Recy&Co

Sorting is fun !

“Recy&Co (RecyandCo.fr), sorting is fun!” is an educational and entertaining web project, designed to raise awareness among children and families about selective sorting. It takes the form of an interactive website including local sorting instructions, a “Where to throw?” search engine, and a drag & drop game with a mascot, Recy the raccoon.
Developed with an eco-design approach (lightweight design, responsive, offline access), this project aims to make sorting simpler, more fun, and more accessible.
Intended to be shared with the inhabitants of the Communauté de Communes d’Évron, this project aspires to become a local, free, and evolving educational tool.

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1. Personal Introduction

My name is Samira, originally from Évron in Mayenne, where I have always lived. After a school path in a BEP (Services to people) then a Bac Pro SMR (Services in Rural Areas), I worked for several years in industry and followed a qualifying TAI training: IT support technician (RNCP level 4).

These experiences allowed me to finance the training I dreamed of: the RNCP 5 title of Web and Mobile Web Developer at Holberton School Laval.

My goal is to continue in a work-study program to obtain the RNCP 6 title of Application Developer Designer.

This project is part of my interest in ecology and pedagogy. In the context of the incentive fee recently implemented by the Communauté de Communes d'Évron, I imagined a playful and educational website to help families better sort their waste. The idea: make learning sorting simple, fun, and accessible to all, through an interactive and joyful approach.

2. Project Objective

1. Main Purpose of the Project

The main goals of this project are:

- ✧ Raise awareness about selective sorting in a fun and accessible way
- ✧ Create an educational digital tool adapted to families and children
- ✧ Contribute to ecological transition at the local level

2. Target Audience

The targeted audiences are:

- ✧ Inhabitants of the Communauté de Communes d'Évron
- ✧ Mainly families and children
- ✧ Any user wishing to better understand sorting instructions

3. Format and Accessibility

Format and accessibility are:

- ✧ An interactive website, accessible from a computer, tablet or smartphone
- ✧ Designed with eco-design in mind (reduce the environmental impact of digital)
- ✧ Possibility to make it accessible offline (PWA)

4. Key Features

The key features are:

- ✧ An educational sorting game
- ✧ An endearing mascot (Recy the raccoon) to accompany children
- ✧ A local waste database
- ✧ A customizable interface with score, badges, virtual currency

5. Link with Local Policy

The link with local policy is mainly:

- ✧ Complementary to existing awareness-raising actions
- ✧ Can be integrated into educational projects: schools, extracurricular activities, etc.

3. Website Content

1. Homepage - Welcome to Recy&Co

- ✧ Quick presentation of the site and mascot Recy
- ✧ Navigation menu
- ✧ Buttons to access the game, instructions, and search

2. "Sorting Info" Page – Understanding the instructions

- ✧ Display of local sorting rules (paper, plastic, glass, etc.)
- ✧ Use of a JSON file to display the correct info per waste
- ✧ Color/pictogram system for each bin
- ✧ Dynamic update if the municipality changes the rules

3. "Where to throw?" Page – Smart search bar

- ✧ The user types an object or waste (e.g., "yogurt pot", "light bulb")
- ✧ The site shows the correct bin + color + explanation
- ✧ The tool is connected to a local database (or link to evron.fr)

4. Sorting Game Page – Interactive drag & drop

- ✧ The player drags the waste into the right bin
- ✧ Real-time score, immediate feedback (right/wrong)
- ✧ Recy's speech bubble depending on mistakes or successes
- ✧ Badges or virtual currency earned by playing
- ✧ "Replay" option to learn while having fun

5. User Space – Registration / local login

- ✧ Registration with username + email + contact info for goodies shipping
- ✧ Score and badges linked to the user
- ✧ Display of first name/username at the top of the site
- ✧ Automatic saving (database)

6. Bonus Shop – Spend your "caps"

- ✧ Small virtual items to unlock (e.g., bin skins, decorations, recycled goodies provided by the city of Évron)
- ✧ Encourages gamification and loyalty
- ✧ Elements stored locally to remain lightweight

7. About Page – The project

- ✧ Who created the project and why (my name, my background)
- ✧ Pedagogical and ecological objectives
- ✧ Eco-design approach (file optimization, accessibility, responsive)

4. Added Value for the Municipality

1. Reinforces awareness actions for sorting

- ✧ Complements local initiatives like the incentive fee
- ✧ Helps achieve waste reduction objectives
- ✧ Provides residents with an accessible tool to sort better every day

2. Focused on families and children

- ✧ Raises awareness from a young age (game, mascot, playful interface)
- ✧ Can be used in schools, leisure centers, municipal events
- ✧ Supports waste-sorting education through digital tools

3. Eco-designed and responsible project

- ✧ Respects principles of digital sobriety (lightweight, optimized site)
- ✧ Uses a lightweight server database to store and synchronize user profiles, scores, and badges, ensuring data retrieval from any device
- ✧ Simplified technical architecture to limit maintenance: compact database (MySQL, MariaDB possible), automated update scripts
- ✧ Compatible with PWA (Progressive Web App) for partial offline access and smooth experience even with limited connection
- ✧ Easily adaptable to local sorting rules without high technical cost
- ✧ Provides the municipality with a modern and committed image

4. Highlights a local student initiative

- ✧ 100% local project: created by a resident of Évron
- ✧ Shows that the municipality supports local talent and training
- ✧ Can be integrated into municipal communication (website, posters, social networks)

5. Free, simple, with lightweight infrastructure

- ✧ Optimized, resource-efficient hosting, can be integrated into the city hall's website or hosted on a low-cost server
- ✧ Lightweight server database ensuring secure data backup and multi-device synchronization
- ✧ Reduced maintenance thanks to simple, documented, automated design

- ✧ GDPR compliant: only necessary data are collected (username, email for goodies shipping, scores, badges) and stored securely

6. Easy to promote and use

- ✧ Simple URL to share (flyers, QR code, city website…)
- ✧ Accessible on PC, tablet, smartphone
- ✧ Can easily evolve according to the municipality's needs

5. Appendix

1. Team formation

The Recy&Co project is carried out by a single person:

- ✧ Samira Roche, developer and designer

I assume all roles:

- ✧ Project management (organizing steps, prioritization)
- ✧ Web development (front-end in HTML/CSS/JS, back-end in Python/MySQL)
- ✧ UX/UI design (simple design, mascot, gamification)
- ✧ Documentation (project PDF, technical README)

Tools used for collaboration and tracking:

- ✧ GitHub for versioning and code sharing
- ✧ Markdown/README for technical documentation

2. Research and Brainstorming

Before settling on the final idea, several options were considered:

Educational paper brochure:

- ✓ Easy to distribute locally
- ✗ Not interactive, weak pedagogical impact, costly to print, not eco-friendly

Native mobile app (Android/iOS):

- ✓ Immersive, possible notifications
- ✗ Heavy development, costly maintenance, not accessible to families without a recent smartphone

Eco-designed interactive website (chosen):

- ✓ Accessible on PC, tablet, smartphone
- ✓ Lightweight, responsive, possibility of offline mode (PWA)
- ✓ Stronger pedagogical impact through game and mascot
- ✓ Eco-design (file optimization, technical simplicity)
- ✗ Requires full web development (front + back)

3. Idea Evaluation

Criteria used to compare solutions:

- ✧ Technical feasibility: possible alone with my skills
- ✧ Impact: ability to raise awareness among families and children
- ✧ Eco-design: minimize the environmental impact of digital
- ✧ Scalability: possibility to adapt to other municipalities

Result: the eco-designed interactive website emerged as the optimal solution.

4. Decision and Refinement

The MVP selected is therefore **Recy&Co**, an eco-designed, educational, and entertaining website combining an interactive game, a mascot, and a local sorting rules database.