

PROJECT REQUIREMENT FORM

Project title

Recycling eWaste (B2C)

Client name

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Project description

Most people have eWaste - electronic waste - sitting in drawers at home, including old smartphones, laptops, tablets, consoles, televisions, etc.

There are many reasons these devices should be recycled as soon as possible, including:

- Their value is higher the sooner they are recycled, e.g. if sold
- ***They will be more likely to be used, and also used for longer, by their next owners.**
- ***If they are not working, the parts they contain are more useful the sooner they are made available**

There are also many reasons why people keep devices, including:

- ***They are concerned that their data might be stolen if they don't 'wipe' them first, e.g. gaining access to their bank accounts, etc.**
- Devices are seen as a backup if their current device is stolen (though in reality this may be unlikely since newer devices are faster and owners typically move on to a new contract/device)
- ***They still have data on them, e.g photos, game saves, etc.**
- They have personal memories and are kept as part of a collection

eWaste recycling facilities are available and also data cleansing facilities, but these often export the problem to other countries, e.g. see

<https://www.nhm.ac.uk/discover/what-is-ewaste-and-what-can-we-do-about-it.html>

This project focuses on the ***items** above by proposing that owners can be offered a service that will retrieve data from devices as well as wiping them clean before they are then (when possible) reused locally (reducing the carbon footprint of shipping them elsewhere), broken into spare parts for use nationally or ultimately recycled ethically (i.e. without child labour, etc.) either within the UK, or local to where the recycled materials will be reused.

The project aims to offer a hub where devices can be identified according to age and demand with an option for owners to pay for data retrieval. Where devices might be resold, e.g. newish smart phones, etc., then the hub should identify third parties where the owner might sell their device, with a referrer fee paid by the third party for successful reselling. The seller would still be offered an option of having data retrieved and their device wiped (with the fee).

The Hub will be a web application with web server/database with desktop being essential (optionally a mobile web browser interface as well).

Features list

What are the key features of the software? Please list at least 8

1. Standard account registration and login, optionally common third party accounts may be used, e.g. Google, Microsoft, etc. You should have previous experience if you wish to use third party authentication.
2. Admin role can upgrade accounts for staff.
3. Accept details of devices and identify whether they are 'current' (currently popular), 'recycle', 'rare' or 'unknown'.
4. Current devices will have listings for expected value according to third parties, such as CeX, etc. with a focus on local places to trade in by physically handing in. Owner to be given a QRCode that offers a bonus (e.g. voucher) which also identifies the eWaste Hub for a (potential) referral fee and simplifies them handing in a device (since they will have entered data already). Data wiping is guaranteed by the third party.
5. 'Recycle' devices are offered for recycling with data retrieval (at a fee) and data wiping (at no cost). Data retrieval devices are accepted by the eWaste Hub themselves for retrieving data which is then hosted in the cloud and a secure link emailed to the owner for a limited time (valid for 3 months, can be retrieved from 3-6 months with a further fee payment, then deleted). Data wiping is typically handled by the third party who recycle the device.
6. Rare devices are handled in a similar manner to current devices but the third parties may include eBay, etc.
7. Unknown devices are flagged for employees to update the device database and contact the owner.
8. Expected roles will include (device) owner, admin and staff (employee).
9. For staff, creation of (new) devices details. This should be initially populated from an offered device (by an owner). Draft details should be saved (but not visible).
10. Devices can be made visible or hidden, e.g. in case of incomplete/incorrect details.
11. Devices can be moved between classifications, which include current/recycle/rare/unwanted as well as device types, i.e. console/phone/tablet/laptop, etc. At least two device types should be shown working.
12. When a device is current, details for at least one third party should be shown, e.g. in a new/pop out window.
13. Payments for data transfer should be via paypal and stripe (sandbox only).
14. An Admin dashboard will need to be available for managing users accounts.
15. Relevant reports should be available for staff, e.g. payments for data wiping, device processing (e.g. received, transferring, wiping, dispatch to this party), QR Code generation by third party, referral fees.

Application users

Who are the primary users of the application?

Individual owners (i.e. Members of Public) who own eWaste and have concerns over loss/theft of data as well as wishing to ethically recycle their devices.

Programming language required

What programming language does the customer require students to use?

Web application GUI - i.e. Html and CSS with JavaScript. Server to be Python with Flask/Django or Ruby on Rails (or optionally other by agreement with the Client and Facilitator).

Database required

Does the system require a database?

What database does the customer require students to use?

Yes. (My)SQL or MongoDB should be used.

Data provided

What data (or document) is the customer providing?

This is a Startup MVP so none is provided.

Out of scope

What is considered out of scope?

Selling devices, offering an eWaste service to Businesses.