



Green Energy Shifting App

Save Energy for a Greener Future!

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Overview

There are certain times when large amounts of renewable energy are produced (e.g. when the sun is shining or when it is windy) and other times when we have to rely on conventional energy. We can influence our energy consumption by deciding when to turn our washing machines or dishwashers on. This Android application advises you about the best times to use energy.

User Guidance

- You need to have an account
- Log In (Fig. 1)
 - Your username and password are saved in your smart phone until you log out
 - The password must be at least five characters
- The Main Page (Fig. 2) shows current green energy
- The Details Page (Fig. 3) shows prediction of green energy
- The Widget (Fig. 4) gives a quick overview of the current green energy

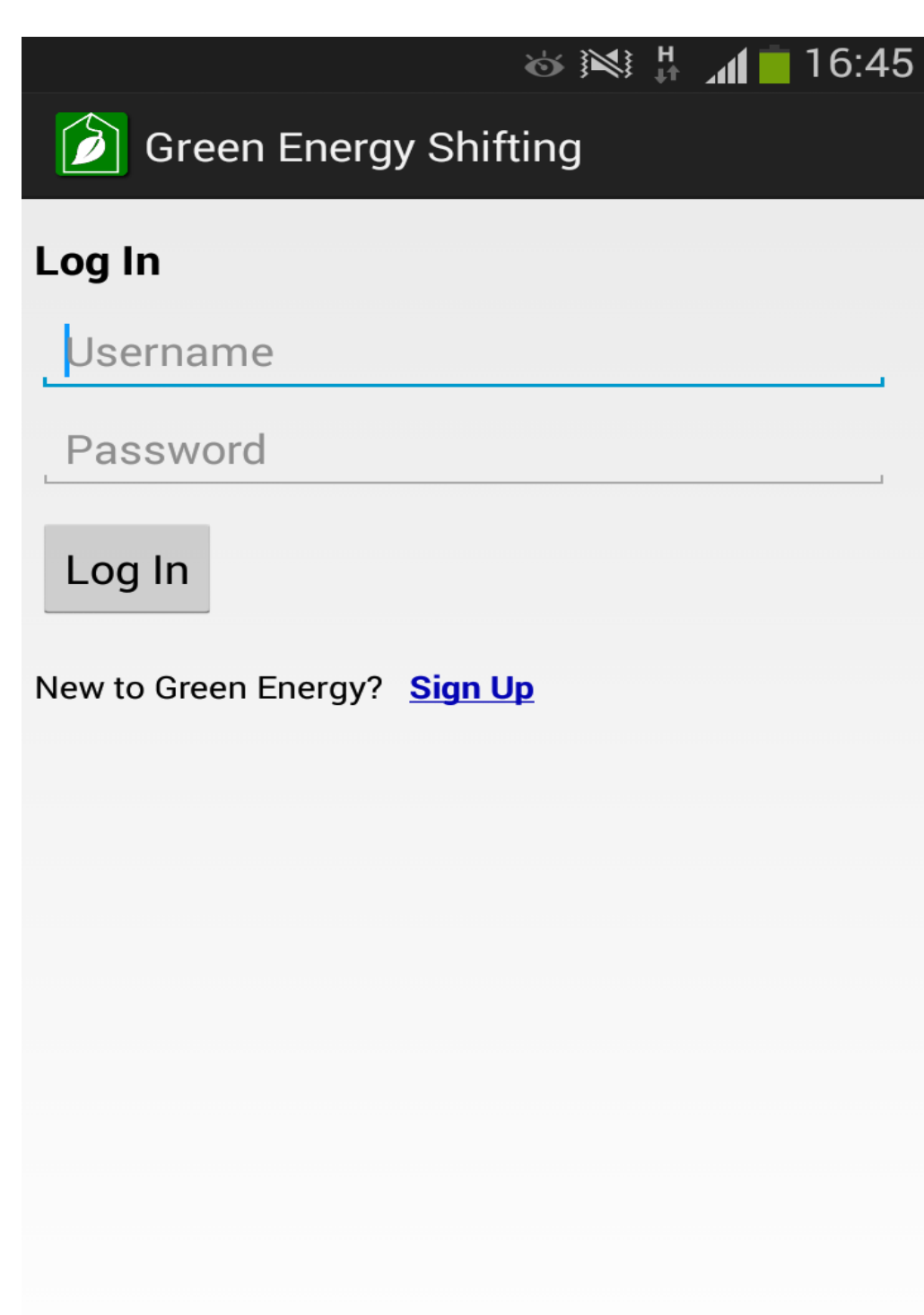


Figure 1: Log In

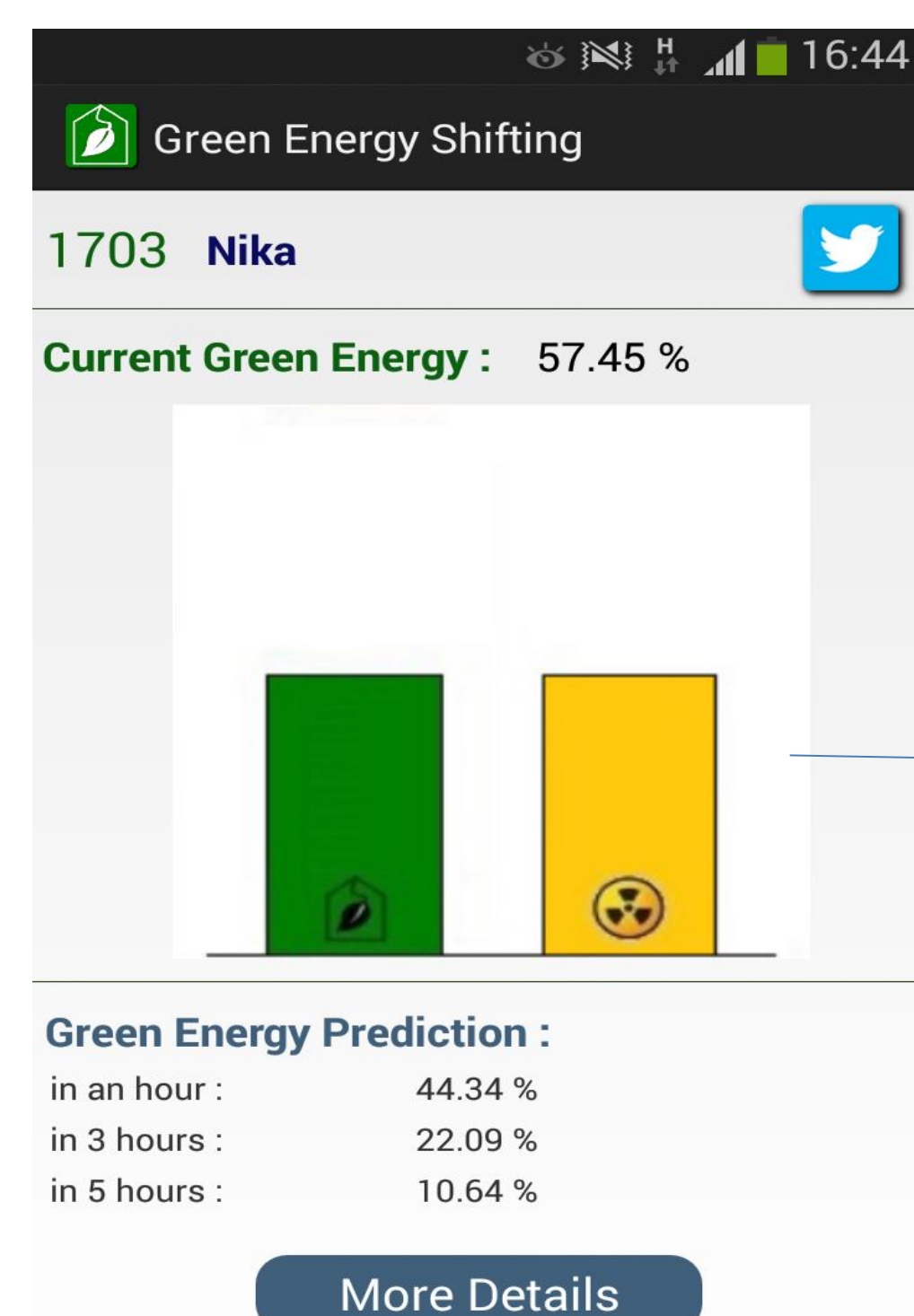


Figure 2: Main Page

By publishing your scores on Twitter, you get scores.

Green energy compared to conventional fuel

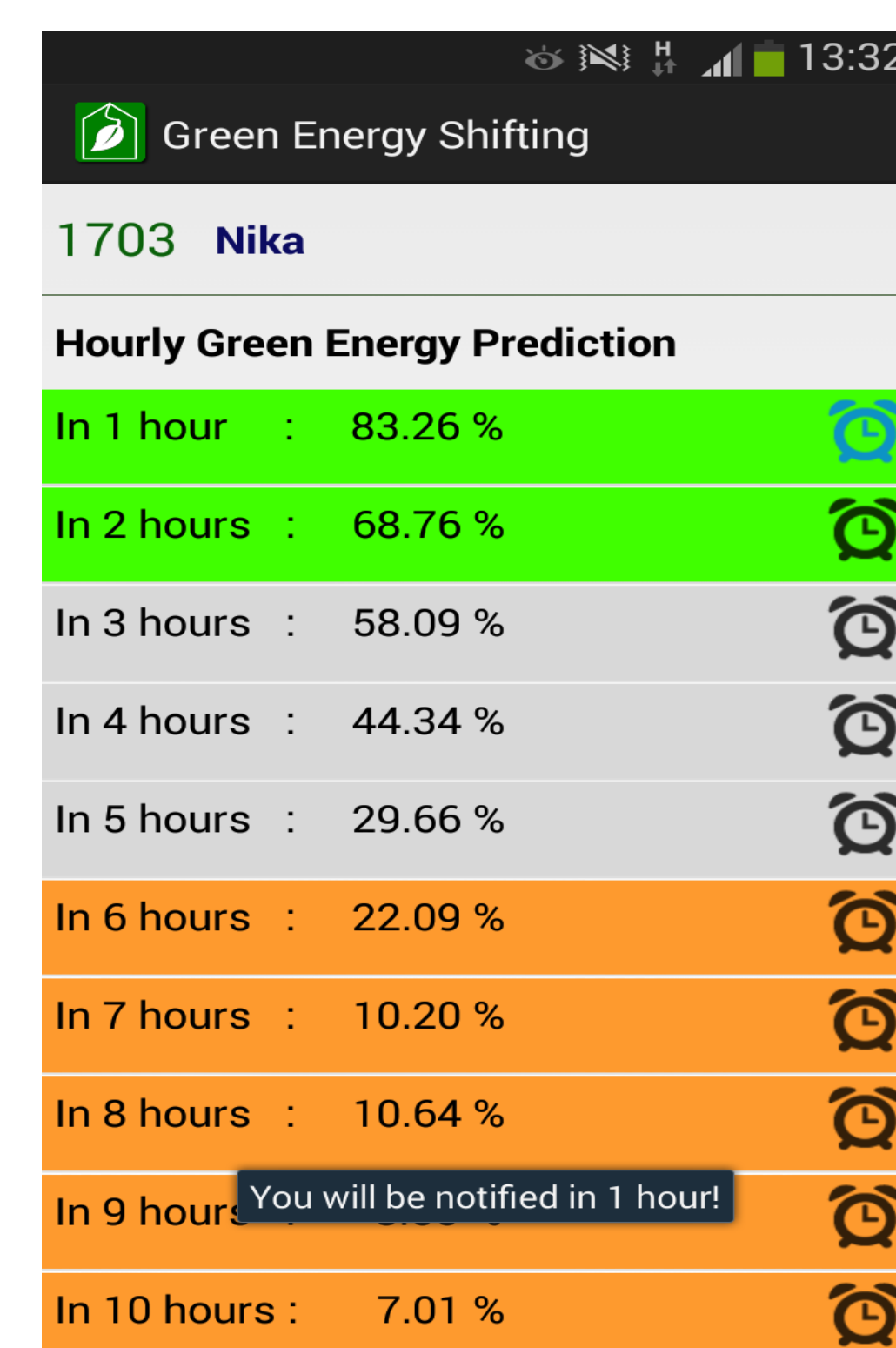


Figure 3: Details Page
Green: high, Grey: medium, Orange: low

According to green energy predictions, you can set a reminder for the best time. You will also get scores if you set a reminder for green or grey time.



Figure 4: Widget

Difficulties

- Unable to access the server from outside the university network
 - Web services and data are on a private webspace
- Unable to acquire real live-data

Data

- Hourly ex-ante and ex-post test-data from May 15th, 2012
- Retrieved from “Transparency Data Interface Specification” by “EEX Information Products”

Implementation

- The main part of the system is Android development, written in Java with Android SDK
 - Compatible Android versions 2.3 - 4.4.4
- Connection to external database is implemented via web services written in PHP
 - PHP version 5.2.17
 - MySQL version 5.6.19

Testing

In order to improve testing coverage, test application assumptions and validate application functionality, we used two methods:

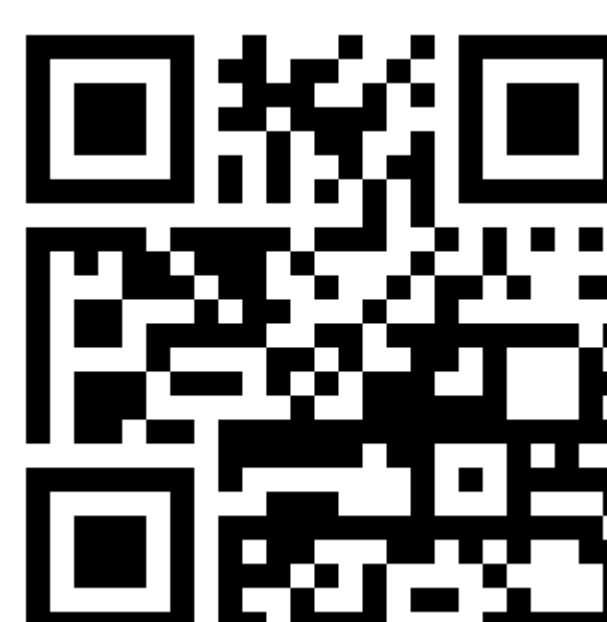
- Unit testing; to increase the stability and quality of the application and reduce testing costs
- Integration testing; to verify the expected performance of the application components

Virtual Machine and Remote Access

- Workstation name: **EIS03**
- Hostname: **vm - db**
- Path to project files: **/opt/lampp/docs**
(including SQL-files with the data version of 09-30-2014)
- More details on “**EIS Lab Workstations**” poster

Source Code and Documentation

- https://github.com/EIS-Group/TA-INF1212-Lab/area/master/Son-Sen-2014/Group%20%20%20GreenShifting_Scan1



Download the App