Digital Skills Training Silgan

Project Report

Authored by:
Chief Executive Officer
Anees Amin

TechScape
Stepping Into Digital Future

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Project Details

Project Title	Digital Skills Training		
Location	DJ High School Hundur Yasin		
Duration of Project	17 Days	Duration of camp	15 Days
Starting Date of Project	16 October, 2019	Starting date of Camp	17 October, 2019
Ending Date of Project	01 November, 2019	Ending date of Camp	31 October, 2019
Number of Participants	Male	Female	Total
	19	21	40

Team Members:

Sr. #	Name	Association (School / Organization)	Role in the Project
1	Rizwan Muhammad	FAST-NUCES, Peshawar	Computer Programming / Robotics
2	Sajid Khan	FAST-NUCES, Islamabad	Computer Programing / Game Development Trainer

Executive Summary

"**Digital skills Training**" by **TechScape** equipped young minds with digital education in the most backward area of Hundur Yasin; Silgan. TechScape arranged a boot camp at Diamond Jubilee High School Hundur, Yasin for 15 days in collaboration with AKRSP. In this boot camp 40 students of age group 11 to 16 participated. Among which 33 students completed the training and 7 students were not able because they were coming from far areas of Silgan. This Boot camp was intensive accelerated learning program that taught students basics of Computer Programming and Skill development. In addition, this Boot camp followed a technical curriculum using online platforms like Code.org, Scratch, where block programming technique is used to enhance creative and critical thinking abilities of participants and for this boot camp in particular TechScape introduced Scratch where games can be developed with through block programing. Along with these platforms students also worked on their ideas to develop Applications and Websites.

The main objective of this camp was to empower and motivate new generations towards technology and opportunities it offers. The reason behind to conduct this boot camp for the students of Silgan was to polish their capabilities; to improve their logic building, problem solving and cognitive skills using block programing. Therefore, introducing this camp adds up more options. Furthermore, after learning the basics of programming, participants were able to create their own projects. This was one of the main achievements of this project.

Project Activities and the key Results:

Name of Activity	Results Achieved
Welcome Orientation/Hour of Code	They were introduced about the importance of IT/computer science, robotics and digital skills through success stories of famous IT entrepreneurs which made them curious to learn more about technology. Furthermore, the activity "Hour of Code" instigated the spark towards Block Programming.
Debugging (Assessment worksheet)	The assessment worksheet resulted in introducing algorithm and its concepts to solve a problem. Through this activity students were able to comprehend the concept of debugging. This activity changed their approach towards the solution of the problems.
Graph paper programing	Through this activity students were able to work in pair to solve a problem of a given block through step by step instruction.
Loops, nested loop, for loop, while loop	Loops are one of the most important concepts in the world of programming. Instead of repeating a single instruction again and again they can use one loop to perform the given task.
Conditions	Using IF/ELSE they get to perform different computations or actions depending on a given problem to evaluate if the condition is true or false.
Functions	Function in programing means *reusability*. Students were able to invoke the same function many times in their program, which saved their time, work and energy.
Variables	Variables play an important role in programming. It enabled students to write flexible programs. Rather than entering data directly into a program, students were able to use variables to represent the data. This made it possible for the same program to process different sets of data.
Scratch	Scratch is a block-based visual programming language. It's an offline platform where students can perform all the tasks that are mentioned above.
Code.org	Code.org is an online platform where all programming concepts are taught through block programming and different interactive activities.
Story Boarding	This is an activity where students working on projects graphically make diagrams and sequential steps which are then easily applied in programing. This is a kind of planning of the project which helps better understanding the project.

Outcomes of the project

1. Student got the concepts of basic computer programming, problem solving and web development.
2. After the training students were able to develop their own games, Applications and Websites.
3. This camp gave the kids confidence enough that in future they can easily work on their ideas. It was made sure that the kids were heard well by their mentors and element of mutual respect and confidence was being induced in their sub conscious mind. This actually helped the kids in polishing their logic building and cognitive skills.
4. This boot camp was the steppingstone towards empowering young minds of the region with advanced digital skills making them ready for the future of work.
5. Another milestone that we achieved was we broke the stigma of students from different educational and financial backgrounds working together in the same space and the factor of diversity and inclusion were uphold throughout the camp.
6. There were students who were beginners not only to programing but towards usage of computer and internet. 80% of the students were first time using google chrome to search anything and some were even not able to connect Wi-Fi to their systems. This training helped them to use these very basic facilities of computers like internet and browsing.

Feedback of Participants:

"I have never known of computers more than for watching videos and movies and for picture. This camp has helped me seeing computer more and the way it can help me in solving my problems and do programing for making something. I would say that this was the best learning camp I have attended in my life."

Shah Raees
Grade: 10

"This beautiful camp is soon going to end. We learned about Robotics and learned about program coding on machine. We knew about Artificial intelligence and usage of algorithms. We knew about different companies like Amazon, Google, Apple, Microsoft and Facebook."

Noor Afshan and Batashah
Grade 8

"This has been such a nice experience for me because I am very interested in computers. Now I knew what is algorithm and how it can help us in real life. We tried to build a website on Mobirise for the tomb of Shaheed Lalik Jan's Tomb and inshallah we will be successful."

Shafique and Hans Raj
Grade 7

"I have a computer in my home but I have never done this type of thing in it. For me internet was also new because I started to know how to search in Google and other websites which are helpful in my academics. My partner Misbah who is from Thoi has no computer in her home but we tried our best to learn the most but this was very much new to me and my friend."

Diya Rehmat and Misbah Ali
Grade 7

Cooperation within the Partnership

Sr. #	Name of Partner	Their Role in the Project
1.	Aga Khan Rural Support Program	AKRSP, Funded this camp
2.	Aga Khan Education Services	AKES provided the computer lab

Main problems/difficulties in the implementation:

Sr. #	Problem Faced	Solution Adopted
1.	Unavailability of internet connection.	We had a slow internet connection because there were SCOM-4G dongles but in Hundur we had only 3G service. Our platform is online and this problem made issues in doing the online activities.
2.	Unavailability of Lab	We planned to execute this camp in DJ LRS Barkolti as it was the only internet providing school in whole Silgan council. But due to some issues and we had to change the venue to a classroom of DJHS Hundur through the help of local council Silgan. Where we managed 15 laptops including our own laptops. 2 or 3 students were sharing one laptop which became the biggest problem we face.
3.	Timing issue for Far students	There were students who were willing to come to the camp and they started to come but after few days because their houses were far away from the venue discontinued. Our camp was starting after school at 3:00 PM every day and ends at 5:15 PM; so, they were unable to continue.
4.	Duration of the camp	We have been training students in Islamabad and Gilgit and other cities and have experienced that 10-15 days was enough to train them because they already know how to use computers and they have laptops in their houses. But this was very much new because we had to start from the very beginning; like how to use laptops, how to connect Wi-Fi and how to browse in browsers. This took long to teach them, and they had to first learn this all. When we asked the first question that what do you know about computer programming, we had no hands raised to answer. That's why it took more time to train them and they had no computer lab in their school as well.

Sustainability of the results:

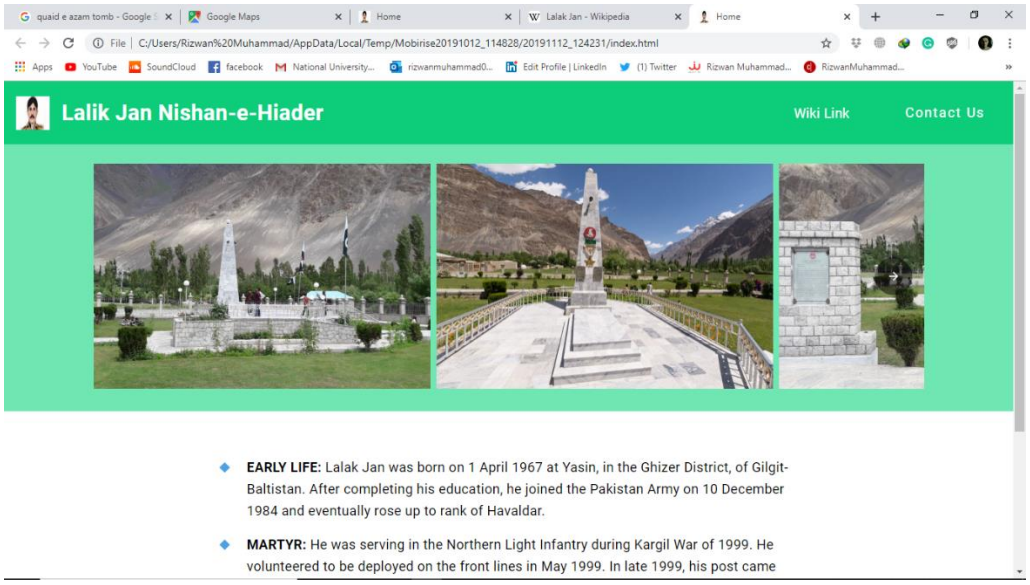
These boot camps created an unbreakable chain of knowledge about digital skills in the midst of mountains. These boot camps have shifted the paradigm for the user to become the creators. They once use to play games, now they are making their own games and small applications. The element of curiosity which was being induced in the kids ignited a spark of thirst for the knowledge of digital skills, which will keep them driving and make them ready for the future of work. This will help them seeing their future in computer sciences as well and make the digital skill learning process a daily life practice. Also, Principals of DJHS and Govt. High School made sure to practice these skills in their labs and in future.

Suggestions and Recommendations:

1. DJ High School Hundur has no computer lab until we were there and is established and functional from November of this year. Students are keen to learn these tools and activities in their school as well for that they need a trainer who can do it.
2. We visited Army Public School Hundur and Govt High School Hundur and they were also keen to train their children but they also had no trainer and even they had very less computers in their labs. We suggest if AKRSP can help them in this regard.

Student Projects:

1. **Website for Lalik Jan Shaheed Tomb**
   Developed by: Shafique Ahmad and Hans Raj



Lalik Jan Tomb

Facilitator's review:

This was an idea came to these students because they felt that Nishan-e-Haider is one of the highest military awards and Lalik Jan is the only person of GB who got it and in summers many tourists visit this place but they have no online information of this historic place. Also, they are trying to embed google map in it so that anyone who is traveling to this place will easily find it. This is nice step by these young minds to persuade tourists and guide them properly online.

Digital Skills Training Chipursan

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Project Details

Project Title	Digital Skills Training		
Location	DJ High School Zoodkhoon Shatmerg		
Duration	15 Days (23 Hours)		
Starting Date	18 October, 2019		
Ending Date	3 November, 2019		
Number of Participants	Male	Female	Total
	18	20	38

Project Trainers:

Sr. #	Name	Association (School / Organization)	Role in the Project
1	Mohsin Amir	COMSATS University, Abtd Campus	Computer Programming
2	Syeda Karima Shams	COMSATS University Islamabad	Web Development Trainer
3	Nida Ibrahim	COMSATS University Islamabad	Robotics Trainer

Executive Summary

"**Digital skills Training**" by **TechScape** equipped young minds with digital education in the most backward area of Hunza Gojal; Chipursan. TechScape arranged a boot camp at Diamond Jubilee High School Zoodkhun, Shatmerg for 15 days in collaboration with AKRSP. In this boot camp 38 students of age group 11 to 16 participated. This Boot camp was intensive accelerated learning program that taught students basics of Computer Programming and Skill development. In addition, this Boot camp followed a technical curriculum using online platforms like Code.org, Scratch, where block programming technique is used to enhance creative and critical thinking abilities of participants and for this boot camp in particular TechScape introduced Mobirise where websites can be developed. Along with these platforms students also worked on their ideas to develop Games, Applications and Websites.

The main objective of this camp was to empower and motivate new generations towards technology and opportunities it offers. The purpose behind conducting this boot camp for the students of Chipursan was to polish their capabilities; to improve their logic building, problem solving and cognitive skills using block programing. Therefore, introducing this camp adds up more options. Furthermore, after learning the basics of programming, participants were able to create their own projects. This was one of the main achievements of this project.

Project Activities and the key Results:

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Scratch	Scratch is a block-based visual programming language. It's an offline platform where students can perform all the tasks that are mentioned above.
Code.org	Code.org is an online platform where all programming concepts are taught through block programming and different interactive activities.
Mobirise	Mobirise is a web design Application. It allows users to create and publish websites.

Outcomes of the project

1. Student got the concepts of basic computer programming, problem solving and web development.
2. After the training students were able to develop their own games, Applications and Websites.
3. This camp gave the kids confidence enough that in future they can easily work on their ideas. It was made sure that the kids were heard well by their mentors and element of mutual respect and confidence was being induced in their sub conscious mind. This actually helped the kids in polishing their logic building and cognitive skills.
4. This boot camp was the steppingstone towards empowering young minds of the region with advanced digital skills making them ready for the future of work.
5. Another milestone that we achieved was we broke the stigma of students from different educational and financial backgrounds working together in the same space and the factor of diversity and inclusion were upheld throughout the camp.

Feedback of Participants:

"This camp started on 19/10/2019. It was very good camp and with learning we enjoyed as well. We learnt to make websites and games on Scratch and Mobirise. It was a short camp if it could be of longer next time, that would be better. I learnt so much from this camp and want to teachers for their efforts."

Azmat Shah
Grade: 10

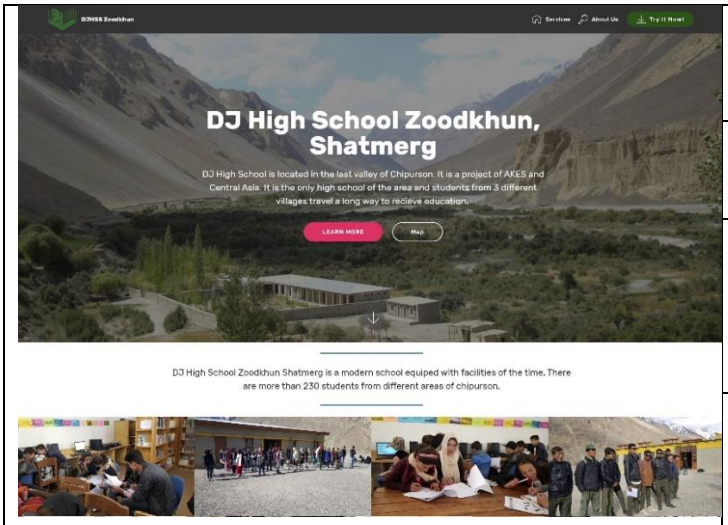
In this camp we learned a lot i.e. Computer Programming, Algorithm, Bug, Debugging, Events, Actions, Conditions and many more. From this camp we learned more about computers. Such camps are important for development of students. We are very thankful to teachers for giving us this information.

Shabika, Maliha and Gulnar
Grade 9

In my view we need more and more such camp that provide a chance for everyone to learn about computers. It was an informative camp and we learned a lot. We need such camps again. It would be great if this camp is organized during the months of May and June.

Gul Begum and Hina Noor
Grade 8

Project Ideas



Website developed:

DJ High School Zoodkhun, Shatmerg

Students:

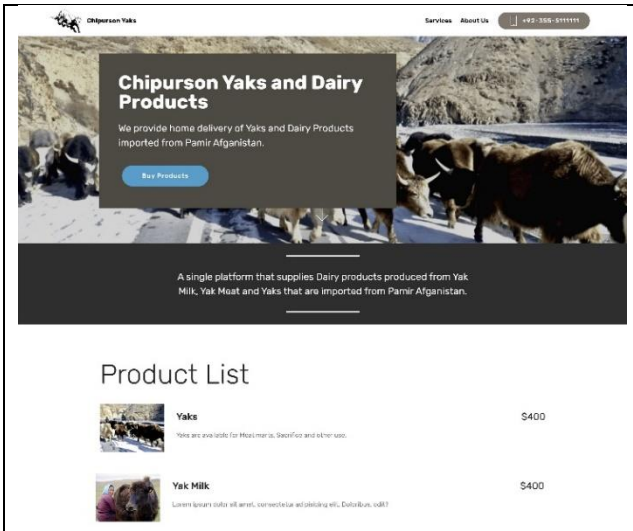
Shabika, Maliha and Gulnar

Description:

The website developed for school administration holds all the content of school along with job portal and admission process.

Trainers Review:

The project has a limited scope with no future prospect of business. But was a good practice for student group to learn about web development and its role.



Website developed:

Chipurson Yaks

Students:

Ehtiaz and Sabir

Project Description:

E-Commerce website for yak and daily products.

Trainers Review:

It was one of the best projects with business prospect and can be developed as a business. Yaks and Dairy products in Chipursan is a big market and there is a need of such a platform through which these products could be supplied to the rest of Pakistan.

Website developed:

Tour de Chipursan

Students:

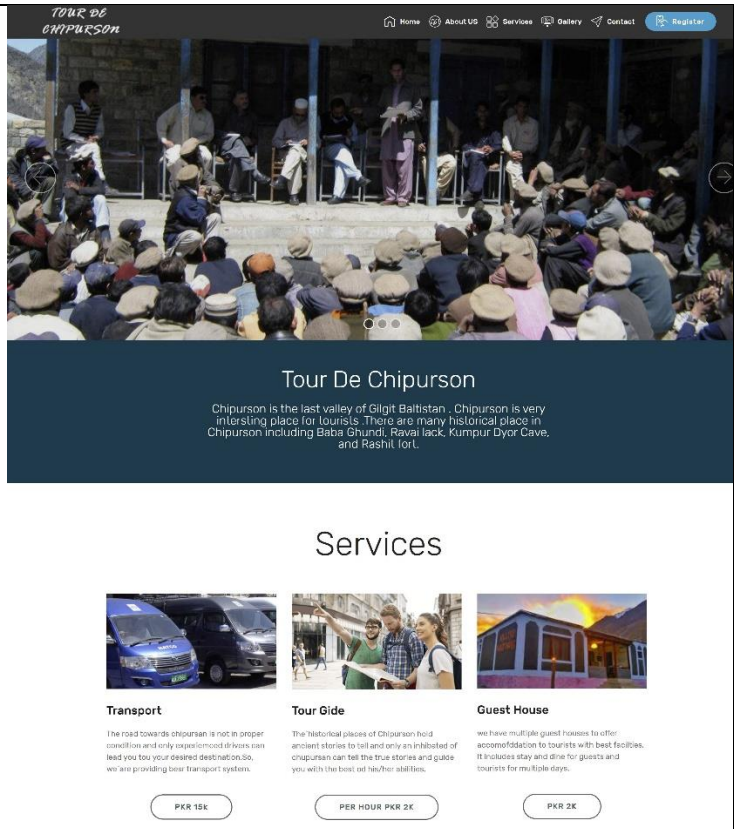
Azmat Shah

Project Description:

Website developed for tourism of Chipursan that included details of all the services provided. Users could book Accommodation, Transport Services, Tourist guides and much more.

Trainers Review:

The project has a good scope with a future prospect of business. There is no such platform available with respect to Chipursan region. This student was hard working and passionate about computer science and this idea. If he is given with an opportunity to refine the idea and work on it then he can develop it as a business.



Game Development:

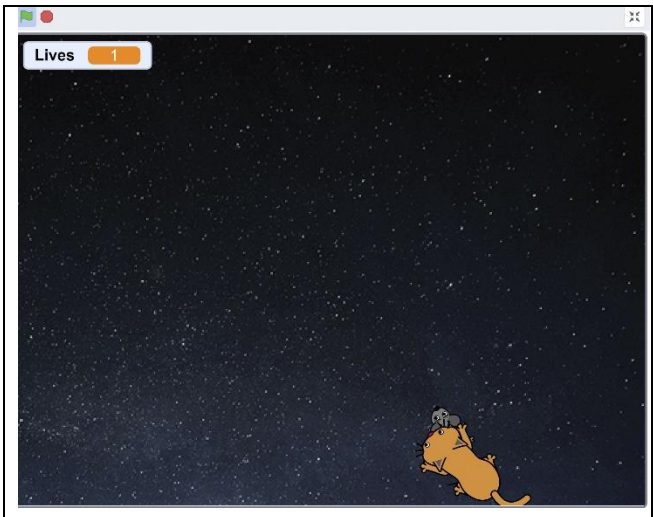
Save the Robot

Students:

Gul Begum and Hina Noor

Description:

Game developed on scratch gave a deep understanding of programming concepts. Students can develop any other game using these concepts. From a business point of view it cannot be further developed but through change of platform students can develop a more advance projects.

	**Game Development:** Catch the Rat
	Students: N/A
	Description: Game developed on scratch gave a deep understanding of programming concepts. Students can develop any other game using these concepts. From a business point of view it cannot be further developed but through change of platform students can develop a more advance projects.

Cooperation within the Partnership

Sr. #	Name of Partner	Their Role in the Project
1.	Aga Khan Rural Support Program	AKRSP, Funded this camp
2.	Aga Khan Education Services	AKES provided the computer lab

Main problems/difficulties in the implementation:

Sr. #	Problem Faced	Solution Adopted
1.	Unavailability of internet connection.	Though the course we had planned to deliver was online, but we had to change it and teach most of the course on offline platforms due to the unavailability of the internet connection.
2.	Lack of Computer	As the number of students were 38 and the total number of computers at Diamond jubilee High School Zoodkhun, Shatmerg is 10, out of which only 7 had internet connection. So, we divided the participants into two groups to more the camp more effective.