Devising an unbiased mobile app for group scheduling

Today, scheduling a meeting with an acquaintance commonly involves a back-and-forth dialogue, discussing and deciding on dates and times that work for all participants. To simplify this process, many scheduling applications exist, addressing a variety of problems, such as deciding on a meeting time, syncing calendars, avoiding conflict, and more. Some require logins for existing applications such as Google Calendar, Microsoft Outlook, or iCal, while others require a unique login, or no login.

Applications that require an external account, such as Gmail, are convenient for users who already rely on Google Calendar for scheduling and reminders, providing an easy way for Google users to agree on a meeting and input it into their calendars simultaneously. However, users who prefer alternate Calendar applications are disadvantaged, forced to use an unfamiliar calendar. Meanwhile, applications that require no login, such as Doodle, are helpful in that they provide useful data to pick and schedule meetings times. However, without linking the data to a personal account, that data is difficult to keep track of.

I propose a mobile application whose login is one’s mobile number, with optional avenues to login and sync the app with their calendar of choice. This includes Google Calendar, Microsoft Outlook, and iCal. This would create an easy login ID for the user’s data to be linked to, and would enable each user to decide which calendar application (if any) she or he would like to use. Creating a synchronous, unbiased system would be ideal for group collaboration, accommodating to personal preferences. Meanwhile, for users who do not use any existing calendar device, the mobile app should allow a user to receive push notifications and/or text messages to serve as reminders.

The general purpose of this app is for groups to organize meeting times and have group members sign up for slots. The organization is slot-based, allowing for administrator(s) to propose slots, and for members of the group to sign up. The app is therefore geared toward group collaboration in terms of signing up for shifts, rather than deciding on a time that works for everyone (which is the goal of apps like Doodle or WhenIsGood). If time, a voting mechanism could be implemented into the app to add this functionality. The end-goal is to create an intuitive way for group members to confirm time slots, and sync these meetings with their personal calendars.

Such an application would require several parts. On the backend, a database will store user IDs, groups, calendar preferences, calendar logins, group time slots, and schedules. The application should have several main features, including login/sign-up, groups, group and profile settings, a scheduling interface, and notifications. These parts are briefly described below.

Sign up: enter phone number, name, and specify calendar preferences.
Groups: create and delete groups; add and remove individuals to / from groups. Each group is associated with its own calendar for members to create and sign up for time slots.
Settings:
  Profile settings:
    Option to change calendar preferences
  Group settings:
    Administrators: have permission to add time slots to the group calendar and sign up for time slots.
    Non-administrators: have permission to sign up for time slots.
Default administrator is the group’s creator. Existing administrators can change group settings, enabling anyone in the group to become an administrator.

Notification settings:
Allow for users to modify which push notifications they receive.

Scheduling interface: Allow administrators to create time slots, and allow all members to sign up for time slots.

Push Notifications: Send a push notification when:
- A user accepts time slot
- A user cancels time slot
- An administrator adds time slot(s)
- 30 mins prior to event
- When added to group
- When removed from group

The following preliminary UI sketches demonstrate the desired flow of the app.

Sign up -> Calendar Preference Set Up
*If calendar preference is selected, prompt for external application's login.

Upon selecting group -> Go to group schedule
The mobile app will be compatible with all versions of iOS devices.

Project Task List / Milestones:

**Backend**
- Define database for user account information
- Functioning sign up / login
- Group creation, saves to database
- Group settings implemented
- Schedule for each group, saves to database
- Time slots successfully added, removed, selected, and canceled
- Push notifications implemented
- Notification settings
- Calendar sync for Google, Outlook, and iCal
- Calendar sync settings on sign-up

**Frontend**
- Sign up / login pages
- Settings page for syncing to existing calendar application
- Home page: list of groups (see preliminary sketch)
- add group page
- group schedule page (see preliminary sketch)
- group settings page
- profile / notifications settings page
- field to insert time slots
- field to select time slot
- successful syncing to calendar of choice upon selection