Assignment 1

Produced by

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Assignment structure

- **100% CA (2 Assignments)**

  - Assignment 1 (40%) – due Sunday, 5th November 2017 (hard deadline).

    - No presentation required, but you <u>may</u> be asked to do a code walkthrough.

  - Assignment 2 (60%) – due Wed, 3rd January 2018 (hard deadline).

    - Specified in week 7 (tentative).

    - Pre-record a 5 minute presentation / video. PPT Template is provided.

    - Adobe connect (private) code walkthrough.

Pacemaker V1

- Design and implement a simple Activity Tracker console (CLI) application.

- The application is to manage activities for multiple user accounts, enabling activities to be created, read, updated and deleted (CRUD).

- The application is to persist the user and activity data to a single file. Two file formats are to be supported:
  - XML
  - JSON

- Labs will proceed to build approx. 50% of the specification...your job is to complete the other 50%.

- Partial solutions (unimplemented commands or partially implemented commands) are acceptable.

Command Set

```
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev name                   params
lu     list-users            ()
cu     create-user           (first name, last name, email, password)
lu     list-user             (email)
lius   list-user             (id)
la     list-activities       (userid, sortBy: type, location, distance, date, duration)
la     list-activities       (user id)
du     delete-user           (id)
aa     add-activity          (user-id, type, location, distance, datetime, duration)
al     add-location          (activity-id, latitude, longitude)
cff    change-file-format    (file format: xml, json)
l      load                  ()
s      store                 ()
pm>
```

cu - Create User

```
pm> cu homer simpsom homer@simpson.com secret
ok
+----+-----------+----------+--------------------+----------+
| ID | FIRSTNAME | LASTNAME |       EMAIL        | PASSWORD |
+----+-----------+----------+--------------------+----------+
|  1 |     homer |  simpsom | homer@simpson.com  |   secret |
+----+-----------+----------+--------------------+----------+

pm>
```

```
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev     name                 params
lu         list-users           ()
cu         create-user          (first name, last name, email, password)
lu         list-user            (email)
lius       list-user            (id)
la         list-activities      (userid, sortBy: type, location, distance, date, duration)
la         list-activities      (user id)
du         delete-user          (id)
aa         add-activity         (user-id, type, location, distance, datetime, duration)
al         add-location         (activity-id, latitude, longitude)
cff        change-file-format   (file format: xml, json)
l          load                 ()
s          store                ()
pm>
```

aa - Add an Activity for a user
la - List details of an activity

```
pm> aa 1 walk fridge .001 "12:10:2013 9:00:00" 1:00:00
ok

pm> la 1
ok
+----+------+----------+----------+------------------------------+----------+------+
| ID | TYPE | LOCATION | DISTANCE |           STARTTIME          | DURATION | ROUTE |
+----+------+----------+----------+------------------------------+----------+------+
|  1 | walk |   fridge |    0.001 | 2013-10-12T09:00:00.000+01:00 | PT3600S |   [] |
+----+------+----------+----------+------------------------------+----------+------+

pm>
```

```
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev      name                params
lu          list-users          ()
cu          create-user         (first name, last name, email, password)
lu          list-user           (email)
lius        list-user           (id)
la          list-activities     (userid, sortBy: type, location, distance, date, duration)
la          list-activities     (user id)
du          delete-user         (id)
aa          add-activity        (user-id, type, location, distance, datetime, duration)
al          add-location        (activity-id, latitude, longitude)
cff         change-file-format  (file format: xml, json)
l           load                ()
s           store               ()
pm>
```

al - Append Location data to an activity

```
pm> al 1 23.3 32.3
ok
pm> al 1 23.3 32.5
ok
pm> al 1 23.3 32.6
ok
pm> la 1
+----+------+----------+----------+-----------------------------+----------+---------------------+
| ID | TYPE | LOCATION | DISTANCE |            STARTTIME        | DURATION |        ROUTE        |
+----+------+----------+----------+-----------------------------+----------+---------------------+
|  1 | walk |   fridge |    0.001 | 2013-10-12T09:00:00.000+01:00 | PT3600S | [23.3,32.3, 23.3,32.5] |
+----+------+----------+----------+-----------------------------+----------+---------------------+

pm>
```

```
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev     name                params
lu         list-users          ()
cu         create-user         (first name, last name, email, password)
lu         list-user           (email)
lius       list-user           (id)
la         list-activities     (userid, sortBy: type, location, distance, date, duration)
la         list-activities     (user id)
du         delete-user         (id)
aa         add-activity        (user-id, type, location, distance, datetime, duration)
al         add-location        (activity-id, latitude, longitude)
cff        change-file-format  (file format: xml, json)
l          load                ()
s          store               ()
pm>
```

lu - List all Users

```
pm> lu
ok
+----+----------+----------+--------------------+----------+
| ID | FIRSTNAME | LASTNAME |       EMAIL        | PASSWORD |
+----+----------+----------+--------------------+----------+
|  1 |    marge |  simpson |  marge@simpson.com |   secret |
|  2 |     lisa |  simpson |   lisa@simpson.com |   secret |
|  3 |     bart |  simpson |   bart@simpson.com |   secret |
|  4 |   maggie |  simpson | maggie@simpson.com |   secret |
+----+----------+----------+--------------------+----------+


pm>
```

```
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev     name                params
lu         list-users          ()
cu         create-user         (first name, last name, email, password)
lu         list-user           (email)
lius       list-user           (id)
la         list-activities     (userid, sortBy: type, location, distance, date, duration)
la         list-activities     (user id)
du         delete-user         (id)
aa         add-activity        (user-id, type, location, distance, datetime, duration)
al         add-location        (activity-id, latitude, longitude)
cff        change-file-format  (file format: xml, json)
l          load                ()
s          store               ()
pm>
```

lu - List user based in email

```
pm> lu marge@simpson.com
ok
+----+----------+---------+-------------------+----------+
| ID | FIRSTNAME | LASTNAME |        EMAIL       | PASSWORD |
+----+----------+---------+-------------------+----------+
|  1 |    marge | simpson | marge@simpson.com |   secret |
+----+----------+---------+-------------------+----------+


pm>
```

```
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev     name                params
lu         list-users          ()
cu         create-user         (first name, last name, email, password)
lu         list-user           (email)
lius       list-user           (id)
la         list-activities     (userid, sortBy: type, location, distance, date, duration)
la         list-activities     (user id)
du         delete-user         (id)
aa         add-activity        (user-id, type, location, distance, datetime, duration)
al         add-location        (activity-id, latitude, longitude)
cff        change-file-format  (file format: xml, json)
l          load                ()
s          store               ()
pm>
```

lius - list user based on id

```
pm> lius 1
ok
+----+----------+----------+--------------------+----------+
| ID | FIRSTNAME | LASTNAME |        EMAIL       | PASSWORD |
+----+----------+----------+--------------------+----------+
|  1 |    marge | simpson | marge@simpson.com |   secret |
+----+----------+----------+--------------------+----------+

pm>
```

```
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev     name                 params
lu         list-users           ()
cu         create-user          (first name, last name, email, password)
lu         list-user            (email)
lius       list-user            (id)
la         list-activities      (userid, sortBy: type, location, distance, date, duration)
la         list-activities      (user id)
du         delete-user          (id)
aa         add-activity         (user-id, type, location, distance, datetime, duration)
al         add-location         (activity-id, latitude, longitude)
cff        change-file-format   (file format: xml, json)
l          load                 ()
s          store                ()
pm>
```

du - delete user

```
pm> du 2
ok

pm> lu
ok
+----+----------+----------+--------------------+----------+
| ID | FIRSTNAME | LASTNAME |       EMAIL        | PASSWORD |
+----+----------+----------+--------------------+----------+
|  1 |    marge | simpson |  marge@simpson.com |   secret |
|  3 |     bart | simpson |   bart@simpson.com |   secret |
|  4 |   maggie | simpson | maggie@simpson.com |   secret |
+----+----------+----------+--------------------+----------+

pm>
```

```
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev     name               params
lu         list-users         ()
cu         create-user        (first name, last name, email, password)
lu         list-user          (email)
lius       list-user          (id)
la         list-activities    (userid, sortBy: type, location, distance, date, duration)
la         list-activities    (user id)
du         delete-user        (id)
aa         add-activity       (user-id, type, location, distance, datetime, duration)
al         add-location       (activity-id, latitude, longitude)
cff        change-file-format (file format: xml, json)
l          load               ()
s          store              ()
pm>
```

la - list activity sorted by different fields

```
pm> la 1
ok
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+
| ID | TYPE | LOCATION | DISTANCE |          STARTTIME          | DURATION |                   ROUTE                  |
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+
| 1  | walk |   fridge |    0.001 | 2013-05-12T09:30:00.000+01:00 |    PT10S | [23.3,33.3, 34.4,45.2, 25.3,34.3, 44.4,23.3] |
| 2  | walk |      bar |        1 | 2013-05-17T10:30:00.000+01:00 |    PT30S |                                       [] |
| 3  | run  |     work |      2.2 | 2013-06-10T11:00:00.000+01:00 |    PT50S |                                       [] |
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+

pm> la 1 type
ok
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+
| ID | TYPE | LOCATION | DISTANCE |          STARTTIME          | DURATION |                   ROUTE                  |
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+
| 3  | run  |     work |      2.2 | 2013-06-10T11:00:00.000+01:00 |    PT50S |                                       [] |
| 1  | walk |   fridge |    0.001 | 2013-05-12T09:30:00.000+01:00 |    PT10S | [23.3,33.3, 34.4,45.2, 25.3,34.3, 44.4,23.3] |
| 2  | walk |      bar |        1 | 2013-05-17T10:30:00.000+01:00 |    PT30S |                                       [] |
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+

pm> la 1 distance
ok
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+
| ID | TYPE | LOCATION | DISTANCE |          STARTTIME          | DURATION |                   ROUTE                  |
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+
| 1  | walk |   fridge |    0.001 | 2013-05-12T09:30:00.000+01:00 |    PT10S | [23.3,33.3, 34.4,45.2, 25.3,34.3, 44.4,23.3] |
| 2  | walk |      bar |        1 | 2013-05-17T10:30:00.000+01:00 |    PT30S |                                       [] |
| 3  | run  |     work |      2.2 | 2013-06-10T11:00:00.000+01:00 |    PT50S |                                       [] |
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+

pm> la 1 duration
ok
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+
| ID | TYPE | LOCATION | DISTANCE |          STARTTIME          | DURATION |                   ROUTE                  |
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+
| 1  | walk |   fridge |    0.001 | 2013-05-12T09:30:00.000+01:00 |    PT10S | [23.3,33.3, 34.4,45.2, 25.3,34.3, 44.4,23.3] |
| 2  | walk |      bar |        1 | 2013-05-17T10:30:00.000+01:00 |    PT30S |                                       [] |
| 3  | run  |     work |      2.2 | 2013-06-10T11:00:00.000+01:00 |    PT50S |                                       [] |
+----+------+----------+----------+-----------------------------+----------+------------------------------------------+
```

cff - change file format (json or xml)

load   - read from persistent store (all users + activities)

store - write to persistent store (all users + activities)

```
pm> cff json
pm> load
..
..
pm> store


pm> cff xml
..
..
pm> store
```

```
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lius        list-user           (id)
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la          list-activities     (user id)
du          delete-user         (id)
aa          add-activity        (user-id, type, location, distance, datetime, duration)
al          add-location        (activity-id, latitude, longitude)
cff         change-file-format  (file format: xml, json)
l           load                ()
s           store               ()
pm>
```

Unimplemented Commands

```
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev name                    params
lu      list-users            ()
cu      create-user           (first name, last name, email, password)
lu      list-user             (email)
lius    list-user             (id)
la      list-activities       (userid, sortBy: type, location, distance, date, duration)
la      list-activities       (user id)
du      delete-user           (id)
aa      add-activity          (user-id, type, location, distance, datetime, duration)
al      add-location          (activity-id, latitude, longitude)
cff     change-file-format    (file format: xml, json)
l       load                  ()
s       store                 ()
pm>
```

lius, la (sort by), la, du, cff, l, s

Assignment Rubric for Assignment 1

Standard	Core Features [30%]	Presentation [20%]	Tests [30%]	Build Systems [20%]
Baseline	Users/Activities/Locations (lius, la, du)	Plain	basic API tests	none
Good	Start DateTime (la sortBy:) Persistence - XML (l, s)	Pretty	full API tests	maven (build)
Excellent	Persistence -JSON (cff)	Tabular	UI Tests	maven (test)
Outstanding	Persistence - YAML OR Extra Reports	Enhanced	accurate coverage report submitted	maven (modular approach)

Assignment submission

Zip your project and submit it via the assignment dropbox in Moodle by the specified date.

Include a README file that will give a <u>very</u> brief summary of your submission. It should include a <u>very</u> brief description of your:
- persistence approach.
- presentation approach.
- testing approach.
- build system approach.

In this file, identify all components/plugins used in the assignment.