

2 December 2025 Brussels, BELGIUM

LIVING LAB #4

Co-designing the INNOVADE Digital Democracy Application



FINAL REPORT

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1. Methodology

1.1 Objectives

Living Lab 4 (LL4) focused on transforming insights from earlier INNOVADE activities into a tangible draft specification for the Digital Democracy Application. The core objectives were to:

- ➔ Evaluate existing digital democracy tools to identify design patterns, usability strengths, and functional gaps relevant to INNOVADE.
- ➔ Co-design the interaction logic and minimal viable requirements for three central app features: Achievements & Rewards, Hybrid Participation, and the Learning/Guidance Layer.
- ➔ Develop early-stage UI/UX sketches and prototype prompts that translate citizen and government needs into implementable technical specifications.
- ➔ Clarify how these features should interact within a single application, ensuring coherence, feasibility, and alignment with real institutional workflows.
- ➔ Provide consolidated recommendations and structured outputs to support WP4 development and the drafting of D4.1 and D4.2.

By the end of the Living Lab, participants collectively produced the foundational material for a Draft App Specification v0.1.

1.2 Structure and Agenda

LL4 took place on 2 December 2025 at the Marivaux Hotel in Brussels and was structured as a one-day intensive co-creation session combining plenary grounding, hands-on evaluation, design exercises, and specification-building.

The day consisted of:

Morning Introduction

A welcome session, ice-breaker, and a short evidence briefing synthesising findings from previous Living Labs and the Interdisciplinary Knowledge Base.

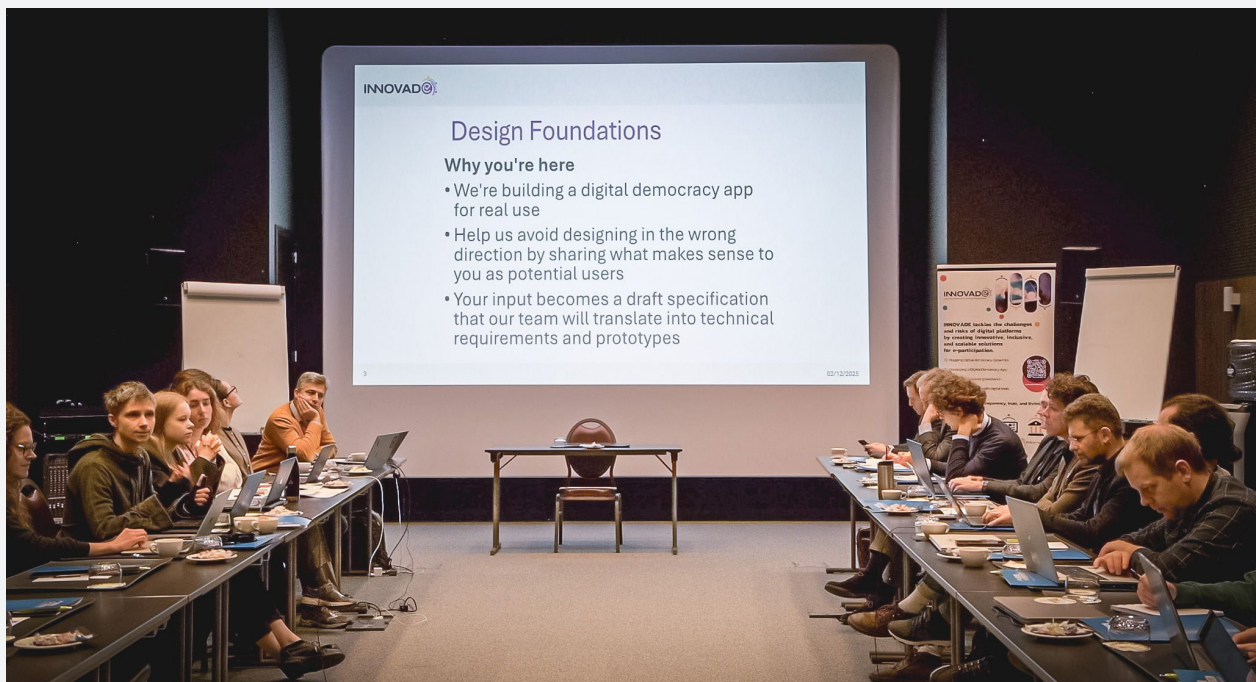


Figure 1. Design Foundations & Evidence Brief by DFKI and KU Leuven

Workshop 1 – Evaluating the Current State of Digital Democracy Apps

Participants rotated between three stations: FixMyStreet, Pol.is, and Decidim, to assess each application's usability, workflows, and transparency. The aim was to identify elements that work well, common usability barriers, and concrete improvements relevant for INNOVADE.

Workshop 2 – From Gaps to Adoption: Designing What's Still Missing

Participants examined three INNOVADE features: Achievements & Rewards, Hybrid Participation, and Learning/Guidance. At each station they clarified how the feature should work, what citizens and governments need from it, and how it connects to the other two features.

Workshop 3 – Designing the Ideal Digital Democracy Application

Groups developed initial sketches, feature lists, and Lovable prompts to create simple prototypes. This was then followed by a Lovable application demo. This step transformed conceptual feature logic into early-stage user flows.

Plenary – Draft Specification v0.1

Outputs from all workshops were consolidated into the first draft specification for the INNOVADE application, identifying priority features and the functional structure for WP4 implementation.

Wrap-up and conclusions

A closing discussion summarised insights and next steps for integrating LL4 results into development work.

1.3 Techniques and Tools

LL4 relied on a set of participatory design techniques tailored to extract both evaluative insights and concrete feature designs.

Evaluation Boards (Workshop 1)

Participants used structured boards organised into three categories—what works well, what doesn't work well, and what should be improved. They interacted directly with the demo apps and produced clustered insights on usability, transparency, cognitive load, and administrative feasibility.

Feature Interaction Mapping (Workshop 2)

Each rotation required participants to define:

- ➞ Core feature behaviour
- ➞ Dependencies with other features
- ➞ Citizen vs. government needs
- ➞ Administrative constraints
- ➞ Potential risks or confusion points

This method allowed participants to construct practical workflows rather than abstract ideals.

Sketching and Prototyping (Workshop 3)

Groups generated:

- ➞ Feature lists
- ➞ Paper UI layouts
- ➞ User flows
- ➞ Lovable prompts
- ➞ Prototypes

This produced concrete early design assets and clarified which elements are essential for a minimal viable version.

Plenary Synthesis

Consolidation of outputs into a coherent draft specification helped identify consistent design principles, contradictory expectations, and areas requiring further refinement before technical development.

1.4 Participants

LL4 brought together a diverse group including researchers (University of Paderborn, KU Leuven, Beyond the Horizon), civic-tech experts (Polis.NL, STIB-MIVB, EUmans, G1000, CESES), municipal representatives (Stad Leuven, Stad Geel, San Martín de la Vega), students (KU Leuven), legal specialists (ICTLC), and consortium partners. Participants contributed both end-user perspectives and operational knowledge of governmental workflows, enabling a balanced analysis of usability, feasibility, and institutional constraints. This mixture ensured that the app design reflects realistic administrative processes while remaining grounded in citizen experience.

1.5 Facilitation and Documentation

Each workshop station had a dedicated facilitator who remained fixed while participant groups rotated. Facilitators were responsible for:

- Explaining instructions and maintaining clarity of purpose
- Guiding discussions toward specific, actionable outputs
- Ensuring that both citizen and government perspectives were addressed
- Recording insights and organising station materials
- Maintaining methodological consistency across rotations

Documentation included:

- Notes captured during all workshops
- Photographs of boards, sticky-note clusters, and group sketches
- Draft Lovable prototypes generated during Workshop 3
- Attendance records
- Feature lists, sketches, and early interaction flows feeding directly into D4.1 and D4.2

This structured documentation ensures that LL4 outputs can be translated seamlessly into development specifications and academic reporting.

2. Findings

2.1 Workshop 1 – Evaluating the Current State of Digital Democracy Apps

The first workshop focused on assessing three existing applications: FixMyStreet, Pol.is, and Decidim, to identify design patterns, limitations, and user expectations relevant for the INNOVADE app. Participants rotated through each station and interacted directly with the platforms, producing insights that highlighted both practical usability issues and conceptual challenges.

Across all groups, one recurring observation was the tension between rich functionality and cognitive overload. Applications that appeared clean and straightforward at first glance (such as Pol.is) were praised for their simplicity and visual clarity, while more process-heavy tools (such as Decidim) risked overwhelming users who lacked prior experience with participatory platforms. Meanwhile, FixMyStreet demonstrated the value of highly task-oriented design: its reporting workflow felt intuitive to many participants, and its clear sense of purpose contributed to feelings of empowerment. However, this same simplicity exposed structural difficulties for municipalities, particularly in terms of workload, coordination responsibilities, and the risk of unrealistic expectations from citizens.

Several themes emerged concerning usability and trust. Participants emphasised the importance of consistent data visualisation and clear feedback mechanisms. They noted that Pol.is outputs can vary significantly depending on configuration, which may confuse users who switch between different conversations. Participants also stressed the need for moderation systems that prevent statement duplication or unproductive debate spirals; they valued Pol.is' ability to cluster statements and hide low-quality contributions, but questioned whether the logic behind clustering should be more transparent.



Figure 2. Whiteboard on Pol.is discussion. Workshop 1

FixMyStreet elicited discussions about anonymity, geolocation, and prioritisation of reports. Participants debated the balance between user privacy and the need for governments to authenticate or verify reports. They also pointed out that tourists or occasional visitors should be able to make reports without creating accounts, though they still need some way to follow up on the status of their submission. At a more conceptual level, participants reflected on the problem of administrative bottlenecks: when multiple citizens report the same issue, governments require tools that automatically merge or prioritise submissions rather than multiplying workload.

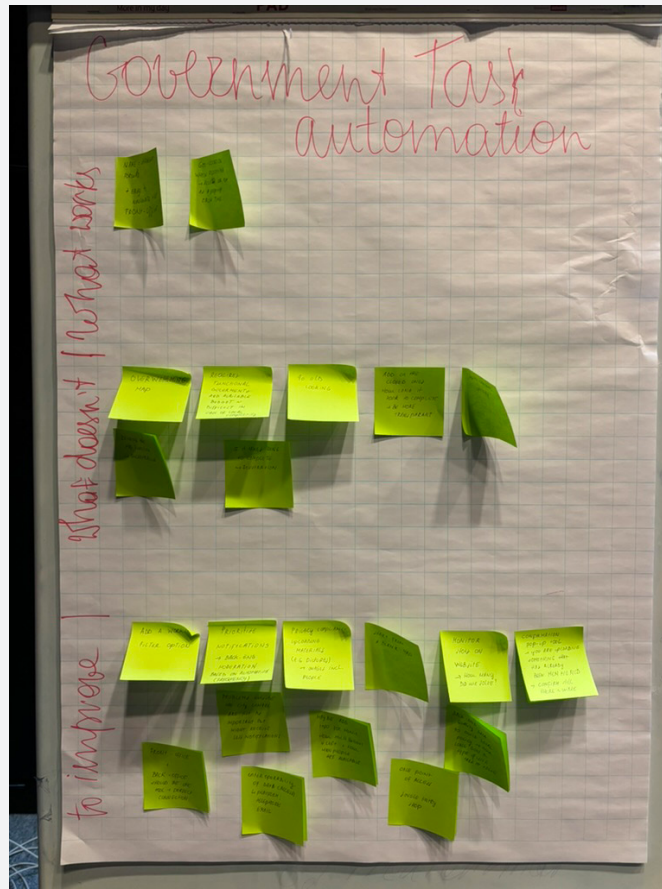


Figure 3. Whiteboard on FixMyStreet discussion. Workshop 1

Decidim sparked reflections about the governance structure behind digital participation. While the interface was praised for its clarity and multilingual support, participants questioned whether its processes, such as complex proposal flows, signature thresholds, and long text-based participation steps—were realistic for smaller municipalities or for citizens with limited digital literacy. Some participants felt that the platform's strength in transparency could also become a weakness if the sheer volume of required steps discourages participation.

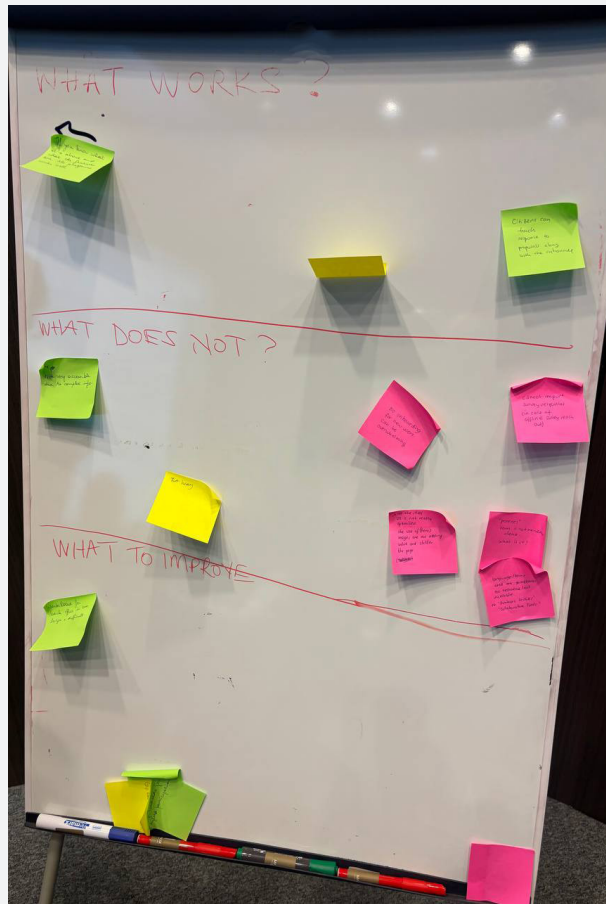


Figure 4. Whiteboard on Decidim discussion. Workshop 1

Collectively, Workshop 1 produced a set of insights that shaped all subsequent sessions: the need for simplicity without sacrificing meaning, the importance of structured yet flexible participation flows, and the demand for consistent communication loops that demonstrate responsiveness.

2.2 Workshop 2 – From Gaps to Adoption: Designing What’s Still Missing

The second workshop moved from evaluation to co-design. Participants explored three features central to the INNOVADE app—Achievements & Rewards, Hybrid Participation, and the Learning/Guidance Layer—discussing how each should function and how they should connect.

A central theme across all stations was the importance of grounding digital participation in realistic institutional workflows. Participants repeatedly cautioned against creating systems that appear engaging for citizens but impose hidden administrative burdens on governments. Instead, they emphasised minimal viable logic: features should enhance participation without requiring municipalities to adopt entirely new processes.

At the **Achievements & Rewards** station, discussions centred on the tension between motivation and legitimacy. Participants were wary of gamifying political participation in a way that trivialises democratic engagement or inadvertently rewards superficial actions. They argued that rewards should recognise meaningful contributions, such as thoughtful statements, sustained engagement, or participation in deliberative events, rather than mere activity volume. Some preferred non-competitive, private badges that reflect personal engagement rather than public rankings that would encourage comparison between citizens. Others suggested area-level or community-level rewards to avoid individual scoring altogether. A recurring concern was the risk of governments appearing to rate citizens; participants agreed that only contributions, not people, should ever be evaluated.

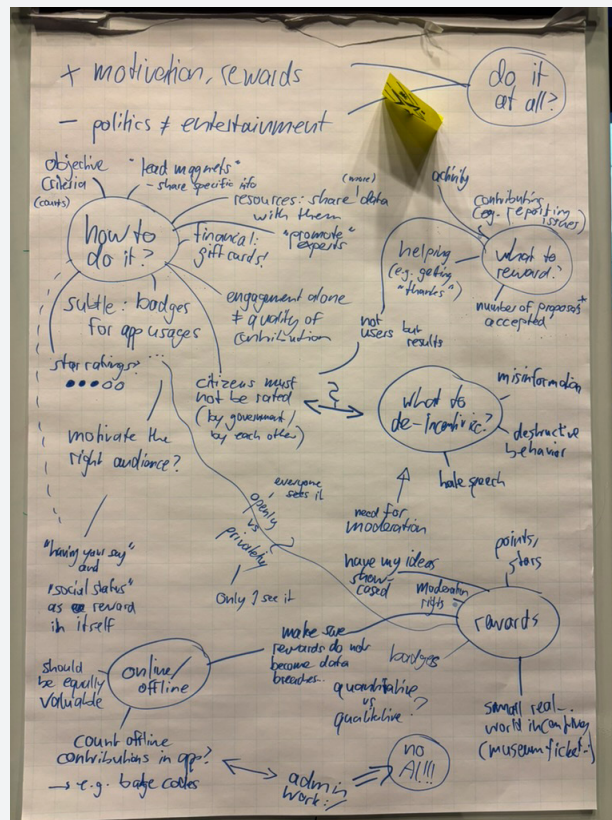


Figure 5. Whiteboard on discussion of Achievements & Rewards solutions. Workshop 2

Hybrid Participation generated extensive debate about the relationship between offline and online engagement. Participants noted that many municipalities still rely heavily on in-person workshops, printed input forms, and community meetings. They emphasised that the INNOVADE app must accommodate and valorise these offline channels rather than forcing digital exclusivity. Participants suggested workflows where physical events are accompanied by digital summaries, where citizens can log offline contributions into the app, and where municipalities can transparently validate and integrate those inputs. They also raised the issue of administrative feasibility: hybrid systems should reduce, not duplicate, workload. Features such as automatic transcription of physical meetings, or integration of paper input into digital dashboards, were identified as promising directions.

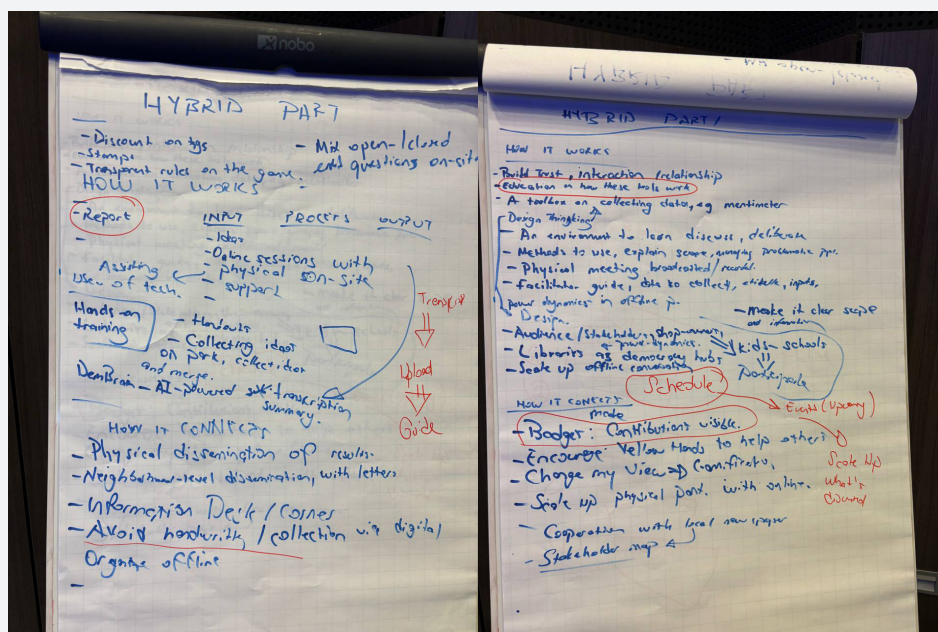


Figure 6. Whiteboard on Hybrid Participation discussion. Workshop 2

The **Learning/Guidance Layer** was discussed in terms of clarity, accessibility, and trust. Participants stressed that citizens need concise explanations of legal constraints, municipal procedures, and the implications of their input. Tooltips, short videos, micro-lessons, and onboarding sequences were considered useful, provided they remain brief and optional. The use of AI-generated voice or content was debated; while some felt it could enhance accessibility, others expressed concerns about trust and transparency. Participants agreed that any AI-assisted guidance must be disclosed, watermarked, or otherwise signposted to avoid undermining confidence in the platform.

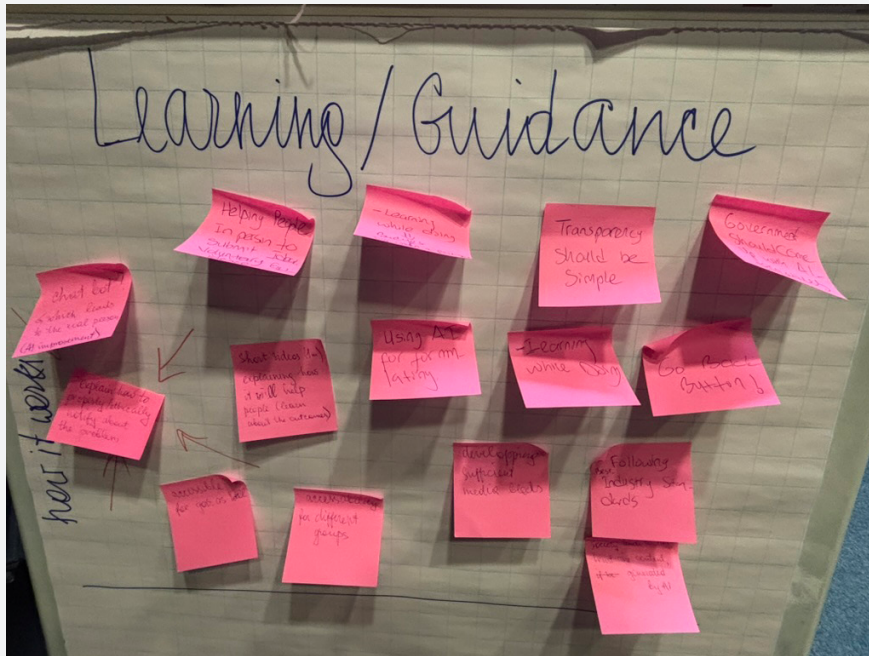


Figure 7. Whiteboard on Learning discussion. Workshop 2

Across all three stations, participants highlighted the need for features to interact seamlessly. For example, learning activities might unlock participation badges; hybrid events might contribute to a citizen's engagement record; and the app might use data visualisation to show users how their contributions accumulate across channels. Participants also emphasised equitable access: features should support users with varying skill levels, backgrounds, and time constraints.

2.3 Workshop 3 – Designing the Ideal Digital Democracy Application

The final workshop synthesised the insights from earlier sessions into concrete design outputs. Each group developed feature lists, paper sketches, and flow diagrams before turning those into prompts for generating simple Lovable prototypes. This process helped translate conceptual ideas into visual and structural elements.

Participants working on **Achievements & Rewards** focused on creating a participation profile that provides clear, non-competitive indicators of engagement. Their sketches included dashboards showing personal statistics, such as the number of statements reviewed or contributions submitted, along with optional badges for milestones. They also explored ways citizens could share achievements externally while keeping sensitive data private. For governments, participants designed aggregated dashboards showing patterns of participation rather than individual rankings, ensuring compliance with ethical and administrative constraints.

Groups working on **Hybrid Participation** designed workflows that allow offline actions to be logged and recognised in the digital system. Their sketches illustrated how physical meeting attendance, paper submissions, or neighbourhood activities could be incorporated into the platform through simple validation mechanisms. Participants also explored how the app could present combined online and offline contributions in a unified, transparent manner that is easy for municipalities to manage.

3. Discussion

The findings from LL4 reveal a set of cross-cutting themes that highlight both the promise and the complexity of designing a digital democracy application that serves citizens and governments in realistic, sustainable ways. Unlike previous Living Labs, which explored broader conceptual terrains, LL4 focused on the mechanics of participation itself, how features work, how workflows are structured, and what it means to translate democratic ideals into functional software.

A central insight concerns the importance of **clarity and simplicity**. Across all workshops, participants gravitated toward interfaces and processes that minimise friction. Whether evaluating existing platforms or drafting new feature flows, they repeatedly identified cognitive load as a barrier to participation. Simple dashboards, transparent status updates, consistent visualisation styles, and predictable user journeys were regarded as essential foundations. This does not reflect a desire for reduced democratic complexity, but rather an understanding that participation must be accessible before it can be meaningful.

Another major theme was **trust**, which permeates all three feature areas. In Workshop 1, participants questioned whether platforms such as FixMyStreet or Pol.is adequately communicate moderation logic, prioritisation of issues, or data handling processes. In Workshop 2, discussions about achievements and civic scoring underscored the risk of unintentionally creating hierarchies between citizens or incentivising superficial engagement. Participants were clear that digital democracy tools cannot resemble social-media-style reputation systems; instead, they must foreground fairness, transparency, and neutrality. Trust also shaped conversations on AI-assisted guidance: while participants recognised its efficiency, they insisted on visible disclosures to prevent misunderstandings or erosion of confidence.

A third recurring topic was **institutional feasibility**, particularly in relation to hybrid participation. Participants pointed out that digital democracy tools cannot assume uniform administrative capacity across municipalities. Many local governments struggle with limited staffing, fragmented digital infrastructures, and diverse policy environments. Consequently, INNOVADE's design must respect the practical constraints of real institutions. Hybrid participation features, for example, must avoid duplicating work—offline contributions should be incorporated seamlessly rather than requiring parallel processing. Similarly, reward mechanisms must avoid creating obligations that governments cannot meet, such as excessive verification demands or high administrative upkeep.

The workshops also highlighted the **interdependence of features**. Achievements, hybrid participation, and the guidance layer cannot be developed in isolation. Participants emphasised that each feature naturally depends on the others: guidance influences how people learn to navigate hybrid participation; hybrid participation affects how achievements are recognised; and achievements in turn shape motivation and engagement. The challenge for WP4, therefore, is to design feature logic that complements rather than fragments the user experience. Participants noted that consistency—across design language, interaction patterns, and workflow expectations—is a prerequisite for ensuring that these features feel like parts of one coherent application.

Finally, participants stressed the importance of **responsiveness and accountability**. Whether reporting an issue, submitting a statement, or participating in a discussion, users must see how their actions connect to institutional decisions. A platform without visible follow-up risks becoming symbolic rather than substantive. At the same time, participants cautioned against over-promising: accountability loops must match the capacities and legal constraints of the municipalities involved. Designing transparent but realistic feedback mechanisms emerged as a core requirement for the Draft Specification v0.1.

In sum, LL4 demonstrated that the future INNOVADE application must balance ambition with pragmatism. It must be intuitive enough for first-time users, robust enough for repeated engagement, and flexible enough to integrate both digital and physical forms of participation. It must empower citizens without overwhelming governments, and guide users without constraining them. The outputs of LL4 therefore provide not only initial design components, but also a set of principles—clarity, trust, feasibility, coherence, and accountability—that will shape the development of the application as it moves into the next phase of WP4.

4. Draft Specification v0.1

The draft specification emerging from Living Lab 4 represents the first consolidated vision of how the INNOVADE Digital Democracy Application should function at a minimal viable level. It reflects broad agreement across participants on user needs, government realities, and the interaction logic connecting the platform's core components. While not yet a technical blueprint, specification v0.1 sets the functional direction for development in WP4 and provides a shared foundation for refining requirements.

At the heart of the specification are three interdependent areas: the Participation Profile (Achievements & Rewards), Hybrid Participation, and the Learning/Guidance Layer. Rather than existing as separate modules, these components jointly structure the user journey and define how the app supports clarity, trust, and accountability.

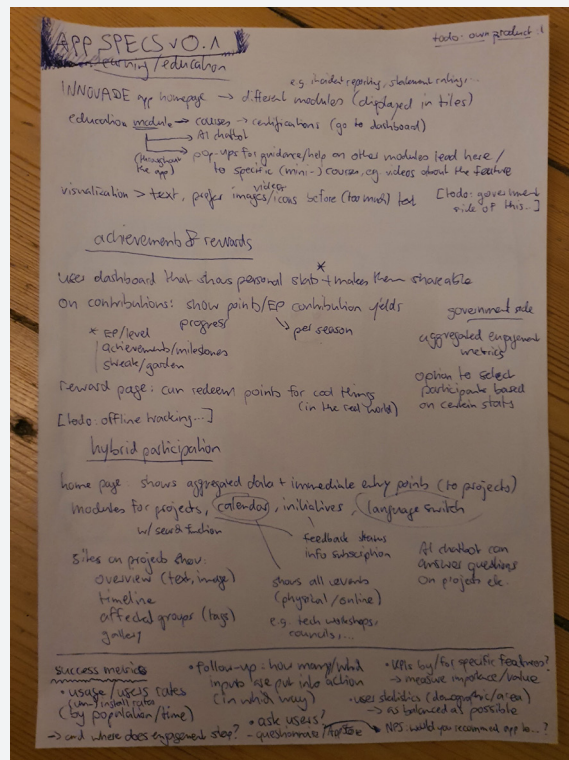


Figure 9. Notes on Draft Specification v0.1.

Participation Profile (Achievements & Rewards)

Participants reconceived achievements not as competitive scoring, but as a reflective and motivating tool that helps citizens understand their contributions. The Participation Profile acts as a personal overview of activity, while aggregated data supports institutional awareness without exposing individual behaviour.

The feature includes:

- ➔ **A personal dashboard** showing a user's contributions across digital and offline channels.
- ➔ **Optional badges** tied to meaningful actions (e.g., participation in multiple phases), avoiding public comparisons.
- ➔ **Activity visualisation**, such as completed statements, learning modules, or attendance at hybrid events.
- ➔ **Privacy-respecting sharing options**, allowing users to share achievements without revealing sensitive information.
- ➔ **An aggregated government view** highlighting trends (e.g., participation peaks, drop-off points) rather than individual data.

These elements ensure that recognition reinforces engagement without compromising democratic norms or administrative feasibility.

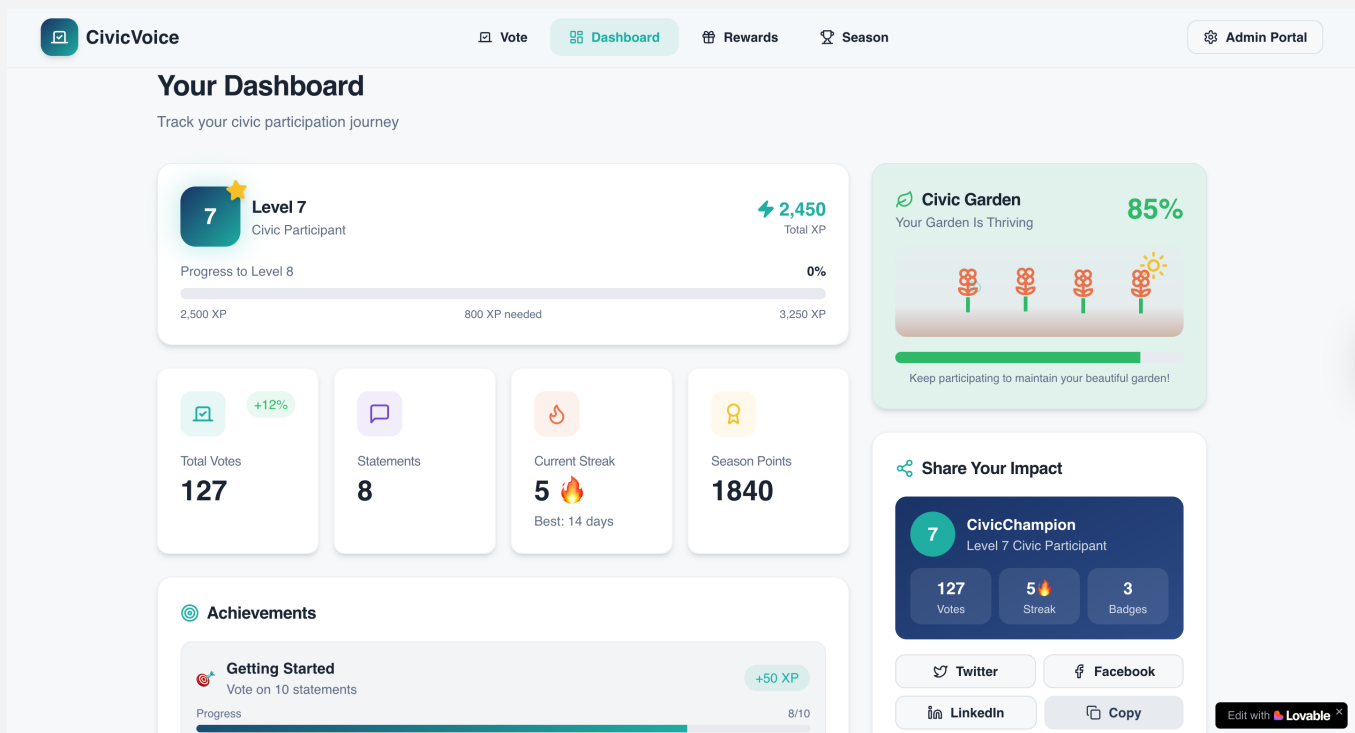


Figure 10 – Lovable application based on the group's output ([Access here](#))

Hybrid Participation

Hybrid Participation emerged as a defining requirement for INNOVADE. Participants stressed that democratic processes take place across physical and digital spaces, and the app must unify these channels into one coherent participation record.

Key features include:

- ➔ **Logging of offline contributions**, such as workshop attendance, paper submissions, or community input collected during meetings.
- ➔ **Simple validation workflows** for municipalities to confirm offline actions without duplicating effort.
- ➔ **A unified activity timeline**, showing citizens how all forms of participation contribute to the overall process.
- ➔ **Integration of event outputs**, such as summaries or AI-assisted transcripts from physical meetings.
- ➔ **Equivalent recognition** of offline and online engagement within the Participation Profile.

This hybrid model expands inclusivity and reflects real governance practices while ensuring that the digital layer does not replace existing democratic routines but enhances them.

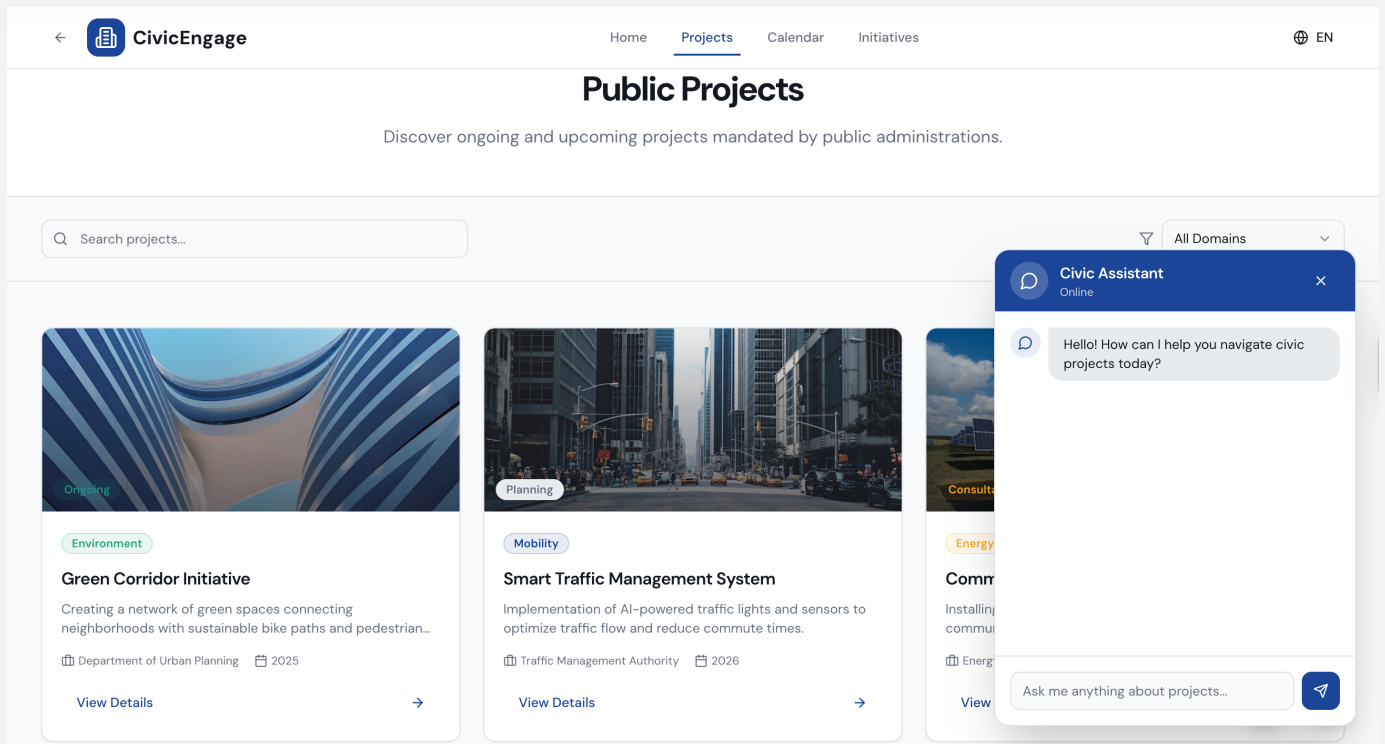


Figure 11 – Lovable application based on the group's output ([Access here](#))

Learning and Guidance Layer

The Learning/Guidance Layer provides structure and support throughout the participation journey. It helps users understand processes, navigate tasks, and interpret policy or procedural constraints. Guidance must remain helpful but unobtrusive, appearing at contextually appropriate moments.

The feature includes:

- ➔ **Short, clear explanations** of participation steps, policy phases, and expected inputs.
- ➔ **Onboarding flows** that help first-time users understand how the platform works.
- ➔ **Micro-lessons or tooltips** that offer optional learning moments during actions such as submitting statements.
- ➔ **Signposted AI-generated guidance**, ensuring transparency whenever automated content is used.
- ➔ **Administrative guidance** for government users, explaining workflow limits or required actions.

The learning layer strengthens user confidence, reduces confusion, and supports consistency across diverse participation processes

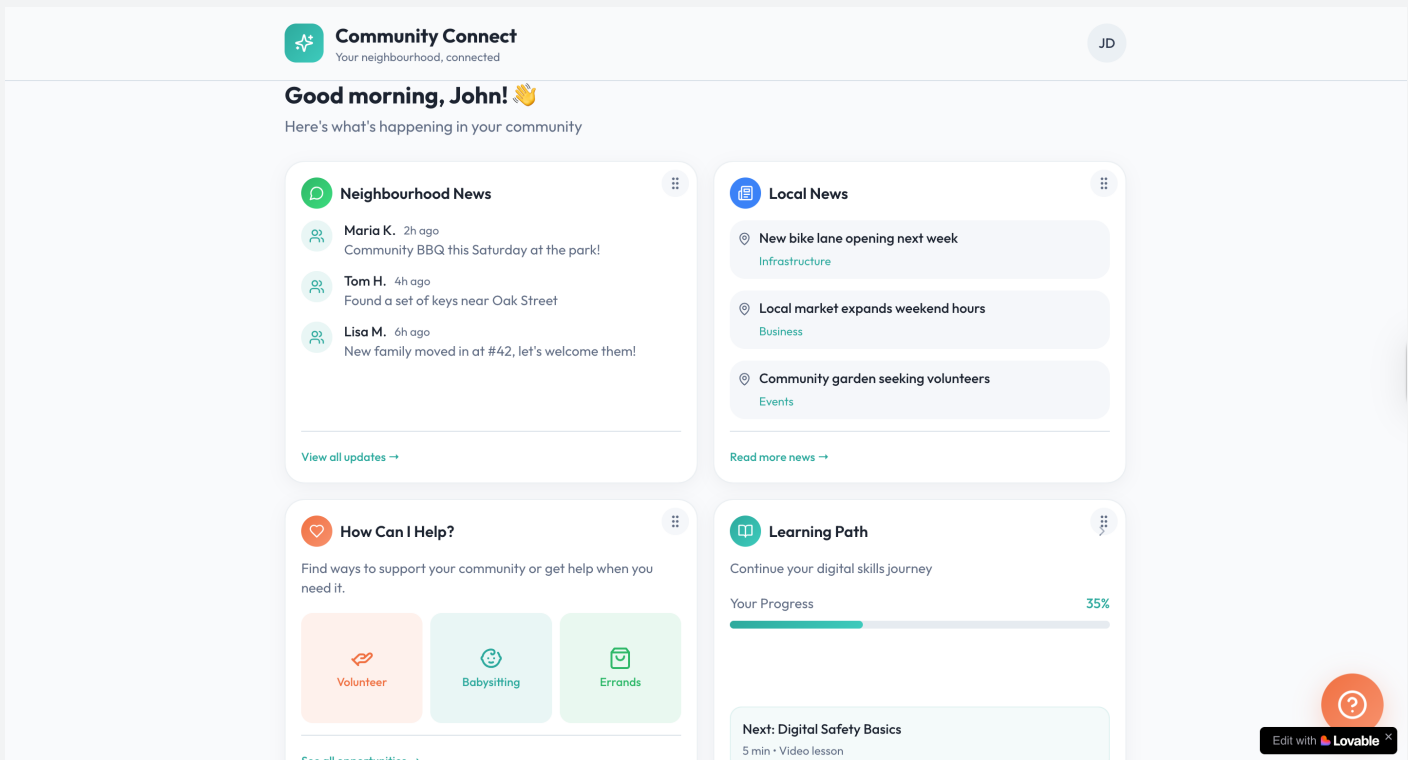


Figure 12 – Lovable application based on the group's output ([Access here](#))

Integration Across Features

A major outcome of LL4 is the recognition that these three components must function as a single system rather than independent features. Each influences the others: learning supports participation, hybrid events update the profile, and achievements reflect both digital and physical engagement.

Participants highlighted the following cross-feature requirements:

- **A coherent design language** across all features and screens.
- **Predictable navigation patterns**, enabling first-time users to act without prior training.
- **A single participation record** integrating all inputs from all channels.
- **Clear accountability loops**, where status updates and institutional responses remain visible and realistic.
- **Low administrative burden**, ensuring governments can manage the platform without extensive new procedures.

Together, these interdependencies shaped the shared vision for specification v0.1: a platform that is accessible, trustworthy, and administratively feasible, while supporting rich and varied forms of democratic engagement.

5. Conclusion

Living Lab 4 shifted INNOVADE from conceptual exploration toward concrete design. Through hands-on evaluation, structured co-creation, and early prototyping, participants translated earlier insights into a clear foundation for the Digital Democracy Application. The workshops showed that effective digital participation depends on clarity, trust, and workflows that are realistic for both citizens and municipalities.

A central outcome of LL4 was the recognition that the Participation Profile, Hybrid Participation, and the Learning and Guidance Layer are closely interconnected. Participants demonstrated that these features must work together as one coherent system. Learning needs to support participation, hybrid contributions must be recorded in a simple and consistent way, and achievements should recognise meaningful engagement without creating competition or additional administrative burden. The resulting specification v0.1 reflects this integrated view and outlines the essential features that should guide further development.

Specification v0.1 does not attempt to provide a complete technical blueprint. Instead, it offers a grounded starting point for WP4 as development moves into more detailed requirement building and iterative testing with municipalities. The insights gathered in LL4 ensure that the next phase of work begins with a shared understanding of what a practical, inclusive, and trustworthy participation tool should achieve.

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