

Refactoring and Evaluation of an Interactive Web Portal for German Language Acquisition

Florian Buchacher, Josef Wachtler, **Martin Ebner**

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Slides available at <https://doi.org/0.3217/q4epa-dbh95>



Buchmacher F., Wachtler, J., Ebner, M. (2025)
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„Thinking about design is hard, but not thinking about it can be disastrous. “

(Caplan 2015)

Online: <http://www.goodreads.com/quotes/540494-thinking-about-design-is-hard-but-not-thinking-about-it>

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Motivation

- Increasing digitalization in education
- Need for tools to support German language learning in primary schools
- Original IDeRBlog showed promise but lacked mobile usability and modern UX standards

What is IDeRBlog?

- Educational blogging platform for German language lessons (former EU Erasmus project)
- Designed to improve spelling skills through:
 - Blogging activities
 - Intelligent feedback (via LanguageTool API and custom intelligent dictionary database)
 - Learning analytics for students and teachers

Einen Text schreiben

Hier kannst du deinen eigenen Text schreiben. Hast du ihn schon geplant? Wenn nein, notiere dir vielleicht ein paar Stichwörter auf einem Zettel, über was du schreiben magst.

Du bekommst nach Klick auf Korrigieren Rückmeldungen zu Fehlern in deinem Text und hast dann nochmal Zeit deinen Text durchzulesen und zu überarbeiten.

Danach kannst du den Text an deine Lehrperson schicken.



Überschrift

Schreib deine Überschrift hier...

Text

Schreib deinen Text hier...

Bilder hochladen

Darfst du das Bild verwenden? Bist du dir nicht sicher? Dann klicke [hier](#)!

Bilder per Drag-and-drop hinzufügen, oder [Dateien durchsuchen](#)

Unterstützte Dateiformate jpg und png

ABBRECHEN

JETZT KONTROLLIEREN

SPEICHERN

<https://iderblog.eu>

Limitations of the Original Platform

- Poor mobile responsiveness
- Cluttered layout, especially for young users
- Weak visual feedback mechanisms
- Outdated web technologies



Refactoring Goals

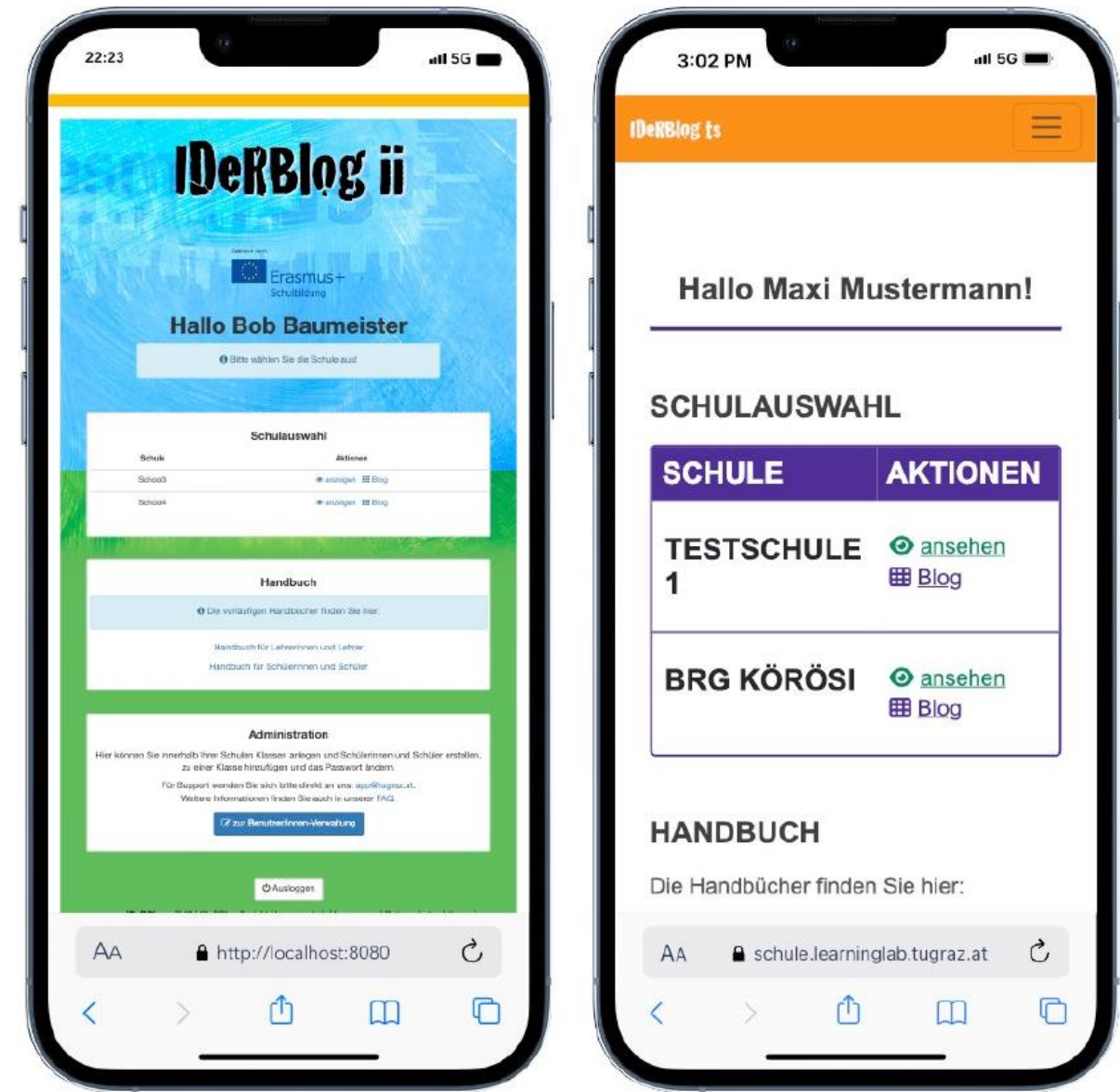
- Modernize the UI and improve UX
- Ensure full mobile compatibility
- Enhance feedback and learning analytics
- Support intuitive use by primary school students

Technology Stack

- Backend: Django (Python, MTV architecture)
- Frontend: Bootstrap (responsive layout), JavaScript
- Grammar Checking: LanguageTool API and custom intelligent dictionary database

UI/UX Improvements

- Before: Non-responsive, dense layout
- After: Streamlined, mobile-friendly, accessible interface
- Enhanced visual error feedback (highlighting + pop-ups)
- Simplified blog editor for ease of use



Evaluation Setup

- 2 primary school test classes (51 pupils)
- Duration: 2 weeks
- Students wrote posts, received feedback
- Teachers used analytics dashboards
- Feedback via questionnaires

Student Feedback

- 85%: Easier to navigate
- 80%: Visual feedback helped correct errors
- 75%: More motivated due to interactive elements
- Avg. satisfaction score: 6.92 / 10



Teacher Feedback

- Improved assessment workflow
- Efficient tracking of student progress
- Evaluation was easier with new UI
- Positive impact on lesson planning

Key Takeaways

- Major UI/UX improvements led to better student engagement
- Real-time feedback supports spelling skill development
- Teachers benefit from actionable learning analytics
- Refactoring aligned well with pedagogical goals

Future Directions

- Longer-term evaluations
- Adaptive learning based on error patterns
- Deeper integration with curriculum

Conclusion

- IDeRBlog demonstrates how thoughtful design can enhance digital learning tools
- Blogging, feedback, and analytics drive effective language learning
- A scalable model for language acquisition technology

Thank You! Questions?

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