



## **DigiEduHack Solution**

**Berlin - #SemesterHack 2.0 (in German & English)**

**Challenge: Berlin - #SemesterHack 2.0 (in German & English) Challenge 2020**

# **radixlibrary**

## **embrace lifelong learning**

Future of learning:

- We will learn what is presently on the agenda. It's great because learning for a immediate purpose gives a sense of success.
- We directly apply what we learn. That is fun! In this way we learn what is really relevant, immediately used it & it turns into experience.

## **Team: Team Lifelong learning**

### **Team members**

Camillo Rohe, Victor Rorato

### **Members roles and background**

Camillo studied economics, information systems and data science in the Netherlands, Cologne and Rome. He likes to be optimistic about the future and sees technology as the key enabler to make it a bright one. He likes to get in touch with international people and listens to their ideas.

Victor studies public policies in Berlin at Hertie University. He is originally from Brazil.

### **Contact details**

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# Solution Details

## Solution description

We want to facilitate the integration of existing online learning resources. The platform enables users to navigate more easily through the sometimes confusing range of offers on different platforms. The actual structure and layout of the courses remain untouched. In the long term, we want to integrate our own educational offers.

With radixlibrary, we take up the idea of lifelong learning and present a community-driven platform to support learners with guidance on their learning experience. The platform provides its users with links to selected web content to enable them to gain a structured introduction to various fields of knowledge. Learners find standardized learning paths to various knowledge areas. Within the learning paths curated content is embedded, which allows a comprehensive and at the same time effective and time-saving coverage of topics. Therefore, radixlibrary ultimately guarantees successful knowledge transfer tailored to the lifelong learning model.

For illustration: the learning path of Machine Learning integrates the learning paths Python or Linear Algebra and can be specialized into areas such as Reinforcement, Supervised and Unsupervised Learning. Within a learning path, free web content is embedded. These content resources provide important information and teach elementary concepts to the learner and let the learner apply what has been learned. The difficulty increases each time a learner completes a module. A learner first grasps essential concepts and techniques in levels one and two and captures advanced concepts in levels three and four.

- Product
  - Web-platform
  - Library of topics
    - Structured
    - Integrated
  - Learning paths vary by
    - Level
    - Cost
  - Educational content varies by
    - Purpose (Information education, application, exchange, entertainment)
    - Medium (Platform, blog, online course, software, YouTube video / channel, podcast, many more)
    - Level (1 - 4)
- Technology
  - Web-Application
  - Database
    - Resources
    - Learning paths
    - Users
  - Automatic content recognition
- Platform design
  - General
    - Easy findability of learning resources and easy transitions between platforms
    - Low barriers to share for new content
    - Common standards for similar user experiences

- Switching between platform offers in terms of single-sign-on solutions
- Curation (“Good platforms need good content.”)
  - Selected experts for topics who
    - curate existing learning resources intelligently
    - manage learning paths
- Gamification
  - Progress bars, reminders, batches etc.
  - Tombola for free online courses

How could the solution be used to enhance digital education in your challenge area?

Universities can take advantage of the learning path format from radixlibrary to prepare students for their program, augment programs, and present outlooks for further studies. Students will use radixlibrary as a sharing medium of high-quality educational content.

How could the success of the solution be measured?

- Engagement:
  - Number of users
  - Number of learning paths
- Value:
  - Number of completed content
- Synergy effects:
  - Number of completed learning paths

## **Solution context**

We found out that German universities are hardly present with their own offerings on international online-based educational platforms. The question is how and at what cost a cross-university platform for digitally supported teaching in Germany could be effectively realized.

- Lifelong learning:

Lifelong learning is about people immersing themselves in various fields of knowledge independently and regularly throughout their entire life span.

It is becoming the mantra of a changing society, characterized by continuous learning for diverse educational and professional careers.

According to the Hasso Plattner Institute, the EU is aiming for an average of at least 15 percent of adults to participate in lifelong learning by 2020. In 2016, the participation rate in adult education in Germany was only 8.2 percent (EU 11.1%).

- Benefits of e-learning:

The digital learning offer is becoming more diverse and larger by every minute and is increasingly proving to be a motor of lifelong learning.

Digital learning platforms attract a growing number of users who want to learn by using the location-independent, flexible and innovative learning offers on the platforms.

In times of a corona pandemic, high-quality educational content on the Internet is more valuable

than ever.

Universities can position themselves strategically in the context of lifelong learning on innovative education platforms. Concrete benefits arise mainly from the potential to scale up offerings. A large number of learners can be reached at low cost, which seems particularly attractive for universities.

## **Solution target group**

A typical user can be characterized as a student, "on-the-job" learner or as a career changer. Because of constantly changing market conditions or technologies people need to acquire new fields of knowledge and competencies. Consequently, lifelong learning applies to anyone and the platform addresses anyone. But for now we focus on students whose budgets are often limited. Our target group poses similar questions like the following:

- "Which concepts are relevant?"
- "Do I have to pay for a good online course?"
- Where can I find suitable continuing education courses - on individual platforms, via internet search or in course databases?
- If I successfully complete a course, how do I get to the best subsequent course?
- What is the best way to make the acquired skills digitally visible, especially to potential employers?

From the point of view of lifelong learners and universities interested in digital qualification opportunities for their students, what counts is not so much the portfolio of offers or the user-friendliness of individual platforms, but rather how the diversity of resources can be used to create the most effective synergies. On radixlibrary learners can easily find orientation for medium and long-term individual education goals.

Another user group of the platform are the so-called curators, who are experts on a specific field. These can be university functionaries but also private persons who can market themselves on the platform through a stronger brand presence.

radixlibrary also facilitates content providers to position themselves on the platform.

How will the solution provide benefits to the challenge owner?

Not only the challenge owner but everyone can share their domain knowledge by creating learning paths or valuable resources. On the other side everyone benefits from learning paths created by others who let you quickly grasp fields or skills of our interest.

## **Solution impact**

The platform is able to support universities and their students. As a consequence, the learning could shift to e-learning which better takes care of the individual and university take more the role of a enabler, motivator, mentor and coach.

How could the success of the solution be measured?

- Engagement:
  - Number of students
  - Number of covered study programs

- Network:
  - Number of universities involved

## **Solution tweet text**

Lifelong learning sounds like a threat. We at radixlibrary claim that we all should embrace lifelong learning. It's wonderful because learning for a present purpose immediately gives a sense of success. We learn what is really relevant. That is fun!

## **Solution innovativeness**

Does the solution take new (thought) paths, are the approaches surprising? Is the presentation creative?

radixlibrary is the missing link of an increasing number of educational web contents and a deepening of specialization. The platform makes the individual, fragmented educational resources easier to find and intelligently links them together enabling the learner to grasp a topic in a more targeted manner.

Degreeed is similar but it is a close system.

## **Solution transferability**

Can the solution be transferred to different institutions/universities?

Even with limited resources standardised and partly also personalised offers can generate large numbers of learners, so that university-related platforms have various possibilities for scaling up teaching materials, especially with regard to lifelong learning.

We want to kickstart radixlibrary at one university but soon increase the involvement of other universities. With the integration of learning paths into existing study programs to augment those programs we can transfer the solution to various institutions and universities.

To think further, radixlibrary can facilitate the switching between programs. As the EU is envisioning a European study program, the

radixlibrary can cover any field: e.g. learning path for refugees in Germany

- ● At which university / universities should the further development of the project idea take place?

Hertie School of Governance.

- ● What was the issue you worked on?
- The unification of data about lifelong learning platforms - and how to access this data in an organized way.
- ● What is your approach/solution that you have developed to address this issue? Who is the target group?

The creation of a channel initially materialized by a website holding information about knowledge paths organized by curators. The target group is represented by every lifelong learned; we believe that the highest proportion of users, however, will consist of university students.

- ● How did you come to the presented solution or what was the process between challenge and solution? What were the challenges in the solution of your issue and how did you deal with them?

We knew that our working focus would be lifelong learning and it came to our mind that the existing platforms do not encompass all the existing knowledge individually, but rather complement themselves. We decided to build a bridge between those platforms - and it is a very challenging idea.

- What are the necessary next steps for putting your idea into practice? And what could a possible timetable until the end of March 2021 for implementation look like?

We may implement a pilot and take any necessary improvements needed through the next months. By the end of this semester, the first results will be known and during the winter break tailored features and new curators may give Radix a more robust performance.

By the university year starting in March 2021, the platform may receive a higher number of users from other universities - mainly from Berlin - and therefore start an escalating process proportional to the number of curators and the success of existing learning paths.

- What are the financial needs of your solution and how do you plan to meet them?

It is necessary, besides, the maintenance of the team, a relevant number of qualified curators and with the increasing volume of information, the competent growth of a data structure (whose costs increase as the project increases). The resources may come through government, universities or through events such as this one.

## **Solution sustainability**

What is your plan for the implementation of the solution, in the mid and long terms?

In the future:

- Content
  - cover more topics & skills
  - create content on-site
- Network
  - Include more universities
  - Include more curators
- Value
  - offer certifications (taking inspiration from KIRON)
- Technology
  - UX
    - Frontend (React)
    - Mobile app (React native)
  - Infrastructure
    - Cloud technologies

The platform has some financial needs in the future. The editorial work by curators has to be paid and the technological developments are costly. However, the team has some valuable in-house skills to cover a substantial part of future work.

## **Solution team work**

We worked perfectly as a team. Our skills are complementary and we may surely continue working as a team in the future.

Stating it in a clearer form, Camillo's predominant abilities are related to data science and the technical developments for the project, while Victor's abilities are linked to content-editing, communication and design thinking. Thanks to this synergy and the fruitful ground of this hackathon, our presented prototype and the additional materials promise something successful equip universities with the right technology for lifelong learning.

As a bottom line, we truly believe in the idea's growth potential as well as in your capacity to be the ones who will lead it.