Intramural Staff Scheduling Requirements

**Officials/Scorekeepers**

Admin Settings:

* Ideal shift length (by hours)
  + this is the number of hours that the system will try to achieve with each shift. If can be set independently for each position. The following menus must be provided:
    - Position – select either ‘Official’ or ‘Scorekeeper’,
    - Duration – number picker
  + The result will be that, for example, Officials are ideally scheduled for 3 hours, and Scorekeepers are ideally scheduled for 4 hours.
* How many officials/supervisors per game
* Maximum shift length
  + Set per position similar to ideal shift time
    - Position – select either ‘Official’ or ‘Scorekeeper’
    - Duration – number picker
  + This is the cap that the system will allow per day. The wizard will not schedule someone more that the maximum, although the admins can manually schedule them more.

System Behavior:

* the wizard should find ANY acceptable scenario in which all the following criteria are met:
  + Schedule officials/scorekeepers in the same location for an entire shift
  + no employee is scheduled more than the max shift time per shift, but could have multiple shifts per day. (multiple shifts is not ideal, but allowed when no alternatives are available.)
  + shifts are at, or the closest hour to, the ideal shift time, when possible (see Scenarios below)
  + when possible, all employees are scheduled for a shift

Scenarios:

Ideal shift length = 3 hrs

* 4 games, no gaps
  + Ideal outcome – employee A works all games
* 4 times-slots: 1 game, 1 hr gap, 2 games
  + Ideal outcome – employee A works all games
* 5 games, no gaps
  + Ideal outcome – employee A works 2 games, employee B works 3 games
* 5 time-slots: 1 game, 1 hr gap, 3 games
  + Ideal outcome – employee A works first game, employee B works final 3 games
* 5 time-slots: 2 games 1 hr gap, 2 games
  + Ideal outcome – employee A works 2 games, employee B works 2 games
* 6 games, no gaps
  + Ideal outcome – employees A & B work 3 games each
* 6 time-slots: 1 game, 1 hr gap, 4 games
  + Ideal outcome – employee A works first game, stays during gap, works a second game, employee B works last 3 games
* 6 time-slots: 2 games, 1 hr gap, 3 games
  + Ideal outcome – employee A works first 2 games, employee B works last 3 games

Ideal shift length = 4 hrs

* 4 games, no gaps
  + Ideal outcome – employee A works all games
* 4 times-slots: 1 game, 1 hr gap, 2 games
  + Ideal outcome – employee A works all games
* 5 games, no gaps
  + Ideal outcome – employee A works all games
* 5 time-slots: 1 game, 1 hr gap, 3 games
  + Ideal outcome – employee A works 1st game, employee B works final 3 games
* 5 time-slots: 2 games 1 hr gap, 2 games
  + Ideal outcome – employee A works all games
* 6 games, no gaps
  + Ideal outcome – employee A works 3 games, employee B works 3 games
* 6 time-slots: 1 game, 1 hr gap, 4 games
  + Ideal outcome – employee A works 1 game, employee B works 4 games
* 6 time-slots: 2 games, 1 hr gap, 3 games
  + Ideal outcome – employee A works 2 games, employee B works 3 games

Ideal shift length = 5 hrs

* 4 games, no gaps
  + Ideal outcome – employee A works all games
* 4 times-slots: 1 game, 1 hr gap, 2 games
  + Ideal outcome – employee A works all games
* 5 games, no gaps
  + Ideal outcome – employee A works all games
* 5 time-slots: 1 game, 1 hr gap, 3 games
  + Ideal outcome – employee A works all games
* 5 time-slots: 2 games 1 hr gap, 2 games
  + Ideal outcome – employee A works all games
* 6 games, no gaps
  + Ideal outcome – employee A works all games
* 6 time-slots: 1 game, 1 hr gap, 4 games
  + Ideal outcome – employee A works all games
* 6 time-slots: 2 games, 1 hr gap, 3 games
  + Ideal outcome – employee A works all games

**Supervisors**

Admins should schedule supervisors the same way that all shifts in the employee module are created; by dragging on a calendar and indicating how many employees are required for the shift.

The calendar for creating supervisor shifts should show the games as a background. Admins could then drag over them, select how many supervisors they want for the shift they created as they do in the existing scheduling process. (see screenshot below)

