



DigiEduHack Solution
Luxembourg - DigiEduHack
Luxembourg
Challenge: Best mobile STEAM
workshop

MakerBuzz - a mobile makerspace for Luxembourg (and beyond)

Creating the buzz with a mobile makerspace to STEAM education

The MakerBuzz is the first mobile makerspace for Luxembourg. The projected workshops shall motivate children and young people to favor STEAM branches when deciding for further studies, or, if they choose other studies, at least equip them with a basic understanding of scientific methodologies.

Team: make it buzz

Team members

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Members roles and background

The background of our team members is very broad. We are all having a wide area of experience:

- Engineer, teacher, science communicator, science coach
- Design thinker
- ICT professional, makerspace coordinator
- Media pedagogue, ICT awareness coach
- Engineer, Science communicator, science museum coordinator
- Engineer, Science communicator
- Young student and maker
- Engineer, ICT professional, formal education project developer
- Engineer, consultant

- Engineer, telecom professional
- Social scientist, non-formal education project developer

Contact details

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Solution Details

Solution description

The proposed MakerBuzz will allow us to bring STEAM workshops closer to young people, both in formal and in non-formal education. The target group can experience and learn about science “close to their natural environment”, means in their school or their day care structure.

The workshops that we propose are actually mostly ordinary workshops that are already done in many places around the world. The innovation that the MakerBuzz will use to bring the existing workshops to another level: The workshops will be arranged in such way that they represent challenges for the kids, that they have to reflect what they are doing, about what they are assembling, how they can improve it in iterative loops and how to set up a documentation that follows scientific principles.

With our mobile makerspace, we aim at creating the buzz, in other words the noise, the show, the “wow effect” that makes a young audience focused on the workshop and on the science behind. Each workshop aims at the creation of a small portable item (e.g. LED torch, beetle bot,...) that the kids can take home at the end of the workshop. This allows them to have a “reminder” they have personal emotions associated with, at their home. To remind them about the science that was revealed through the workshop, but also to make their environment (parents, siblings, peers) informed as well about what was learned.

Solution context

We experienced that even in a country with short distances from rural to urban areas, where science exhibitions are within a (max.) 1h range, many kids do not benefit from such encounters with STEAM content. The mobile makerspace will bring science to the kids.

We furthermore know that only a low percentage of youngster pick a STEAM branch when looking for studies. The MakerBuzz and the workshops operated with it shall show those kids who are interested in science that they are on the right track. And the MakerBuzz might also motivate more children and among them more girls to consider learning more about STEAM.

Solution target group

The MakerBuzz and the workshops target children from 6-12 years as well as youngsters aged 13-20 years. Through the approach (personal experience while personally crafting the give-away; the give-away as vehicle for reaching out to more people), the target group is enlarged by the parents, the siblings and the peers.

We have experienced that personally crafted items are much less likely to be thrown away after a workshop, but rather are kept as personal souvenir and as a sign of a personal achievement they are particularly proud about.

We also noticed that in many cases, it is not just possible, but even more understandable for an audience to have tangible outcomes of workshops. "Tangible" here means physical outcomes, which do have an application of digital elements included, instead of purely digital outcomes.

Solution impact

The impact of the proposed solution is already noticeable now. The first short description of the MakerBuzz already now was triggering the first workshop orders.

The measurement of the success will be measured by the number of workshops booked and by the number of "science give-aways" assembled and researched with by the kids themselves.

Solution tweet text

Creating the buzz with a mobile makerspace to boost the promotion of STEAM in Luxembourg and its neighboring regions.

Solution innovativeness

The MakerBuzz certainly is not the first mobile makerspace. It's uniqueness resides in the fact that we put a particular emphasis on the quality of the workshops and on the creation of personalized items to take home, linking the science learned during the workshop with an item that is liked and kept in the personal environment.

The other innovative aspect is that we think that it will be beneficial to not just operate the MakerBuzz for children and youth. We also want to conceive it as a platform for professional coachings and life-long learning. The experience gained in this context will help to further develop the workshops targeting children.

Solution transferability

The MakerBuzz and its workshops can be easily used in many contexts. Besides being suitable for children and youngsters, we also feel ready to deploy the workshops for adults. For this age group, use cases are manifold:

- Workshops can be used to offer life-long upskilling experiences for adults trying to re-enter or to re-orient towards a professional career.
- Workshops can be used in a professional setting to showcase businesses how to upgrade their workflows or to facilitate the migration towards new business fields. Our MakerBuzz can offer first experiences with design thinking or prototyping for instance. Companies can then use these experiences in their decision taking.
- Workshops can further be used for coaching teams in their collaboration schemes and in their team spirit. Besides the pure experience of scientific thinking, our workshops also help for training collaboration schemes, for analyzing team dynamics and for improving inter-personal communication and collaboration skills.

Solution sustainability

The MakerBuzz and the workshops that are offered with it is ready for further deployment. The timeline of the MakerBuzz is to be equipped with a basic makerspace equipment within 2 months. Then the equipment shall be completed step-by-step, based on the day-to-day experience while already deploying workshops in the field.

In the mid-term we are planning to have a team of 5-6 workshop leaders able to offer workshops on an almost daily basis.

In the long-term the MakerBuzz shall serve as hands-on training platform for multipliers. Last but not least, we are looking forward to network with similar mobile maker vans or busses that are operational in other countries and continents: to share experiences or even to develop common standards and practices.

Solution team work

The team that gathered for the DigiEduHack 2019 was composed of experienced teachers, scientists, design thinkers and ICT professionals. This 2019 hackathon allowed us to have a first exchange on our various backgrounds and to share our common vision on how a “mobile experience center” should be operated. The Luxembourg edition was a short hackathon (slightly over 2 hours). So considering the short amount of time for reflection, idea sharing and prototyping, we were already very satisfying about the results.

Overall, there was a clear thirst for more in the air when we reached the end of the hackathon. Now that the first edition was closed, it became obvious that such a hackathon should be repeated. And that, based on the overall interest in collaborating, it makes sense to plan a more extended hackathon next time.

For this first Luxembourg participation in the DigiEduHack, participants were recruited on invitation, we are confident that for a next edition, we might even gather more participants with an open call for participants.