Project title

eWaste Recycling (B2C)

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 broken, the parts they contain are more useful the sooner they are made available

There are also many reasons why people 'hang on' to their 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 (unlikely in reality)
- 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 [What is e-waste and what can we do about it? | Natural History Museum](#)

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

The application features needed are:
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 will be handled by a 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

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.

Out of scope

Selling devices, offering an eWaste service to Businesses.