

# Building a social platform using FLOSS to support collaborative communities:

## The ReWeee case study

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# Presentation Outline

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Motivation & Objectives

ReWeee Project

Reasons for choosing FLOSS

Satisfying Requirements with FLOSS

Discussion

# Motivation & Objectives

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- ❖ Development of a production solution for an NGO using exclusively open source software
- ❖ Explore the required development effort and labor, relying on open source software
- ❖ Share the experience obtained

# ReWeee Project

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# Target and Contributors

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Appliances Recycling SA is an NGO designated as the key player for recycling in Greece.

ReWeee ( REcycle of Waste Electrical and Electronic Equipment (WEEE))

- ❖ Project coordinated by Appliances Recycling SA
- ❖ More than 20 stakeholders are involved in it
- ❖ A web platform had to be developed

# ReWeee Web Platform

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It aims to facilitate and promote Electrical and Electronic Equipment exchange so as to prevent the creation of waste.

Social characteristics:

- ❖ Communication
- ❖ Collaboration
- ❖ Human interaction

# Concept - Why Social?

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Social networks:

- ❖ prominent way of communication between members of a community
- ❖ influence the way that modern web applications are operating

Social web platforms:

- ❖ promote collaboration and communication between actors
- ❖ provide a powerful environment for users to collaborate as a community

# Concept - Why Collaborative?

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## Collaborative Communities:

- ❖ Decentralized leadership → Personal Communication
- ❖ User-to-user interaction

## Collaborative Processes:

- ❖ Loosely structured workflow
- ❖ Highly adaptive



# ReWeee Platform - Requirements

## Main Platform:

- ❖ Three user types → Guest Users, Registered Users, Administrators
- ❖ Two registration types → Social , Email Account
- ❖ Several product categories - multi-level, multilingual, dynamic hierarchy
- ❖ User profiles - location, review rating, accounting
- ❖ Platform messaging and notification system

## Admin Platform:

- ❖ User administration tasks
- ❖ Product Categories
- ❖ Platform Statistics
- ❖ Highly configurable

# Reasons for choosing FLOSS

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- ❖ Minimize Cost
- ❖ Handle agile requirements
- ❖ Due to previous experience
- ❖ Promote the use of FLOSS as a policy in the public and private sector

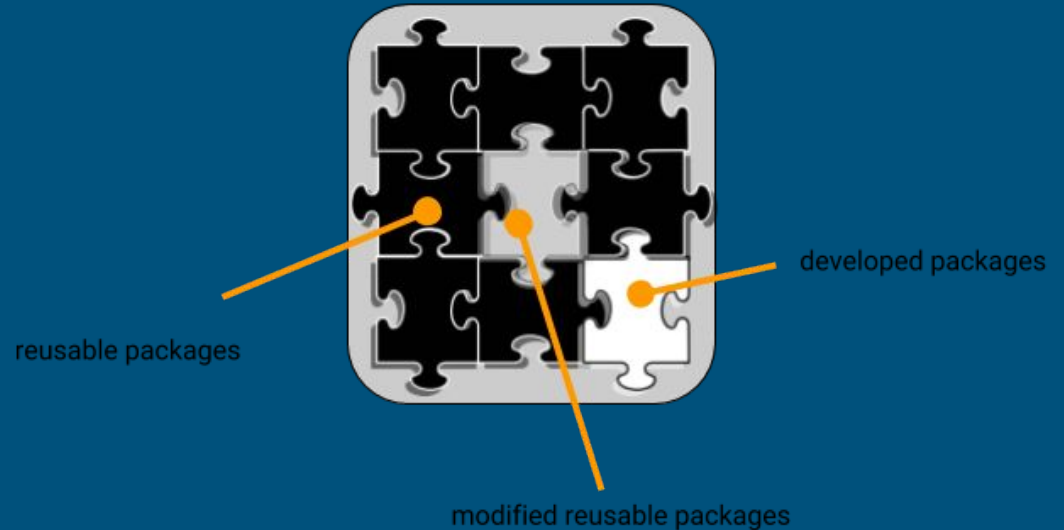
# Satisfying Requirements with FLOSS

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# ReWeee Platform - Perspective

- ❑ Utilize existing software components to reduce programming effort
- ❑ Contribute to the FLOSS community

## Collaborative Community Platform



# Django Framework

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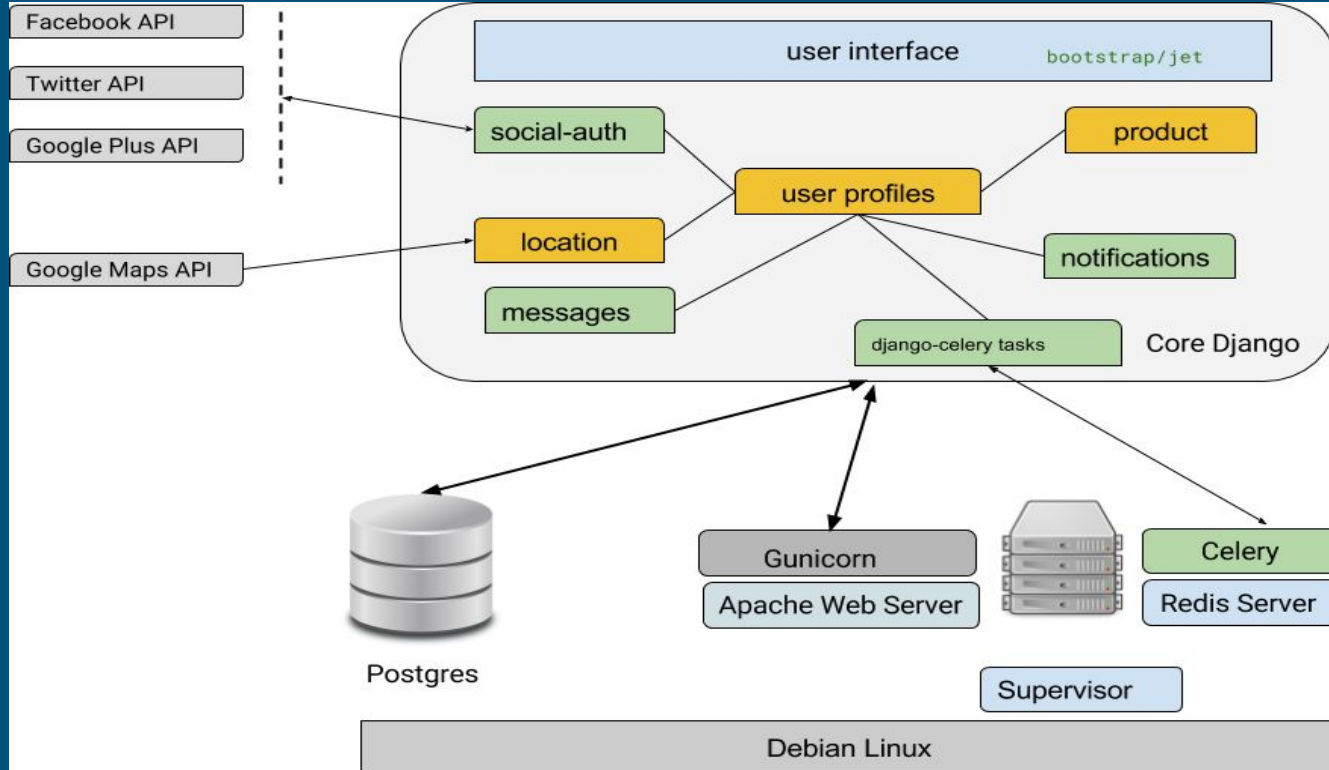
High-level Web framework that encourages rapid development and clean, pragmatic design

It is based on Python programming language

Follows the model-view-template (MVT) architectural pattern

- ❖ Complete Documentation
- ❖ Active programming community
- ❖ A successful example of open source community software
- ❖ Django-packages as main repository

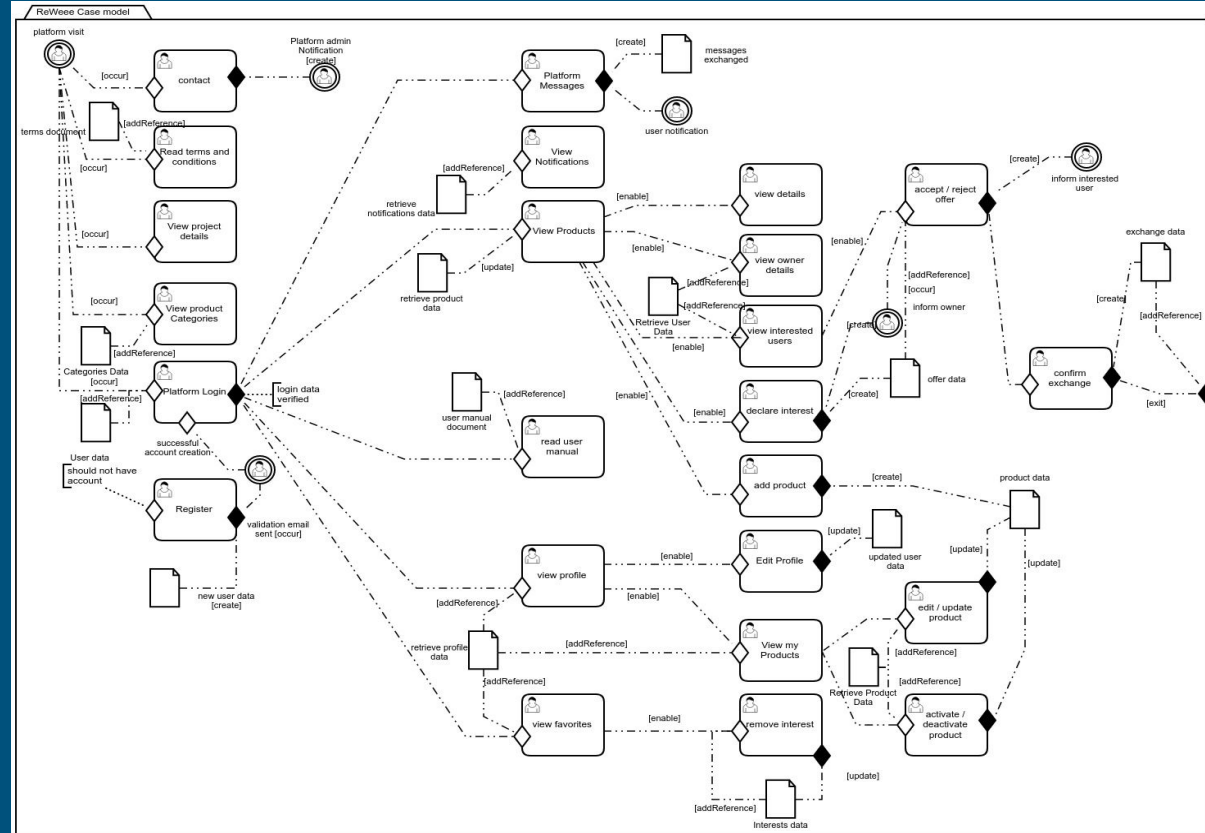
# Platform Architecture



# ReWeee Process Complexity

## CMMN Diagram

(using an open-source tool)



# Reusability Map

Majority of platform functionality covered from existing Django apps

Django apps are easily extended

operation	library name	reusability
messaging	django-messages	as is
notifications	django-notifications	modified
categories	django-categories	as is
import/export	django-import-export	as is
rating	django-star-ratings	as is
autocomplete	django-autocomplete-light	as is
upload multiple files	django-multiupload	as is
avatar	django-avatar	as is
pagination	django-endless-pagination	as is
captcha	django-recaptcha	as is
terms and conditions	django-termsandconditions	as is
cookies disclaimer	django-cookie-law	as is
contact form	django-envelope	as is
notify on model changes	django-fieldsignals	as is
bootstrap forms	django-forms-bootstrap	as is
registration	django-registration	modified
social network authentication	python-social-auth	as is
model translation	django-modeltranslation	as is
admin ui	django-jet	as is
task manager	celery	as is
message broker	django-redis	as is





## Welcome to the web-based platform of the LIFE ReWeee project

The web-based RE(W)EEE platform facilitates the donation and exchange of Electrical and Electronic Equipment. It promotes and support the prevention of Waste Electrical and Electronic Equipment.

In order to use it, we have to create a profile. By signing in we get access to a variety of functional electrical and electronic devices that we can exchange with other devices or make a donation.

Through such donations or exchanges, we protect the environment, contribute to the reduction of Waste Electrical and Electronic Equipment, and saving of valuable resources.

The web-based RE(W)EEE platform was designed and developed within the framework of the LIFE ReWeee (LIFE14/ENV/GR/000858).

[See Available Products](#)

## Sign In

You may register through your social media accounts or your email.

### Social Media

[Twitter](#)[Facebook](#)[LinkedIn](#)[Google](#)

### Email Account

Username:

Password:

Forgot your password? [Reset it.](#)

Not a member? [Register.](#)

### Info

#### Important Notifications

When registered, the following information will be saved in the platform database:

- email
- city
- country
- username and profile picture in case of social media login

Please read the [Terms of Use](#) before you use our platform. Access as well as the use of ReWeee platform indicates the acceptance by you of Terms of Use.











(Giannis Routis) [Edit Profile](#)

Display Name	Giannis Routis
Rating	3.7 from 3 user(s)
provided	current month :    last month :    last year :
received	current month :    last month :    last year :
Location	Καλλιθέα Ελλάδα

[My Products](#)


### 2 Comments

- the product was broken
  - miko1 for product old laptop, 10 months, 4 weeks ago
- excellent
  - jahnrouis for product test2, 10 months, 4 weeks ago

 Television and entertainment <span>1</span>	 Computers and peripherals <span>2</span>	 Telephony <span>1</span>
 Large Home Devices <span>0</span>	 Small Home Devices <span>2</span>	 Air Conditioning and Heating <span>0</span>
 Household Equipment <span>0</span>	 Other <span>0</span>	

Advanced Search

## Products





**Τηλεχειριστήριο playstation 4**  
Game Consoles

State: Μεταχειρισμένο  
Type: Δωρεά

2 interested users k.boikou88

Wishlist






**Εκτυπωτής πολυμηχάνημα HP**  
Printers

State: Μεταχειρισμένο  
Type: Ανταλλαγή

0 interested users RuLi

Wishlist






**PowerBank**  
Other Small Devices

State: Μεταχειρισμένο  
Type: Ανταλλαγή

0 interested users Tsino18

Wishlist





**Φορτιστής για iphone 6 ή 7 ή 8**  
Chargers

State: Μεταχειρισμένο  
Type: Ανταλλαγή

1 interested users Ntina2000

Added to Wishlist




**Ηλεκτρικό ατμοσίδηρο**  
Irons



**old laptop toshiba**  
Laptops

Βαλένθια, Ισπανία

City	Βαλένθια		
Area	Βαλενθιάνα	Postal Code	
Country	Ισπανία		
Latitude	39.4699075		
Longitude	-0.3762881000000107		

Save



# Developed Apps

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- ❖ User Profiles
- ❖ Product - Product Categories
- ❖ Location

# Discussion

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Our main objective was not only to reuse but also to contribute to the FLOSS community.

Re-use of software components promotes the interoperability ending in code refactoring and optimization.

In our case, the development phase was decreased by around 70%, since the developed -from scratch- code represented less than 10% of the total project.

The developed software components are planned to return to the open source community as our contribution in building a collaborative community.



# Recycle and Reuse



<http://reweee.hua.gr>