Time Data Format

Pockwester Project

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**About**

Documentation about how we will represent the weekly schedule of users in PWApi. This is a critical aspect of the project and the selected solution needs to be comprehensive. The first section of this document will list some proposed solutions

**Proposed Solutions**

**Time logs**

After a user enters in their times the system will break apart their schedule into individual time entries such to minimize the amount of data stored. For example consider a user that is available on Mondays between 3pm – 6pm, Tuesdays 2pm-3pm, Tuesdays 5pm-6pm, and Fridays 8am-5pm. The schedule table will contain four entries for the user :

*<USER\_ID>, …, <START\_AVAILABILITY>, <END\_AVAILABILITY>*

<”BILLY”>, …, <015> , <017>

<”BILLY”>, …, <026> , <027>

<”BILLY”>, …, <029> , <030>

<”BILLY”>, …, <104> , <113>

The column START\_AVAILABILITY and END\_AVAILABILITY would work on a 0-167 scale where:

000 = MONDAY , 00:00

012 = MONDAY , 12:00

024 = TUESDAY , 00:00

048 = WEDENSDAY, 00:00

072 = THURSDAY , 00:00

096 = FRIDAY , 00:00

120 = SATURDAY , 00:00

144 = SUNDAY , 00:00

167 = SUNDAY , 23:00

n = (d\*24)+h , hh:00, where d is the integer numerical representation of the day { 0=Monday, 1=Tuesday, …, 6=Sunday } and h is the current military hour { 0, 1, …, 23 }

One advantage of this solution is the ability to arbitral define the precision of start times and end times. If n is defined as a real number we would be able to define any value of time we desire.

**Binary String**

A string where each bit represents availability. There would be bits where each bit would represent an section of the week.

The minimum amount of bits would be 24\*7 = 168 where each bit represented an hour of time.

The proposed maximum would be 24\*7\*60 = 10080 where each bit represents a minute of time.

00000...nth, where n is the time in a week divided by an recognizable value

**8 Bit Rep**

The top three bits rep. day of the week

000: Monday

001: Tuesday

010: Wednesday

011: Thursday

100: Friday

101: Saturday

111: Sunday

A string where each member represents an hour