

## Net@ Youth Technology Report 2018-2019

### Training Israel's Future Hi-tech Leaders End of Year Report

Net@ is a four-year program that offers disadvantaged youth an opportunity to gain advanced professional and technological skills, preparing them for higher paying future positions in science and technology-related fields and equipping them with the knowledge to meet the growing demand for skilled employees in the Israeli high-tech industry. Net@ is designed to promote excellence in technology and social leadership. The program creates opportunities for teenagers (grades 9-12) from Israel's social and geographic periphery. Participants are trained in marketable computer skills and become certified computer and network technicians. Social values, personal and communal responsibility, leadership, pluralism, equality, and volunteerism are also important components of the curriculum.

Net@Junior –a preparatory Net@ program for kids aged 10–14, which introduces them to the world of programming. The goal is to provide students with real experiences in the field of software, design and entrepreneurship; while giving them opportunities to practice skills that are important in startups, such as teamwork and joint planning. The use of English is encouraged in order to strengthen their language skills.

The Net@ program operates in 20 localities across Israel including **Ramla, Kfar Saba, Kiryat Shmona, Beer Sheva, Dimona, Nazareth/Nazareth Illit, Tel Aviv-Yafo, Akko, Sderot, Ashkelon, Carmiel, Yarka, Beit Shean, Eilat, Jerusalem, Hura, Jisr-Az-Zarqa, Kiryat Malachi, Tira & Umm-al-Fahm**. These communities are located in the periphery of the country, therefore youth in these cities are less exposed to science and technology than their urban counterparts. As a result, youth who grow up in these peripheral communities have limited opportunities to succeed academically or compete in Israel's job market. Net@ focuses on reversing these trends by providing these youth with advanced professional technological skills and training which prepares them for higher paying positions within science and technology-related fields, specifically in the high-tech industry.

Participants in the Net@ program meet twice a week. The curriculum is based primarily on Cisco Networking Academy courses, where students can train in three areas: PC Technician, Network Technician, and Web Design. Through their involvement in the program, the participants develop

independent learning and study skills while gaining knowledge about computer hardware and software, website design, and programming languages, all with an emphasis on practical, hands-on work experience. All aspects of the Net@ curriculum utilize technology as a means to promote personal empowerment among participants while breaking through geographical and social boundaries.

As a technological youth movement, it is important to stay ahead of trends in the high-tech industry to ensure we are giving our youth both relevant and competitive skills. The new curriculum framework strengthened coding and programming by developing games using Unity, the digital platform for creating games including both code and graphic elements. Programming is done in the C# language, which allows programming by means of object-oriented methodology, while allowing control of the game. The combination allows users to create a product at a high level of complexity and design. Planning games requires the acquisition and development of technical skills including outlining the technological implementation of the game idea, planning various stages of the project, designing the user interface and user experience (UI/UX), problem solving and more. Net@ participants also enhance skills such as team work, receiving and integrating feedback, and time management.



A Net@ student shows off what she's learning during an open house night in Dimona

Net@'s educational curriculum rests on two main pillars: **advanced technological skills training and social leadership**, both of which combine four key themes:

- Personal excellence
- Social activism
- Global responsibility
- Tolerance and pluralism

### Tech Meetings and Lessons

In the four-year program, participants are trained in an array of advanced technological courses. In their first year, participants attend sessions twice a week for four hours at a time with the last half hour of each meeting devoted to personal conversations and check-ins with the participants. From the second year until the end of the program, participants attend meetings once a week for four hours.

### Practical Internship

The Net@ technological curriculum is complemented by practical training that combines hands-on experiences to enrich learning. Students can choose one of the following tracks to enhance their tech skills:

- **FIXIT** is a network of computer repair labs for the benefit of the community. The labs allow low-income clients from the community to enjoy computer repair and support services at a subsidized cost. The participants who volunteer in the lab run it as a business. It has a lab director, marketing directors, shift managers, computer repair technicians, and customer service. Participants engage in experiential learning by repairing computers and gain entrepreneurial skills by running the lab as a business. The labs contribute to the community and the participants' theoretical knowledge is cemented by their real-time hands-on experiences. FIXIT team members also make on-site visits to community members and organizations (20-30 sites annually).
- **Youth Training Youth** – senior Net@ students underwent special training and became youth trainers for Net@ Juniors.
- **Social Entrepreneurship** – students formed and worked in teams that were responsible for identifying and executing social projects that involved giving back to the community by using their technological know-how. Typically, these projects can range from building a website for the local municipality, installing PCs in kindergartens or initiating technological activities in schools.

## Net@ Highlights

**Net@ at AIPAC:** Appleseeds was honoured to be represented at the 2019 AIPAC conference, where CEO, Dafna Gaber Lifshitz spoke about Net@ and coexistence on two panels. The first panel was entitled Peace Through Technology: The Next Frontier and the second panel was entitled Closing the Digital Divide. Appleseeds also had a booth in the AIPAC village showcasing the Net@ program. During the Peace Through Technology: The Next Frontier panel, Dafna shared her most inspirational Appleseeds and Net@ moments: "How can I be happy doing anything else? I'm so privileged to be in a place where I have the power to effect real change. To borrow a quote from Spiderman: 'With great power comes great responsibility,' and I understand the magnitude of this responsibility and the importance of what we do. I believe the next generation to go through Net@ will use the power they gain to effect real change."



**Tel Aviv University Names Appleseeds an Honorary Associate:** In a celebratory ceremony held as part of Tel Aviv University's Board of Governors' annual meeting, the CEO of Appleseeds Academy, Dafna Gaber Lifshitz, received a Honourary Associate award on behalf of the NGO. The award recognized Appleseeds long-standing commitment to bridge the technological gaps in Israel's geographic and social periphery, helping to create a true Startup Nation for all Israeli citizens.



## Net@ 2018-2019 Events

During 2018-2019, over 1,650 Net@ youth throughout Israel took part in the Net@ and Net@ junior program. The following examples are just a few of the Net@ events that took place during 2018-2019 and included participants from all over Israel:

**Expertise Track Training Camp:** Over the 2018 summer, students from all over Israel came together for a 3-day overnight camp comprised of workshops and seminars to give participants the tools for one of the three expertise tracks they participated in during the school year: 1) FixIt Community Computer Lab; 2) Entrepreneurship Community Impact Projects and; 3) Youth Training Youth trainers for Net@ Junior. There were additional, specialized training sessions for those in managing positions for each track. Students gain advanced technological skills through practical training as well as leadership, communication and teamwork skills.

**Tech Together Summer Camp:** The two-day overnight camp is an introduction to the Net@ program for our first-year participants. It is an opportunity for our new students to meet their peers with whom they will study for the next 4 years and an opportunity to meet peers from other cities across Israel. The programming incorporates activities that focus on group bonding, social networking and ultimately creates a feeling that they are all part of a nation-wide technological youth movement. The camp is an opportunity to showcase the Net@ curriculum and establish expectations from our first-year students. Year 3 and 4 students volunteer to help with the camp so the younger students also have the opportunity to interact with the more veteran students who often become role models. The following YouTube video was created by one of the Net@ instructors following the Tech Summer Camp: <https://www.youtube.com/watch?v=V2G8PnhaV3w&feature=share>

### Girls' Hackathon

Net@ female students participated in two Girls' Hackathons this past year, one at Natural Intelligence in November and one at Microsoft in March. The Natural Intelligence hackathon included an introduction and tour of the company, an intimate seminar about women leaders in Israel and the world, led by two female Natural Intelligence employees and a panel of six female Natural intelligence employees who spoke about their positions in the company, the skills required, and what girls should learn so that they can follow a similar path in the future. The Microsoft hackathon focused on AI and students learned about new advances in AI technology and heard from female Microsoft employees about what it is to be a woman in the tech industry with the goal of empowering our female students to pursue STEM.



Girls' Hackathon at Natural Intelligence (above) and Microsoft (below)



## Coexistence Seminar

This three-day seminar took place at the Israel Goldstein Youth Village in Jerusalem over a weekend in December during the Hanukkah holiday. There were 76 participants (65% Arab Israelis and 35% Jewish Israelis) from Jerusalem, Carmiel, Nazareth Illit, Beer Sheva, Jisr a'Zarka, Hura, Ramla, and Kfar Saba. Activities included icebreakers to allow participants to get acquainted, activities related to their identity, outdoor adventures, and seminars on leadership and social responsibility. All the participants took part in Hanukkah candle-lighting ceremonies, Kabbalat Shabbat and Havdalah and were also exposed to Christian and Moslem prayers.

## Cyber Security Hackathons

Two Cyber Security Hackathons were held in February. One was held at SAP for southern Net@ localities including Tel Aviv, Jerusalem, Ramla, Dimona, Hura, Eilat and Beer Sheva. Net@ students learned about what SAP does in Israel and around the world. This was followed by a lecture on cyber security and examples of real cyber securities that threaten companies. The most popular component was the round table discussions with SAP employees, which gave the students an opportunity to understand the diverse paths available to them in high-tech.



The hackathon for northern Net@ localities was hosted by Microsoft and included students from Kiryat Shmona, Karmiel, Yarka, Akko, Nazareth, Beit-Shean, Kfar Saba, Jisr-az-Zarqa and Umm al-Fahm. The students met Microsoft employees who spoke about online information security. They also met with Police Unit 105, which is the unit responsible for the prevention of violence against minors. The police officers delivered workshops on personal and organizational information security.

The hackathons were not only an opportunity to learn about cyber safety but also showed the students how the information they were learning could be presented in an engaging and informative manner for the upcoming Internet Safety Week.

## Internet Safety Week

Internet Safety Week in February provided Net@ youth with an opportunity to teach the technological and entrepreneurial experiences they are learning in class. First year Net@ Ramla students created and delivered educational workshops in local schools to teach internet safety skills to younger children and their peers. The topic this year was "Yesh Gvul" (There are boundaries). Workshops examined internet norms and raised awareness to various complex issues related to internet use, including online bullying and how to be safe with your personal information online. Internet Safety Week gives first-year students an opportunity to take what they are learning in Net@ and creatively present the information, practicing their presentation and leadership skills. Greater understanding of proper and safe internet usage is the result of giving ownership of the programming to students.



Internet Safety Week presentations in local schools in Kfar Saba (left) and Ramla (right)

### Taglit-Birthright Excelerate Day

In March, Net@ participated in a tech innovation conference hosted by Taglit-Birthright Excellence Foundation. The conference consisted of numerous workshops delivered by graduates of the Taglit-Birthright Israel Excel Scholarships program. Examples of the most popular workshops included:



- 1. Machine Learning:** Shir Horez was an officer in the IDF's elite intelligence unit, 8200. She presented the students with a transcript of a conversation that appeared normal but was actually done by a machine. She explained how they are constantly upgrading machines to closely imitate humans. The students were also shown a number of profiles that looked legitimate but that were actually artificial people created by computers.
- 2. From Periphery to Microsoft:** Mickey Mechlevitz, a product manager at Microsoft Haifa spoke about his ambitions and how he achieved his goals. Like many Net@ students, Mickey grew up in the periphery (Sderot) and told his story of how he created opportunities for himself to be able to work in high-tech. He talked about resume building and helped the students write a resume for their dream jobs, helping them to define their goals.

Student feedback from our Digital Classroom App about the day included the following: *"The lecturers delivered the material in a structured and interesting way, they help me set goals for myself and helped me figure out what I want to study in the future,"* and *"it was really fun because I learned new things that I will be able to use in the future."*

### Good Deeds Day

Good Deeds Day in April is an impact activity that gives back to the community, thus instilling values of responsibility and global citizenship. Net@ youth from across the country organized various events in recognition of Good Deeds Day, strengthening community engagement in the participants through social activism. Arab and Jewish youth worked together to organize volunteer

projects in their communities. For example, Net@ youth in Be'er Sheva cleaned up and helped fix a rundown road in a local community and volunteered at the local hospital, in Ramla the students chose to renovate the CKC on their own, in Tel Aviv, Net@ volunteered in a dog shelter, taking the dogs out for walks and giving them much needed attention and in Jerusalem they helped pack Emergency First Aid kits for the local community to have on hand if needed. Students from each locality worked together to find a volunteer opportunity in their communities and volunteered together at their chosen activity. The social activism component of the Net@ program is very important as it gives our students the opportunity to work together towards the greater good of helping their communities. Together these students impacted their communities not just with the good deeds they are doing, but by providing a model of cooperation for their family, friends and the broader communities.

### Spring Event and National Net@ Day

Three hundred students from across Israel attended the Net@ Spring Event in April. The first day of the camp focused on year 3 and 4 Net@ students who have done a lot of networking events together to date. They did a waterfall hike together and had an evening of empowerment and leadership around a bonfire. Year 1 and 2 students joined on the second day for ODT activities in the Gamla reserve, followed by a fun evening of dancing under the full moon. The final day was National Net@ day where students participated in numerous team sports activities between different localities giving the students the opportunities to further solidify their bonds and engage in team work exercises in a fun and inclusive environment.



### End of Year Event for Entrepreneurial Track

Nine communities including, Ramla, Tel Aviv/Jaffa, Karmiel, Nazareth/Nazareth Illit, Umm al Fahm, Tira, Kfar Saba, Ashkelon and Dimona sent their Entrepreneurship Track teams to demonstrate the projects they have been working on throughout the year to the End of Year Event at Wix. Participants were introduced to Wix and taught how to build a website showcasing their projects, after which they were given tips and practiced giving effective pitches. Finally, each team presented their project and website to a distinguished jury including Wix mentors, Osnat (Entrepreneurship track Coordinator) and Orit (Net@ program Director).



The jury selected two teams as winners, who they felt built the ventures with the most potential:

1. **DimoNet**, an innovation centre for the town of Dimona



**2. ITechYou**, a Kfar Saba venture, where teenagers provide private tutoring based on Speed Dating model.

The creativity and analytical thinking of the presentations shows us the great potential of our beneficiaries, waiting to be unlocked with the right learning platforms.

### **Net@ Junior Marvel Hackathon**

Net@ Junior students were hosted by Marvel for a Junior Hackathon that explored the world of online comics and digital design. Net@ students who are part of the Youth Training Youth Expertise track joined the hackathon to help chaperone, instruct and mentor the Net@ Junior kids. The hackathon was a fun way to give our Net@ students an opportunity to be trainers outside the classroom, allowing them to partake as instructors in the experiential learning experience.



### **Meet Our NET@ Youth: Ofir From Kiryat Shmona**

#### **Why did you join Net@?**

I joined Net@ because I like programming and want to be a programmer in the future. I also really liked the concept of a program that will help me be more social while teaching me programming at the same time.

#### **How has Net@ impacted you?**

Before Net@ I was a really shy kid, I mean I'm still shy, but I'm on a whole different level if you compare me to what I was a year ago, and it's mostly thanks to Net@.

#### **What are the most important skills you think you have gained in Net@? Why are they important?**

I have learned a lot from Net@: programming, computer building for example. But the most important skills that I have learned from Net@ are communication skills, how to communicate with others, because honestly, I was quite bad with people before Net@.

#### **Where do you see yourself in 5 years?**

In 5 years, I see myself at the top of Unit 8200 (elite intelligence unit in the IDF), running all sorts of secret and complex operations with computers to gather "intel."

