



Hacker School gGmbH

#hacktheworldabetterplace

Every young person should have programmed once before deciding on a career.

70 employees

Sector: education

ORGANIZATION DESCRIPTION

The Hacker School is a non-profit organisation that aims to get young people excited about IT and teach them the future skills they need. It opens the door to the digital world for young people with programming courses and gives them the opportunity to help shape it themselves. In Germany, too few young people still get the opportunity to discover how much fun it is to program themselves. As a result, they often remain passive observers of digitalisation and miss the starting signal into the IT world and the professions of the 21st century.

ORGANIZATIONAL VISION

Hacker School sees digital education as a task for society as a whole. To solve this, it specifically links corporate volunteering with the digital learning needs of young people. To this end, it organises low-threshold courses in which young people aged 11 and up, even without prior knowledge, can take their first steps in programming with IT professionals from companies in small groups and learn through play. The low-threshold contact with future technologies gives participants initial access to key skills for the 21st century.

The vision of Hacker School is that every young person – regardless of gender or background – should get to know programming before deciding on a career. Fair educational opportunities, especially in the area of digital education, form the basis of a strong, modern society.

The OECD's 2030 Learning Compass, a dynamic framework for learning, distinguishes three types of 21st century skills:

- cognitive and metacognitive skills, such as critical thinking, creative thinking, learning to learn and self-regulation
- Social and emotional skills, such as empathy, self-efficacy, responsibility and cooperation
- Practical and physical skills, which also include the use of new information and communication technologies.

The Hacker School takes these three types into account when designing and implementing its programmes to teach today's youth these skills.

PROBLEM STATEMENT

Description of the problem and formulation of the question

User-friendly coding platform: Easy access for teachers and students

In today's educational landscape, learning programming skills is becoming increasingly important, both in face-to-face and distance learning. However, schools face the challenge of creating an accessible, flexible and user-friendly coding environment that allows students of all ages and backgrounds to get started with coding easily, not only for teachers but also for out-of-school educational institutions.

The coding environment should be suitable for both face-to-face and distance learning. This requires two different views: one for teachers that allows them to create classes, manage projects and monitor student progress; and one for students that allows them to work on projects and receive real-time feedback.

This application must be able to run on all common devices without the need for installation, in order to make access as low-threshold as possible. Particular attention is paid to inclusion: the environment should appeal to students of different abilities and backgrounds, some of whom may have little or no prior knowledge of programming. How can intuitive, easy-to-use tools and resources be designed to motivate students who might otherwise be excluded by traditional approaches?

Your task

- Ensure simplicity and accessibility to allow students to participate in class without registration or technical hurdles, and to relieve teachers of administrative work.
- Promote inclusion and diversity by making it usable by students with no prior knowledge or with special needs.
- Support both in-person and distance learning and enable teachers to effectively manage and interact with students.
- Offer motivation and interactivity to enable students to see their results directly and interact with their programme.
- Respect data protection and security by allowing students to participate anonymously while still being able to track their progress and participation.
- Support commonly used programming languages and libraries, such as JavaScript, HTML and Python, so that the application can be used flexibly.

How can such an application be developed that is both technically robust and meets ethical and pedagogical requirements? What functionalities and design principles are necessary to create a learning environment that is as inclusive and motivating as possible? And how can the system be designed so that teachers can efficiently integrate it into their lessons?



JOKER QUESTION

How can such a system be designed to ensure that extracurricular programs can support children and teenagers in learning to code?

OTHER

For example, existing guidelines, previous efforts, and strategies for responsible AI, digital ethics, or digital responsibility.

Impact report of the Hacker School:

<https://hacker-school.de/ueber-uns/wirkung/>

Our yourschool format in Video:

<https://youtu.be/y1CFQmFkODg?si=ETdWzxtsnHnKMJ1i>

Code of Conduct of the Hacker School:

<https://hacker-school.de/wp-content/uploads/2024/03/Code-of-Conduct.pdf>