

Developer eXperience (DevX)

Défi & GT @ GDR GPL (2026-)

Prof. Benoit Combemale
Inria & University of Rennes
DiverSE team

benoit.combemale@inria.fr
<http://combemale.fr>
@bcombemale

Prof. Benoit Combemale

Full Professor of Software Engineering @ University of Rennes
Research Director @ Inria

Regular Visiting Professor @ CSU and McGill
Co-head of the DiverSE team @ IRISA & Inria

Research interest in Software and Systems Engineering, incl.: Model-Driven Engineering, Software Language Engineering, Domain-Specific Languages, Software-Product Lines, Software Validation & Verification, Resilience Engineering, Scientific Computing, Sustainable Digitalization, ICT for Sustainability, Digital Twins.

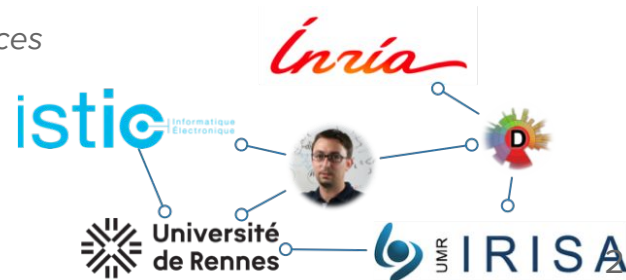
Editor-in-Chief of the Journal on Software and Systems Modeling (SoSyM), Springer Nature
Editor for the JOT (former Deputy Editor-in-Chief) and SQL Journals
Steering Committee member of the MODELS, EDTConf, SLE and ICT4S conferences

Chief Science Advisor at TwiinIT and Myrmix
Collaborations with Airbus, Safran, Thales, Orange, CEA, DGA, Obeo, Akka...

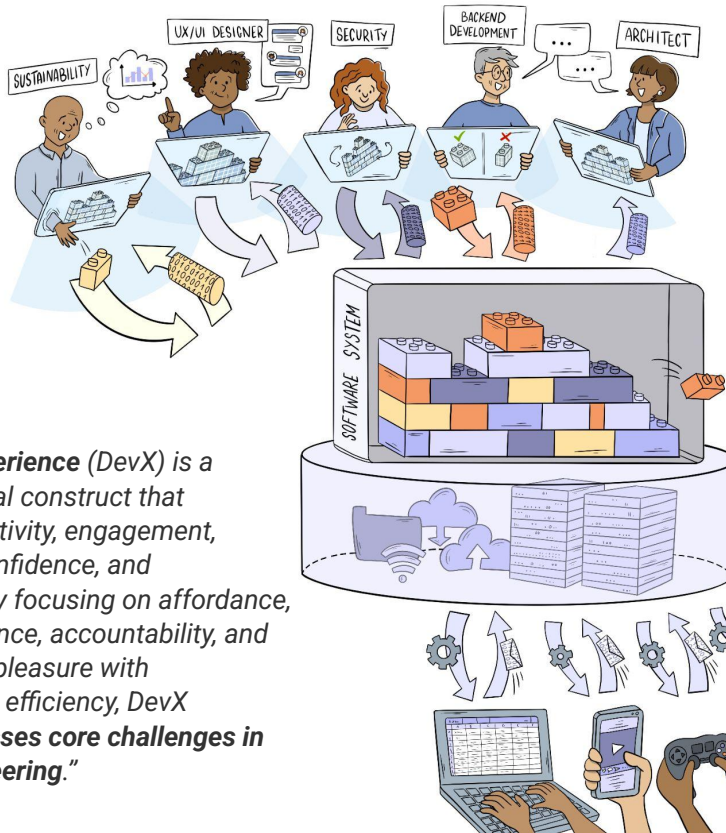
Working group and open-source project leader at the Eclipse Foundation



benoit.combemale@inria.fr
<http://combemale.fr>
[@bcombemale](#)



Context



“Developer eXperience (DevX) is a multidimensional construct that intertwines creativity, engagement, accessibility, confidence, and collaboration. By focusing on affordance, social translucence, accountability, and the interplay of pleasure with productivity and efficiency, DevX research addresses core challenges in software engineering.”

- Software Engineering must embrace a **new temporal adaptability** over a multi-dimensional space!
⇒ there is only one time in software engineering
- **Developers** involve software engineers, but also scientists, domain experts, and citizens
- Overwhelmed by **artefacts and tools**, overall hurting the anthropic principle

Some Observations

In 2025...

- Why do we invent input data for test cases while monitoring execution?
- To what extent do IDEs support the creative aspects of software development?
- To what extent do IDE features accommodate the diverse profiles of developers?
 - For example, what do software testing and debugging mean in the context of scientific computing?
- How does an IDE help identify a global optimum in the overall quality attributes of a software system, considering the diverse needs of all stakeholders involved?
- etc.

Main Challenges

Rationales and Objectives

- Fostering Creativity and Engagement
- Enhancing Accessibility and Confidence
- Prioritizing Social Translucence and Accountability
- Balancing Pleasure with Productivity and Efficiency
- Addressing Overwhelming Complexity and Artifact Management

Related Scientific Topics

- Program comprehension
- Programming interface (e.g., notebook)
- Programming style (e.g., live, exploratory, literate programming)
- Design and implementation of program representations and their means of interaction for end-users of all ages
- Design and implementation of visual programming environments
- Languages and their environments with mixed notations
- Abstraction engineering
- Continuous software engineering
- Methods to support working with abstractions, such as example-based programming, omniscient debugging, etc.
- Input and output devices for interacting with programming environments
- Infrastructures, meta-tools and framework for tool implementation/creation

A Research Statement for DevX

From the Sw Eng. point of view

A position paper available on ArXiv:

<http://arxiv.org/abs/2506.23715>



→ Feedback and comments highly welcome!

DevX@GDR_GPL: Évolution du GT Debugging

- Thèmes élargis
- Nouveau groupe de travail
(transfert de debugging@inria.fr vers devx@inria.fr)
 - ⇒ <https://sympa.inria.fr/sympa/info/devx>
- Nouveau défi

DevX@GDR_GPL: Activities

→ Collective vision on DevX

- Academic vision
- Industrial needs and challenges

→ Collaborations

- collaborative projects (ANR/EU), CIFRE, etc.
- multidisciplinary: in computer sciences (incl. HCI), and beyond (incl. SHS)

Open to joint activities with GDR IHM (e.g., workshops, etc.)

DevX@GDR_GPL: Animators



Benoit
Combemale



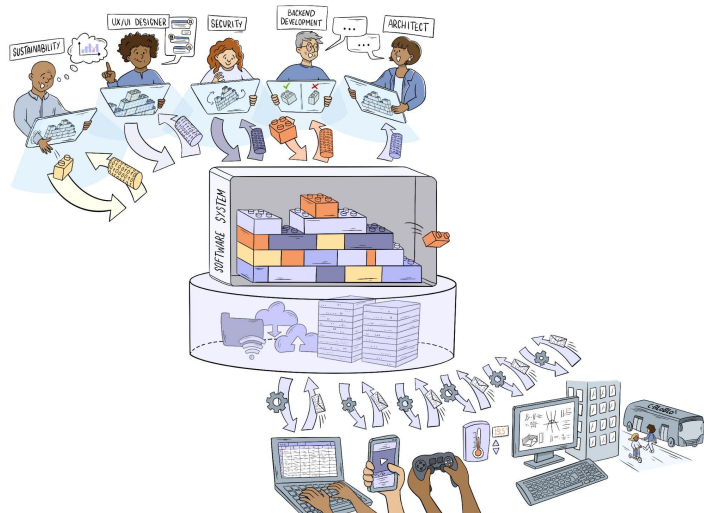
Valentin
Bourcier



Steven
Costiou

Developer eXperience (DevX)

Défi & GT @ GDR GPL (2026-)



<https://sympa.inria.fr/sympa/info/devx>

<http://arxiv.org/abs/2506.23715>

benoit.combemale@inria.fr