

* Once a group is formed, a group web-page should be made available that is accessible to all group members: some information is public to be browsed by visitors and other OUs, some could be set as private to the group members only such as evaluations and warnings. All group members can moderate and post to the group page. This page will be used for posting updates and scheduling meet-ups.

Group page is created on group creation that is accessible to all users. All users moderate and post messages on group message board. The message board state is saved on cloud firestore DB and can be accessed anywhere the app is opened.

* Any group member can ask for a meet-up polling to find common time for all members to meet. Once all members responded, the time slot with the most votes will be chosen. If a member has missed scheduled meeting twice, s/he will receive a warning. The voted out member can appeal to the SU to possibly change the reputation scores. Each group member should have a track record for the number of assigned tasks that have been done, which is the foundation for the group warnings and the appeals of the affected group member(s).
* The group members can vote to issue a warning or a praise to a group member, the vote must be unanimous. A member receiving 3 warnings will be automatically removed from the group and get a 5 point reputation score deduction. The group can also vote to kick out a member directly, the member will be removed from the group and receives 10 point reputation score deduction. An OU with negative reputation score will be removed from the system and put into black-list automatically.

Group members are able to vote to issue a warning or give praise in the form of reputation. The group also can start a vote kick poll to remove a member with a unanimous decision. Also, if an OU falls below 0 in reputation, they are automatically removed from the group and put into black list.

* The group members can vote to close the group, and conduct an exit evaluation to other members. Each member will receive the median reputation score given by all other members. And every member can decide if s/he is willing to put the other member to her/his white-box or black-box afterwards and why. After group closure, the SU will assign a VIP to evaluate the group and determine a reputation score for the entire group to be added/deducted for all members involved. The system will keep a ranking list of finished groups to be showcased.
* An OU whose reputation score is higher than 30 will be promoted to VIP; and a VIP whose score is lower than 25 will be demoted. All VIPs can vote one VIP as the democratic SU.

We can show that an OU with score higher than 30 is promoted to VIP and lower than 25 demoted.

* Visitors and OUs can complain to SU about a group or other OUs, the SU will decide if the complaint merit action. The SU can decide to shut down the group or OU and punish all involved by a certain score deduction or even kick them out from the entire system.
* OUs who are kicked out will have the final chance to login and do some final processing and will be unable to login ever after.
* The entire system keep a list of taboo word list, any message by any OU with these taboo word will be converted to \*\*\* automatically and the OU’s reputation score will be decreased by 1: if s/he uses the same word again later, his/her reputation score will be decreased by 5.

Our message board has a list of taboo words that are filtered and replaced with the phrase ‘Feelsbad’. In the case that a user uses one of these banned words for the first time, they lose 1 reputation. If this happens two or more, you lose five points of reputation at a time.

* OUs can send compliment about other OUs to SU, and SU will increase the reputation score of the complimented OU, any OU receiving 3 compliments, regardless of the reputation score.

Compliments are given by other users and upon receiving three you get five points of reputation.

Other system requirements:

* A consistent system GUI is required: don’t keep popping up new windows to cause a mess

Continuous GUI using python and kivy.

* Besides the foregoing items, each team can have a creative feature for this system, which is worth 10% of the project. A feature deemed extremely creative will receive an up to 10% bonus by discretion.

Passwords are not stored in clear text. We hashed the password using the PBKDF2 repeated hashing algorithm and HMAC-SHA-256 as the underlying hashing standard. This method is resistant to dictionary and rainbow table attacks and makes our application secure from database breaches.

Integrated with cloud firestore database for continuous data storage.

* No need to make this system web based or mobile based, the latter two can be viewed as a creative feature if your team choose to do so.
* For details not listed in the foregoing items your team is free to use your own judgment to proceed in your system design and development.

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