Eberhard Karls Universität Tübingen
Mathematisch-Naturwissenschaftliche Fakultät
Wilhelm-Schickard-Institut für Informatik

Diplom Thesis Informatics

Mit der Trello-API rummuckeln

Sebastian Engel

24th July 2012

Referees

Name Erstgutachter
(Bioinformatik)
Wilhelm-Schickard-Institut für Informatik
Universität Tübingen

Name Zweitgutachter
(Biologie/Medizin)
Medizinische Fakultät
Universität Tübingen

Engel, Sebastian:
Titel der Arbeit
Diplom Thesis Bioinformatics
Eberhard Karls Universität Tübingen
Thesis period: 13th march to 11th September 2012

Abstract

Trello is a collaboration webservice to manage projects and assign their todo items to co-workers. There are many collaboration tools today, but most of them are very basic. Trello is very extensive and it is optimal fo small businesses. But although it works fine like it's supposed to it has its limits. Trello as its state now is a closed system. Nothing gets in or out unless you use Trello itself. But sometimes it would be handy if you were able to get content from Trello out into other applications. For example a CMS which should contain completed theses which you are already managing in Trello.

So this thesis addresses small scripts which let Trello interact with other webservices and applications. For this purpose I wrote a wrapper of the Trello API in Ruby to accomplish this task in the most dynamic way possible.

Acknowledgements

Write here your acknowledgements.

Contents

List of Figures v

List of Tables vii

List of Abbreviations ix

1 Introduction 1

2 Principles 3

2.1 Trello . . . 3

2.1.1 How Trello works . . . 3

2.1.2 Why Trello . . . 3

2.1.3 Trello API . . . 3

2.2 Ruby . . . 4

2.2.1 Ruby concepts . . . 4

2.2.2 Ruby Gems and packages . . . 4

2.3 JSON . . . 4

3 Applications 5

3.1 Trello API wrapper . . . 5

3.1.1 Markdown . . . 5

3.2 Trello framework . . . 6

3.3 Export to HTML . . . 6

3.3.1 Twitter Bootstrap Framework . . . 6

3.3.2 HTML 5 . . . 6
3.3.3 CSS 3 / SASS . . . 6
3.3.4 ERB / Templating . . . 6
3.4 One way sny to Google Calendar . . . 6
3.5 Export to iCal . . . 6
3.6 One way sync to Joomla . . . 6
3.6.1 For every card an article . . . 6
3.6.2 All cards in one article . . . 6
3.6.3 One way sny to WordPress . . . 6
3.7 Backup . . . 6
3.7.1 Export . . . 6
3.7.2 Import . . . 6
3.7.3 Member import . . . 7

4 Conclusion **9**

5 Outlook **11**
5.1 Trello Alfred Extension . . . 11
5.2 Native applications . . . 12

Bibliography **13**

List of Figures

5.1 Alfred Extension for Trello: This command would add a card with the name *Visit the Reichstag* to the board called *Berlin*. . 12

List of Tables

List of Abbreviations

BLAST	Basic Local Alignment Search Tool
...	...

Chapter 1

Introduction

Blablabla.....

Die Arbeit gliedert sich dazu wie folgt: Die Grundlagen von BlaBlaBla werden in Kapitel 1 erarbeitet. ... Eine Diskussion und ein kurzer Ausblick im Kapitel **??** beschließen diese Arbeit.

Bevor wir uns der Auswertung bzw. Bewertung der gewonnenen Primärdaten zuwenden, wollen wir zunächst einige grundlegende Begriffe der deskriptiven Statistik wiederholen.

Chapter 2

Principles

2.1 Trello

2.1.1 How Trello works

Trello is a webservice by the New York City based web corporation Fog Creek Software. It is a collaboration tool where you can manage your projects. There is the concept of so called *boards* which contents several configurable lists. In these lists you can create todo items you're working on, these are called *cards*. You can add your co-workers to these boards and cards. So everone who's working on a project can see whats going on at the moment.

2.1.2 Why Trello

Trello is not just one of hundreds of thousands of todo applications. It is streamlined for the purposes of small businesses. So for our needs in the university with small groups of people working on the same things it was perfect. Trello has proofed its value several months already.

The first wish was to see the due dates of the cards one is assigned to in Google calendar. Because Google calendar is the calendar tool of our choice. But thinking about that there were many other use cases for small scripts which could run as a cron job on a server to serve several regular tasks.

2.1.3 Trello API

Trello has an API which is still in beta at the moment I'm writing this. But it is already very extensive.

JSON

OAuth2

Rest

2.2 Ruby

2.2.1 Ruby concepts

2.2.2 Ruby Gems and packages

2.3 JSON

Chapter 3

Applications

3.1 Trello API wrapper

3.1.1 Markdown

Maybe it's better under "Export to HTML"

3.2 Trello framework

3.3 Export to HTML

3.3.1 Twitter Bootstrap Framework

3.3.2 HTML 5

3.3.3 CSS 3 / SASS

3.3.4 ERB / Templating

3.4 One way sny to Google Calendar

3.5 Export to iCal

3.6 One way sync to Joomla

3.6.1 For every card an article

3.6.2 All cards in one article

3.6.3 One way sny to WordPress

3.7 Backup

3.7.1 Export

3.7.2 Import

Filename option

The -n (or -name) argument for this script stands for the filename of the backup file which contains the exported Trello data. With -n the user can specify a file to import. While processing the script first checks if the user has passed this argument. If not, it aborts. If the -n argument is given, the scipt proofes if the file is a ZIP file. For that it soesn't use the filename but the MIME type of the file.

TODO: listing design

In line 1 the `file -Ib #{filename}` is a bash call for receiving the MIME type of a file. Ruby executes it and with the gsub-Method it cuts the MIME

Listing 3.1: Checking if the file has the MIME type “application/zip”

```
1 if `file -Ib #{@filename}`.gsub(/;.*\n/, "") != "
    application/zip"
2   puts "ERROR: The backup file has to be a ZIP file!"
3   abort
4 end
```

part out of the received string. This shell script part in a ruby file is a bit dirty. But only for this small case it would be elaborately to use a seperate gem.

TODO: What’s a MIME type?

3.7.3 Member import

Chapter 4

Conclusion

Chapter 5

Outlook

5.1 Trello Alfred Extension

Alfred [alf12] is a small Mac application which simplifies the way one can search the web or access all sorts of applications. It constist just of a input field which one cann access with a keystroke combination. It's like an extended Spotlight (on Mac) or Windows Search (on Windows). Developers can write extensions to access other webservices and applications with Alfred. It's even possible to run scripts with Alfred. With that possibility given it's perfect for acessing Trello while working in a fast and easy way.

There are three commands to add or read cards with this extension:

1. `trello board-name` will return the card-names and statuses of this board.

2. `trello board-name list-name` will return card-names and statuses of this list in this board.

3. `trello board-name text for a new card` will add a new card with the specified text to the first list of this board.

4. `trello board-name list-name text for a new card` will add a new card with the specified text to this list of this board.

If you enter `trello Berlin Visit the Reichstag` in Alfred the extension looks for a board called *Berlin*. If it finds nothign it looks for *Berlin Visit* and so on. So your board names shouldn't end with an imperative. The thought behind this operating principle is that it's very unlikely that a board name ends with an imperative and that imperatives are often used for card titles because cards are sort of a command.

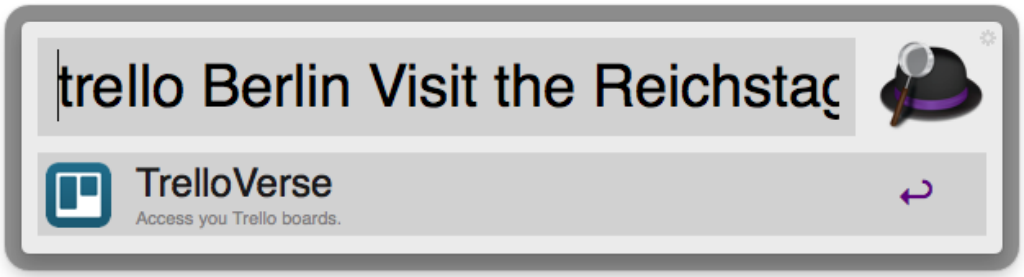

Figure 5.1: Alfred Extension for Trello: This command would add a card with the name *Visit the Reichstag* to the board called *Berlin*.

If you omit the text after the board name the extension will show you all card names of this board and its statuses.

Sometimes there are several boards with similar board names. In this case the extension will pick the "last"match. So if you have two boards called *Berlin* and *Berlin sightseeing* the extension will would pick *Berlin sightseeing*. This approach makes sense because if the extension would pick the first match, in this case *Berlin*, it wouldn't be possible to access *Berlin sightseeing*. In the case that one wants to access *Berlin* and add a new card beginning with *sightseeing* one has to put this board name betweet tick marks.

TODO: Code this and verify the practicability.

5.2 Native applications

Although Trello is an extremely good web-app, I'm of the opinion that a native application is always the better solution. The first reason is because it's a dedicated app and so it's integrated with the operationg system. Especially for todo-applications it's an advantage that they can access the systems notification system, or that they could completely vanish in the background so they don't bother the user while working. There are mobile applications for iOS [trea] and Android [treb] by Trello itself. But theres no Mac, Windows or Linux application.

A native application would even speed up the Alfred extension because the application could cache the data. So there hasn't to be an actual HTTP request for every command by the Alfred extension. And if a HTTP request necessary the user hasn't to wait because the application will handle the command in the background.

Bibliography

[alf12] Alfred app. http://www.alfredapp.com/, 08 2012.

[trea] App store - trello. http://itunes.apple.com/us/app/trello/id461504587?mt=8.

[treb] Trello android app available for download! — trello blog. http://blog.trello.com/trello-android-app-available-for-download/.

Selbständigkeitserklärung

Hiermit versichere ich, dass ich die vorliegende Diplomarbeit selbständig und nur mit den angegebenen Hilfsmitteln angefertigt habe und dass alle Stellen, die dem Wortlaut oder dem Sinne nach anderen Werken entnommen sind, durch Angaben von Quellen als Entlehnung kenntlich gemacht worden sind. Diese Diplomarbeit wurde in gleicher oder ähnlicher Form in keinem anderen Studiengang als Prüfungsleistung vorgelegt.

Ort, Datum Unterschrift