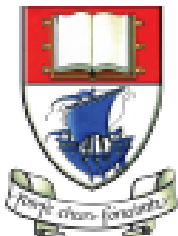


# Assignment 2 (REVISED)

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Produced  
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# Pacemaker 2.0

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- Enhance the pacemaker application along 4 axis
  1. Deployment
  2. Features
  3. User eXperience (UX)
  4. Developer eXperience (DX)
- Top marks may be achieved by addressing (1) and any two of 2-4

# 1. Pacemaker Deployment (Compulsory part!)

---

- Version 1.0
  - The application is a standalone console process.
  - All IO is via standard in/out.
- Version 2.0
  - Deploy the app to a service environment e.g. Heroku.
  - Expose the app via an API e.g. convert to Play → RESTful API
  - The API supports some protocol e.g. REST

# 1. Pacemaker Deployment (Compulsory part!)

---

Deploy Version 1.0

as REST Service (i.e. Play Framework).

***Initiated in week 8 labs.***

## 2. Features - Explore RunKeeper

Sign UpLog In

# RunKeeper



**The Personal Trainer  
In Your Pocket.**


RunKeeper makes tracking your workouts fun, social, and easy to understand so that you can improve the quality of your fitness.

 [Sign Up With Facebook](#) or [Sign Up with Your Email](#)


or Get the App


 GET IT ON  
Google play


 Available on the  
App Store





**edel020**  
Active since Aug, 2013


**DASHBOARD**

**REPORTS**

**TRAINING**

**ACTIVITIES**

**FRIENDS**

**ROUTES**

## Date of Activity:

<	October 2013					>
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

## Activity Viewable By:

Everyone

## Duration:

00 : 00 : 00

## Start Time:

09 : 25 AM

## Distance:

 km

## Calories:

## Average Heart Rate (optional):

 bpm

Or you can [upload](#)  
a heart rate file from your  
Polar Device.

## How did it go?:

## I completed this activity with...

No one else

[+ Add friends](#)[Back](#)[Save](#)



edel020

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DASHBOARD



REPORTS



TRAINING



ACTIVITIES



FRIENDS



ROUTES

## ACTIVITIES



— Aug '13

3

08/25 Cycling

1.15 km.

08/25 Running

1.78 km.

08/25 Running

1.61 km.



## Sunday Bike

AUG 25, 2013 - 6:45 AM



KM



1.15

DURATION



20:00

AVERAGE SPEED

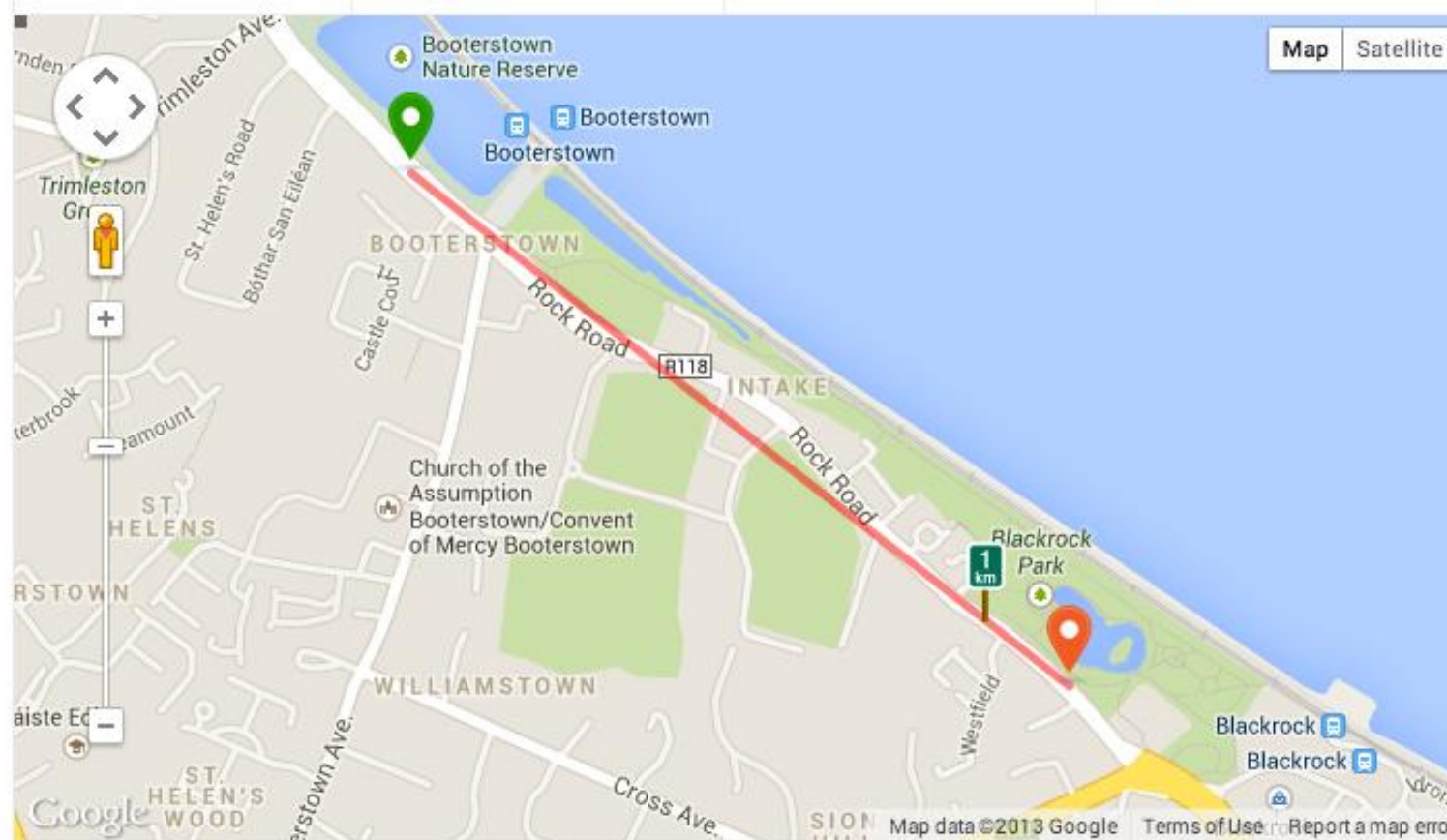


3.44

CALORIES BURNED



450



Make this a Route

TOTAL CLIMB



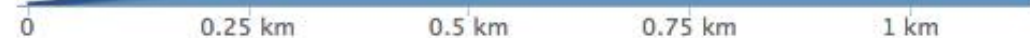
0



AVERAGE SPEED



3.44





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DASHBOARD



REPORTS



TRAINING



ACTIVITIES



FRIENDS



ROUTES

## REPORTS

♥ All Cardio

🏃 Running

🚴 Cycling

🌐 Weight

↔ Strength Training

🛏 Sleep

Advanced Fitness Reports

### Suggested Apps for Activity Tracking



Withings



GymPact



UP



Run Calendar



Caledos Runner on Windows Phone

## All Cardio

Sep 24, 2013 - Oct 24, 2013

Last 30 Days

Last 3 Months

Current Year

Lifetime

Custom

DISTANCE

0

DURATION

🔒 Become Elite

CALORIES

🔒 Become Elite

Day

Week

Month

### Distance



### Duration



### Calories Burned







edel020

Active since Aug, 2013



DASHBOARD



REPORTS



TRAINING



ACTIVITIES



FRIENDS



ROUTES

## DASHBOARD

### Info

LOCATION:  
([set a location](#))

I AM A:  
Cyclist

MY MOTIVATION:  
([set motivation](#))

### Stats

TOTAL ACTIVITIES:  
3

TOTAL DISTANCE:  
5 km

TOTAL CALORIES:  
1,300

You haven't entered your weight yet!

[Enter Your Weight](#)



Your body measurements are only viewable by you.

## My Activity Totals

[Add new goal](#)

TOTAL KM



5

TOTAL ACTIVITIES



3

TOTAL CALORIES



1,300

### Recent Activities



edel020 completed a 1.15 km. cycling activity



Private



edel020 completed a 1.78 km. running activity



Private



edel020 Achieved new personal records for running activities:

- Distance
- Duration
- Elevation climb

[Comment](#)

2 months ago



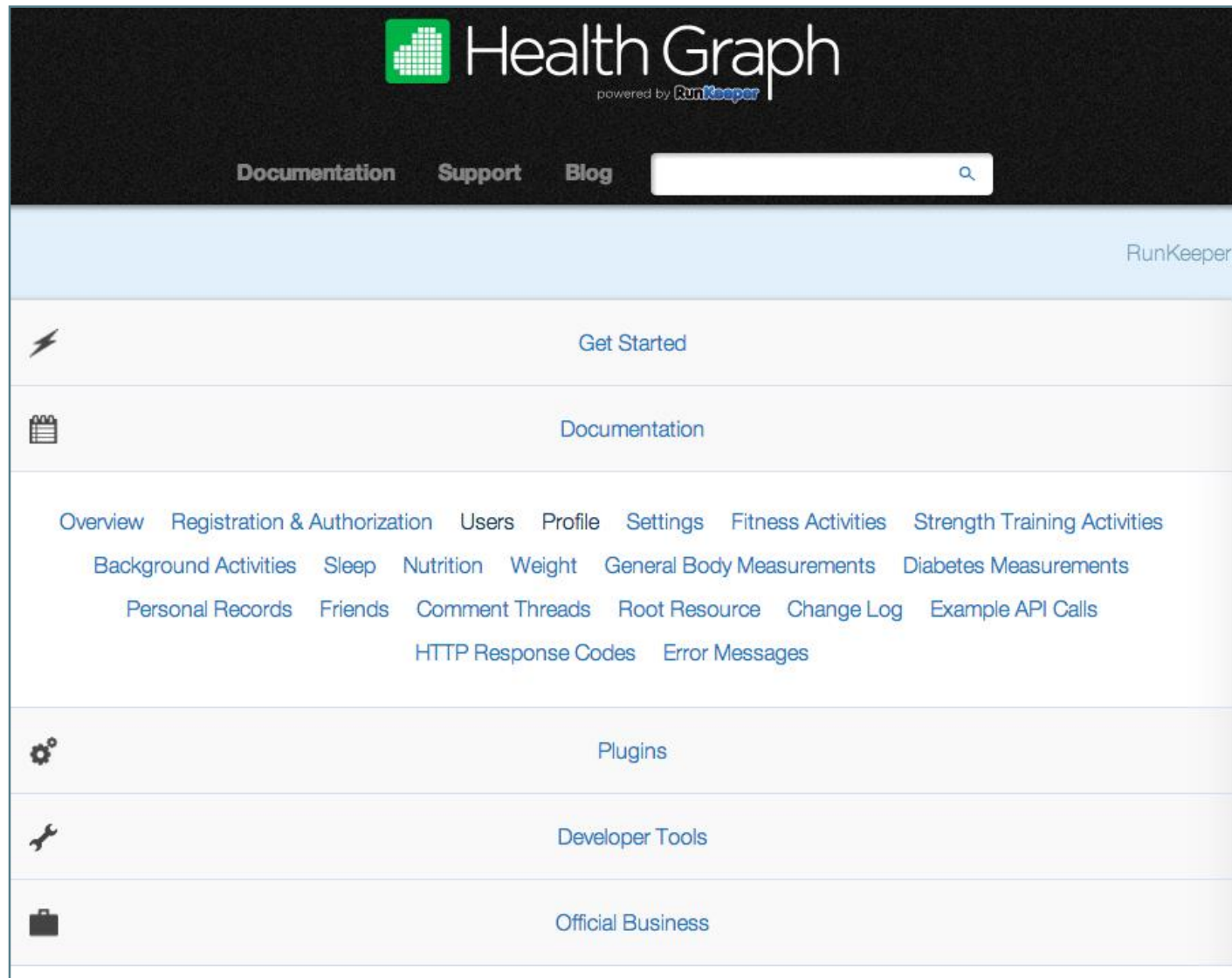
edel020 completed a 1.61 km. running activity



Private



<http://developer.runkeeper.com/>



## Health Graph App Ideas

### Spectator app

Fitness-tracking smartphone app; allow users of the app to follow RunKeeper Live and RunKeeper Races Live users along their race or activity path from their mobile phones.

### Food trackers

Use the nutrition end-point of the API to help populate users' daily nutrition intake.

### Foursquare/Twitter/Facebook & RunKeeper Mashups

Use your imagination to create a mashup app!

### Hypertension app

Website or device that enables people to track blood pressure over time.

### Sleep disorder app

Website or device that allows users to track sleep, sleep quality, etc.

### Diabetes app

Website or device to let users track Glucose, Hemoglobin, Insulin, and C-peptide levels.

### Cholesterol app

Website or device to help people track weight, body fat percentage, LDL Cholesterol, and HDL Cholesterol.

### Cycling-specific app

Website or device for cyclists that tracks speed, elevation distance, xPower watts, Average Power watts, Work kj, Bike Score, Daniels Points, Training Stress score, Daniels EqP watts, TRIMP Points 1 to 10 score, Cadence rpm, Aerobic Decoupling (%), and normalized wats (associate with GPS points).

### Running smartphone apps

Apps that complement the RunKeeper mobile app by providing a unique feature set to users.

### Health Graph widgets for users' websites and blogs

Widgets that could take a number of different forms; for example, a widget that lets users display their personal records on a running blog.

### Games

We aren't game developers, but maybe you are (or want to be)! Create a game that lets users earn points or move up levels based on changes in their Health Graph.

## 2. Features – Remaining Agile Labs

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- No new features are covered in the labs, bar what we covered for version 1.0.
- Features that you should implement will be available in the marking rubric.

### 3. User Experience (UX)

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- Simple Website (using Play).
- Simple Website (using Play with Front-End Framework integration e.g. Semantic UI, Bootstrap, etc).
- Rich Client-side App (e.g. using Angular, Ember, Backbone, etc.)
- Smartphone App.

### 3. User Experience (UX) - Remaining Labs

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- Simple Web Interface using the Play Framework (week 8 labs).
- Simple Web using Play and Semantic UI (week 11 labs).

## 4. Developer Experience (DX)

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- Documentation
  - Documented API (e.g. Javadoc, [Swagger](#) – takes REST API and produces documentation)
  - Models (i.e. UML diagrams).
- TDD
  - TDD for REST APIs (week 10)
  - Mock Objects (week 11)
  - BDD

## 4. Developer Experience (DX) – Remaining labs

---

- Models - Visual Paradigm + Structure 101 Analysis
- TDD for REST APIs - Test API using Play
- Mocks / Doubles

# Testing, Modelling & Documentation Tools

- Mocking Tools

- WireMock (<http://wiremock.org/>)

- Visual Paradigm for UML Standard Edition (includes reverse engineering)

- WIT Academic Licence for 10.2: D3IT6-2Q394-3PC2B-SF8GH-3DN44

- Structure 101 - <http://structure101.com/>

- Builtin support for Java + other languid via structure 101 Studio

- Infoq API Documentation Tool Shortlist

- <http://www.infoq.com/research/api-documentation>



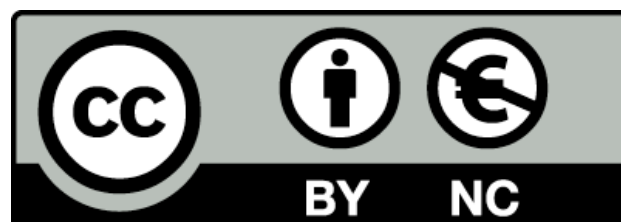
# Assignment Rubric for Assignment 2 (top marks deployment + any 2 others)

Standard	Deployment	Features	UX	DX
Baseline	REST (Local)	activities <i>(see runkeeper)</i>	Simple Web (up to 15 “UI” routes).	TDD – REST Tests
Good	REST (Deployed)	reports <i>(see runkeeper)</i>	Simple Web (> 15 “UI” routes and some Semantic UI or similar).	Modelling and Analysis
Excellent	REST (Secured e.g. OAuth)	friends <i>(see runkeeper)</i>	Simple Web (> 15 “UI” routes, widespread integration of Semantic UI or similar, very good UX)	TDD – Mocks / Doubles (factor out two services)
Outstanding	REST (2 x cloud)	dashboard <i>(see runkeeper)</i>	Rich Client / Mobile App	API Documentation

# Deadlines

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- *Original dates given were:*
  - *Due date **Friday, 9th December, 5pm (hard deadline).***
  - *Presentations taking place in D05 on **Tuesday 13th.***
- However, due to unavoidable circumstances, we have to reschedule the presentations until after Christmas:
  - New submission date: **Friday, 23<sup>rd</sup> December, 5pm (hard deadline).**
  - Presentations: **D05, Tuesday 3<sup>rd</sup> January 2017.**



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