CODE FOR KAMENICA

PROJECT GUIDE

WHY CODING AT EARLY STAGES OF
EDUCATION IS IMPORTANT AND HOW
THE 'CODE 4 KAMENICA' PROJECT
ADDRESSED THIS?

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ABOUT OPEN DATA KOSOVO

Open Data Kosovo is a nonprofit organization that believes in using civic-tech and digital humanitarianism to open government. This initiative promotes the idea that governance data should be made freely available for everyone to use and republished as they wish, without restrictions from copyright, patents or other mechanisms of control.

Open Data Kosovo contributes to the development of a local and vibrant tech scene. By working as a lab that provides mentorship and training programs, we engage local software developers to help build a community around the use of nascent and enabling technologies to develop apps for social good with Kosovo's open data. We invite digital actors, local and abroad, to contact us and become active partners of Open Data Kosovo to successfully develop its own open data platform all while building a vibrant tech scene. Open Data Kosovo's main programs are:

OPEN DATA

Open Data Kosovo is committed to increasing knowledge and usage of open data to support data-driven decision-making, policy-making, and process optimizations in day-to-day strategies of public institutions.

DIGITAL TRANSFORMATION

Open Data Kosovo develops digital solutions for local and international partners, ranging from NGO, public, and private sector aiming to increase efficiency.

CAPACITY BUILDING

Open Data Kosovo has trained more than 3000 tech and open data enthusiasts coming from different sectors and guided them to better skills development.

COMMUNITY

Open Data Kosovo shares its office space with individuals and initiatives who are as excited as us about the development of the tech scene and digital transformation in Kosovo and worldwide.

INTRODUCTION TO CODE 4 KAMENICA

'Code4Kamenica' represents an innovative and responsive outlet for Kamenica, specifically, the youth at early stages of education. The **overall goal** is for these youth to gain valuable skills in the information and communications technology (ICT) field through informal education methods and a hands-on approach, which in turn contributes to fostering active citizenship through innovative technologies to be developed in cooperation with public institutions, schools and other relevant stakeholders. Open Data Kosovo recognized the need for an ICT-educated youth, which led to the development of projects such as 'Code4Kamenica' to tackle the lack of provision of coding classes to youth. The implementation of the 'Code4Kamenica' project is as follows:

1. CLOSE COLLABORATION WITH THE MUNICIPALITY OF KAMENICA

Open Data Kosovo continuously collaborated with the Municipality of Kamenica officials in order to deliver timely and qualitative results. The Municipality of Kamenica served as a great guide into how to target the schools and students which needed the project the most.

2. DELIVERING CODING CLASSES

Open Data Kosovo, in collaboration with the Municipality of Kamenica, identified two locations where the coding classes were held: Kamenica and Roganë (village in Kamenica). ODK chose two locations in order to include youth from different parts of Kamenica. Two trainers with a background in ICT were hired to teach the youth through an educational course in basic coding skills. The courses lasted for three weeks, split into two hour classes three times per week. 41 youth aged between 13 to 18 years participated in the coding classes.

3. PROBLEM-SOLVING THROUGH CODING

ODK organized the 'Code4Kamenica Online Hackathon' where the youth were matched with professional mentors to develop websites for their schools. This served as a great opportunity for the youth to apply their skills in real-life challenges.

4. DEVELOPING DIGITAL SOLUTIONS TO FOSTER ACTIVE CITIZENSHIP

The youth participants, along with the ODK Team expanded the Eduperformanca Platform and developed websites for 'Ismail Qemali' Gymnasium, Professional High School 'Andrea Durrsaku,' and 'Metush Krasniqi' Middle and Primary School. Such digital solutions were inspired and based upon the work done during the community event.

ABOUT THE DONOR

The 'Code4Kamenica' Project is implemented as part of the '***The Regional Programme on Local Democracy in the Western Balkans (ReLOaD),'*** which is financed by the ***European Union (EU)*** and implemented by the ***United Nations Development Programme (UNDP).*** As a regional initiative, ReLOaD is implemented in the Western Balkans: Albania, Bosnia and Herzegovina, Kosovo, the former Yugoslav Republic of Macedonia, Montenegro, and Serbia.

The overall objective of ReLOaD is to strengthen participatory democracies and the EU integration process in the Western Balkans by empowering civil society to actively take part in decision making and by stimulating an enabling legal and financial environment for civil society. Moreover, the specific objective of ReLOaD is to strengthen partnerships between local governments and civil society in the Western Balkans by scaling-up a successful model of transparent and project-based funding of CSOs from local government budgets towards greater civic engagement in decision-making and improvement of local service delivery.

DESCRIPTION OF ACTORS

The main actors which were crucial to the implementation of the 'Code4Kamenica' project are as follows:

MUNICIPALITY OF KAMENICA

The Municipality of Kamenica was crucial for the project. Working closely with the local government allowed us to more efficiently identify the communities which needed the most assistance and evaluate existing infrastructure for coding classes delivery. They also served as a bridge of communication between Open Data Kosovo and the schools.

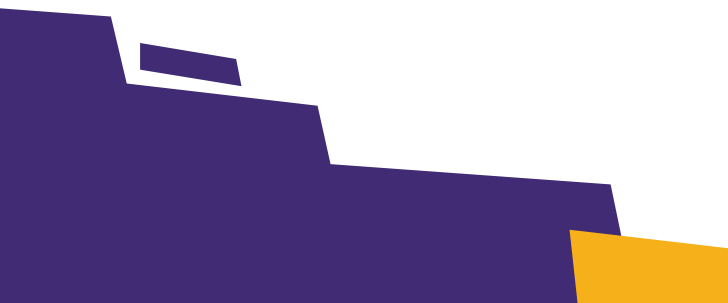## 'ISMAIL QEMALI' GYMNASIUM AND 'METUSH KRASNIQI' PRIMARY AND MIDDLE SCHOOL

The coding classes were held in these schools. Their inclusion was very important in terms of delivering the coding classes by providing the necessary infrastructure. 10 computers were bought and delivered to the 'Metush Krasniqi' Middle School as part of the project.

MENTORS

The mentors with a background in the ICT sector and Visual Design played a crucial role in terms of serving as a bridge between ODK and the youth. The mentors made sure that the youth learned all the necessary skills which are highly important for them; which would be applied in later stages of the project.

YOUNG CODERS

The young coders represent the crucial part of this project. Namely, the aim was to expose the youth of Kamenica to the ICT world and inspire them to explore this world further. The youth participated in the training and the online hackathon.

WHY LEARNING TO CODE AT EARLY STAGES OF EDUCATION IS IMPORTANT?

Coding is not a skill with which a person is born with, however, it is a skill that can be mastered with just the right patience and curiosity, especially if it happens during the very early stages of education. While learning how to code doesn't necessarily mean that everyone should become a professional coder. Nevertheless, learning how to code helps us understand the technology that surrounds us. As well as, the logic and the problem-solving behind the code can serve as a great way to further enhance such skills[1].

So, should you learn how to code? The answer is YES, simply because coding is fun, satisfying, it improves your creativity and is one of the fields with the highest demand nowadays. When Steve Jobs was asked the same question he simply responded with "Everyone should learn how to code, because it teaches you how to think!" [2]

Coding as it is said by some, is the *"new literacy"*[3] and should be integrated at early stages of education because of the following reasons:

1. Coding will help students acquire vocational skills that are in demand in today's job market.
2. Coding helps develop important logic and problem-solving skills.
3. Understanding coding helps students better understand the nature of the world around them.
4. Teaching students to code can serve as a gateway to subsequent study of STEM topics

1   Bradford, L. (2016, June 20). Why Every Millennial Should Learn Some Code. Retrieved June 22, 2020, from https://www.forbes.com/sites/laurencebradford/2016/06/20/why-every-millennial-should-learn-some-code/
2   Code.org. (2013, October 22). Steve Jobs on Computer Science [Video file]. Retrieved June 18, 2020, from https://www.youtube.com/watch?v=IY7EsTnUSxY
3   Trucano, M. (2015, December 8). Learning to code vs. coding to learn. Retrieved June 18, 2020, from https://blogs.worldbank.org/edutech/learning-code-vs-coding-learn

HOW TO DELIVER CODING CLASSES?

Delivering coding classes should be combined with the practicality and logical thinking that coding embodies. Introducing the young coders to technologies that are being highly-used and giving them insights on why these technologies are used is crucial. To begin with, the concepts and technologies that were taught during the coding classes are as follows:

◆ PLANNING & IMPLEMENTATION

Coding is wholly-based on the planning and implementation approach decided by the team before starting to even write a line of code. With this in mind, the young coders were introduced to the different stages of planning which encompass: analysis of task, selection of objectives, management method (e.g. Agile, Waterfall etc.), hosting etc.

◀ TECHNOLOGIES TAUGHT

The young coders got to learn the basics of front-end programming languages such as HTML, CSS, Javascript, along with Bootstrap and jQuery. In addition to this, the young coders were introduced to Git and GitHub as great tools to utilize during the software development process. Whereas, in regards to back-end technologies the youth were introduced to PHP and MySQL. The aim behind touching up on all of these elements was to introduce the youth to most of the facets of programming and serve as a starting point in their coding journey.

◆ PRACTICAL APPROACH OF CODING

During the 18-hour training as well as during the Code4Kamenica Online Hackathon, the young coders got to work on their own projects, thus directly applying the skills that they learned. This is especially important since through such practice the youth can see the potential that they have and feel more motivated to pursue such a field.

◀ INITIATION OF YOUNG CODERS COMMUNITY

Working with the youth of Kamenica who previously had little knowledge of coding showed the great potential that such youth has, in addition to the vast enthusiasm they showed during such a process. Thus, the initiation of a young coders community fosters the further development of such skills.

PROBLEM-SOLVING THROUGH CODING AND MENTORSHIP FOR KAMENICA

 The design of the Code4Kamenica Project was fundamentally based on fostering the development of coding skills of youth at the primary and secondary level of education in Kamenica, and providing them with opportunities to apply their skills for the benefit of the community.

 With this in mind, ODK implemented the Code4Kamenica Online Hackathon on 12, 13 and 14 June 2020 which gathered the Code4Kamenica coding classes participants and professional mentors to work on a challenge: Develop a website for their school. The youth was divided in 4 groups and each group was matched with two mentors who assisted them on the challenge. There were three prizes as follows: First Place 1: 1600 EUR, Second Place 2: 1250 EUR, and Third Place 3: 1100 EUR. In the first place, were Group 3 and Group 4 which developed a website for 'Ismail Qemali' Gymnasium; In the second place, Group 1 which developed a website for 'Metush Krasniqi' Primary and Middle School; and in the third place, Group 2 which developed a website for 'Andrea Durrsaku' Professional High School.

However, these amounts were used to invest back in Kamenica based on the needs youth recognized to be missing as follows:

Group 1 composed of Fjolla Kryeziu, Sara Kryeziu, Isak Rexha, and Dafina Keqmezi decided to spend their prize to buy computers and laptops for the following schools: 'Ismail Qemali' Gymnasium, 'Metush Krasniqi' Primary and Middle School, and 'Andrea Durrsaku' Professional High School.

Group 2 composed of Endrin Berisha, Lorika Hotlani, Aurela Latifaj, Bledian Kryeziu, and Mefail Kryeziu, decided to spend their prize to buy a projector, a laptop, and white boards for 'Andrea Durrsaku' Professional High School.
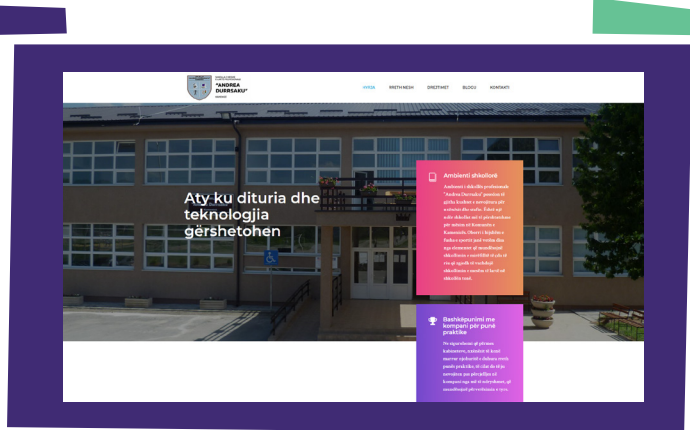
Group 3 and 4 composed of Ardit Zubaku, Fat Sijarina, Erlind Hashani, Leona Hashani, Elon Demi, Ardit Maliqi, and Dafina Krivaqa decided to spend their prize to buy technological supplies for schools in Kamenica.
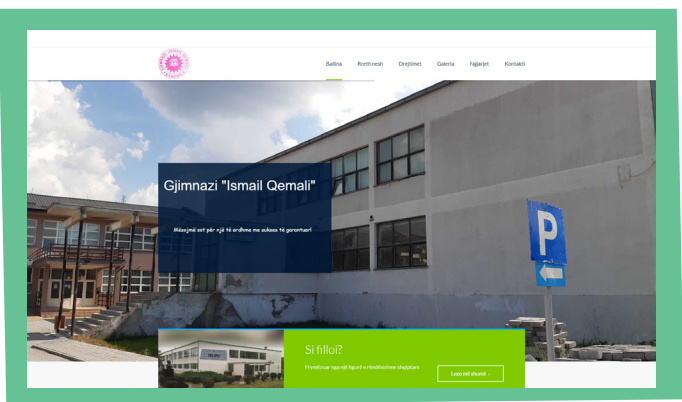

Group 3 and Group 4 which were identified as the winners of the challenge got to work closely with a professional mentor for 2 weeks and fully developed the website for 'Ismail Qemali' Gymnasium which can be accessed here. Whereas, the websites developed by Group 1 and Group 2 were published as the versions developed initially during the Code4Kamenica Online Hackathon.

https://www.shmlp-andreadurrsaku-kamenice.net

https://www.gjimnazi-ismailqemali-kamenice.net

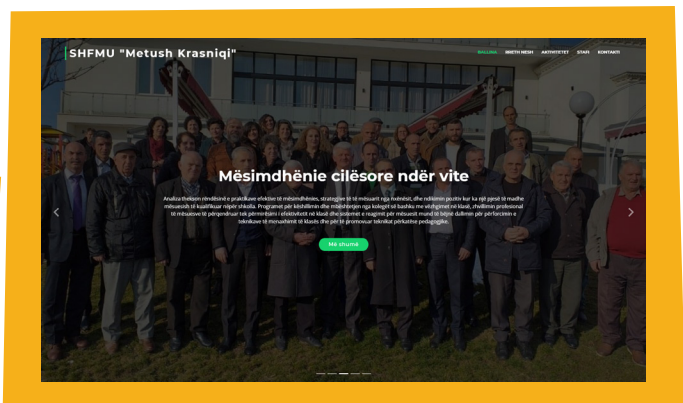https://www.shfmu-metushkrasniqi-rogane.net

YOUTH-DRIVEN DIGITAL SOLUTIONS FOR KAMENICA

ODK's work is strongly interlinked with equipping youth with market-demanded skills and instilling in them the sense of giving back to the community with the same set of skills. With this in mind, ODK works closely with public institutions in Kosovo and aiding their digital transformation. During the 'Code4Kamenica' Project, ODK worked on the Kamenica EduPerformanca Platform[4] by promoting the platform and populating it with data. Thus, such action aided in understanding the students' perception in regards to the education they are receiving. As such, including youth in further advancing digital solutions is crucial towards encouraging active citizenship amongst a group which possess great potential.

ODK assessed that it is highly important to gather such data since especially at the time of the implementation of the Code4Kamenica project, the COVID-19 pandemic made schools make the transition to online learning. As such, students' evaluation of the learning process serves as a great measurement of the effectiveness of distance learning.

Furthermore, in consultation with the Directorate of Education at the Municipality of Kamenica, the youth participating in the Code4Kamenica Online Hackathon developed websites for their own schools. Such intervention was made to encourage youth to use their skills to benefit their community; as well as work on a project that is close to them; as described in the previous section.

In other words, youth-driven digital solutions serve as a great reminder to the public in terms of the great potential they have. As well as it serves as evidence that with the right tools and methods, youth are willing to learn and explore various career paths.

4   Access platform here: http://kamenica.eduperformanca.org/

TESTIMONIALS FROM PARTICIPANTS AND MENTORS

AURELA LATIFAJ (17) FROM 'ISMAIL QEMALI' GYMNASIUM, KAMENICË (PARTICIPANT)

Code4Kamenica was an incredible and unforgettable experience! The three week long training about coding has helped and motivated me a lot! The training has had a key role in encouraging me to continue studies in coding. Through this experience, I got to witness how motivated the youth of Kamenica are to learn more about coding and the development of digital solutions.

ERLIND HASHANI (18) FROM 'ISMAIL QEMALI' GYMNASIUM, KAMENICË (PARTICIPANT)

Participating in the training organized by ODK was very beneficial for me. To begin with, the two trainers were very hard-working and helped us develop our web development skills. Additionally, during the 'Code4Kamenica Online Hackathon' where we got work in groups on the challenge definitely helped develop my social skills. Also, getting to know new people and the group work helped me develop my coding skills. I am thankful to ODK for organizing this training.

ERËZË AHMETGJEKAJ, CODE4KAMENICA ONLINE HACKATHON MENTOR

Being a mentor for the Code4Kamenica Online Hackathon has been one of the best experiences I have had lately. Working as a mentor with these young tech enthusiasts has always motivated me to work on my professional development since we receive more from the participants that we give. The youth that I mentored were highly-focused on their project during these three days filled with knowledge, laughter, music and everything else! I believe that such projects as Code4Kamenica are an example how Kosovo youth can learn and express themselves in creative ways.

ARDIT ZUBAKU (17) FROM "ISMAIL QEMALI" GYMNASIUM, KAMENICË (PARTICIPANT)

As a young person, I aim to study and work in ICT industry in the future. ODK has been an amazing starting point. Besides the knowledge that I have gained, it was a great feeling to make new friends and share ideas. I hope ODK continues implementing such projects in developing youth such as us. It was a pleasure to take part in this project.

PAULINA BEHLULI, CODE4KAMENICA ONLINE HACKATHON MENTOR

Code4Kamenica Project gave me hope for the future of Kamenica and Kosovo in general. The ambition, enthusiasm, and hard work of Kamenica youth is something to be proud of and admired.

FAT SIJARINA (18) FROM "ISMAIL QEMALI' GYMNASIUM, KAMENICË (PARTICIPANT)

I always want to keep up with the latest trends in the tech world, coding specifically, being part of this project has been beneficial for me. During this training I was lucky to make new friends and gain experience and knowledge. I can't wait to take part in similar projects because I am very satisfied from this project.

SELAMI KLAIQI, TRAINER AND MENTOR IN THE CODE4KAMENICA PROJECT

I believe that the Code4Kamenica project is very important for the youth in Kamenica, as well as has impacted positively the development of critical thinking and increase of interest in the programming field. I believe that the Code4Kamenica participants will be an important asset to the Municipality of Kamenica.

ARDIT MALIQI (16) FROM "ISMAIL QEMALI' GYMNASIUM, KAMENICË (PARTICIPANT)

During Code4Kamenica, we learned a lot from our mentors and trainers, we have shared ideas and experience with one-another. Code4Kamenica is an unforgettable experience for me which I think in the future will serve us in everyday and professional life. During the 'Code4Kamenica Online Hackathon', our group developed the website for 'Ismail Qemali' Gymnasium, where each group member had specified tasks to finish. The importance of this project is great for the youth of Kamenica through which we developed our coding skills.

MEFAIL KRYEZIU (14) FROM 'METUSH KRASNIQI' PRIMARY AND MIDDLE SCHOOL, ROGANË, KAMENICË (PARTICIPANT)

I had a great time participation in the training and hackathon organized by Open Data Kosovo. The three days that we spent during the hackathon were amazing, and I had a great time with my friends.

LEONA MALIQI (16) FROM "ISMAIL QEMALI' GYMNASIUM, KAMENICË (PARTICIPANT)

Even when I applied to be part of the project, I expected that it will be an unforgettable experience which will represent my first steps in this field. Being part of the training organized by ODK was truly a privilege. I have learned more than what I expected. It has even inspired me to explore this field further. Besides the knowledge that I have gained, during the training there was always a warm atmosphere where I meet new people who have become my friends. Besides the training which impressed me on how it was held, the Code4Kamenica Online Hackathon gave me 3 unforgettable days. The positive energy during the hackathon inspired me to work without getting tired. The team work was very efficient, we collaborated, and also the mentors did an amazon job. I think this project is important since firstly for the youth since it is a starting point for me regarding coding and secondly, it inspired me to explore the ICT field further because it is a field which leaves great first impressions at the beginning learning stages. Every young person should participate in these trainings to be prepared for the tech world.

ALISA JASHARI, CODE4KAMENICA ONLINE HACKATHON MENTOR

I believe that the Code4Kamenica project is very important for the youth in Kamenica, as well as has impacted positively the development of critical thinking and increase of interest in the programming field. I believe that the Code4Kamenica participants will be an important asset to the Municipality of Kamenica.

OPEN DATA KOSOVO

CODE FOR KAMENICA

PREPARED BY:

OPEN DATA KOSOVO

FINANCED BY:

European Union
Kosovo

UN
D P

Empowered lives.
Resilient nations.