



National level events:

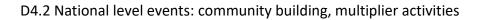
Community building, multiplier activities

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	Hariklia Tsalapatas, University of Thessaly
Authors	Olivier Heidmann, University of Thessaly
	Christina Taka, University of Thessaly
Reviewers	Hariklia Tsalapatas, University of Thessaly
neviewei s	Michela Tramonti, EUTrack
Approved by	Steering Committee

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Contributors

Carlos Vaz de Carvalho, Porto Polytechnic Konstantinos Katsimentes, University of Thessaly Konstantina Vlachoutsou, University of Thessaly Sotiris Evaggelou, University of Thessaly Menelaos Kokaras, University of Thessaly Dimitris Ziogas, University of Thessaly Emmanouil Anagnostakis, University of Thessaly Raja Jamilah Raja Yusof, University of Malaya Hazleen Aris, Universiti Tenaga Nasional Ida Suzana Hussain, Universiti Tenaga Nasional Irum Inayat, National Universities of Computer and Emerging Sciences Kamran Khowaja, ISRA University Mutee U Rahman, ISRA University Huy Nguyen, Von Neumann Institute Nguyen Xuan Thang, Von Neumann Institute Hoang Thao Van, Von Neumann Institute Nguyet Dinh Thi Minh, Hanoi University Tri Ratna Bajracharya, Tribhuvan University Shree Raj Shakya, Tribhuvan University Dhiraj Shrestha, Kathmandu University

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Manish Mokharel, Kathmandu University Raja Jamilah Raja Yusof, University of Malaya Rodina Ahmad, University of Malaya Siti Hafizah Abdul Hamid, University of Malaya Hazrina Sofian, University of Malaya Azah Anir Norman, University of Malaya Adeleh Asemi Zavareh, University of Malaya Saaidal Razalli Bin Azzuhri, University of Malaya Nur Nasuha Mohd Daud, University of Malaya Nazean Jomhari, University of Malaya Mohd Yamani Idna bin Idris Unaizah, University of Malaya Alden Meirzhanovich Dochshanov, EU-Track Michela Tramonti, EU-Track Fabrizio Casadio, EU-Track Libera Pezzano, EU-Track

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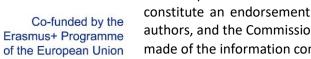




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Executive summary

This report presents community-building multiplier events organized in the context of ICT-INOV. The events aimed to engage the higher education community to promote awareness of project activities and maximize the impact of project results.

During the events, ICT-INOV partners presented project objectives, activities, and outcomes, demonstrated the ICT-INOV digital learning platform for innovation, engaged the audience in hands-on activities, and led discussions on promoting innovation in higher education.

The ICT-INOV goal, as it was outlined in the project proposal, was to organize 1 event in each country where the consortium has project partners, namely Malaysia, Nepal, Vietnam, Pakistan, Estonia, Portugal, Italy, and Greece, reaching 50 individuals in each event. According to the project proposal, the total number of community-building events foreseen was 8, with a target of reaching 400 individuals consortium-wide.

Project achievement on organizing community-building events has gone well beyond proposal goals. A total of 23 events were organized, reaching approximately 1,500 participants. In addition to events being organized in all countries in which the consortium has project partners, events were organized in countries beyond the consortium, such as Ireland, Indonesia, Taiwan, and China.

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1. University of Thessaly

The University of Thessaly organized the following community-building events.

1.1 Community building event in Greece at the EESTec Student Challenge, March 18, 2023

1.1.1 Date and location

The event took place on March 18, 2023, at the Thessaloniki City Hall, organized by the Electrical Engineering Students European Association – EESTec.

1.1.2 Description of the participants

The event was attended by over 50 Electrical and Computer Engineering students from several universities in Greece.

1.1.3 Description of activities

The 1st community-building event of ICT-INOV in Greece took place in the context of the EESTec 2023 Challenge on March 18, 2023. EESTec Challenge is a yearly competition for European university students and graduates to gain knowledge in Electrical Engineering and Computer Science and expand their professional networks. The competition consists of several Local Rounds organized by EESTec branches in different European cities, and the Final Round is where the winners of the local rounds compete with each other.

The event was organized in Thessaloniki at Thessaloniki City Hall. The EESTec challenge was an excellent opportunity for community building as it enabled reaching wide student audiences, academics, and industry members from several universities or other stakeholders throughout Greece.

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D4.2 National level events: community building, multiplier activities

The ICT-INOV project objectives, activities, and outcomes were presented during the event in a dedicated workshop. More specifically, the audience had the opportunity to be exposed to design thinking principles for introducing innovative solutions to challenging problems of the modern world. They were familiarized with the design thinking steps of problem discovery, empathy, user persona creation, problem definition, ideation, evaluation of ideas, and prototyping. In addition, the audience was exposed to the ICT-INOV digital learning platform and educational activities and had the opportunity to see the labs created by the project to support innovation skill building.



Figure 1. Community-building event in Greece at the EESTec Student Challenge, March 18, 2023.

1.2 Community building event in Greece at the Association of Electrical Engineering Students Conference, April 21, 2023

1.2.1 Date and location

The event took place on April 21, 2023, at the building of the Department of Electrical and Computer Engineering of the University of Thessaly in the context of the formal program of the annual conference of the Association of Electrical Engineering Students, which this year is hosted by the University of Thessaly students. The conference is attended annually by over 1,100 participants from all over Greece.

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Description of the participants 1.2.2

The event was attended by approximately 25 students from different universities throughout Greece.

1.2.3 **Description of activities**

The 2nd community-building event of ICT-INOV in Greece took place in the context of the annual conference of the Association of Electrical Engineering Students, which was hosted at the University of Thessaly. The conference is a very popular event, attended by numerous Electrical Engineering students from all universities in Greece. It is organized by the students themselves through their association.

The conference was organized in Volos on the premises of the Department of Electrical and Computer Engineering of the University of Thessaly. The event was part of the formal program of the first day of conference activities on April 21, 2023.

The ICT-INOV project objectives, activities, and outcomes were presented during the event in a dedicated workshop. More specifically, the audience was exposed to design thinking principles for introducing innovative solutions to challenging problems of the modern world. They were familiarized with the design thinking steps of problem discovery, empathy, user persona creation, problem definition, ideation, evaluation of ideas, and prototyping. In addition, the audience was exposed to the ICT-INOV digital learning platform and educational activities and had the opportunity to see the labs created by the project to support innovation skill building.

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Figure 2. Community-building event in Greece at the Association of Electrical Engineering Students Conference, April 21, 2023.

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1.3 3rd community building event in Greece at the Hellenic Open University, July 8, 2023

1.3.1 Date and location

The event took place on July 8, 2023, at the Hellenic Open University in the context of the Hellenic Open University's Summer School on Natural Disaster Management.

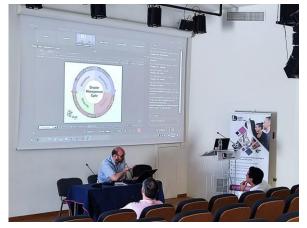
1.3.2 Description of the participants

The event took place in hybrid mode. It was attended by over 250 individuals, of which 40 were in person, 90 over Webex[®], and the rest through YouTube[®].

1.3.3 Description of activities

Project ICT-INOV, including the design thinking methodologies and the digital learning platform, were presented on the opening day of the summer school in the context of a full-day conference. The audience had the opportunity to reflect on the importance of building innovation skills in higher education. They were further exposed to the principles of design thinking and experienced a demonstration of the functionality of the ICT-INOV digital learning platform.





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Figure 3. Community building event in Greece at the Hellenic Open University, July 8, 2023.

1.4 Community building event in Greece at the Secondary Education STEM Careers Day, March 28, 2024

1.4.1 Date and location

The event took place at the Department of Electrical and Computer Engineering of the University of Thessaly on March 28, 2024. The event aimed to promote STEM careers among secondary education students. The University of Thessaly organized the event in cooperation with the Secondary Education Authorities of Magnesia, Greece.

1.4.2 Description of the participants

The event targeted secondary education students aged 16 years, when they start to consider career choices and plan their strategy for succeeding at the national university entrance exams.

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D4.2 National level events: community building, multiplier activities

The event was attended by approximately 200 students from 4 schools in the area of Magnesia, Greece, and their teachers.

1.4.3 Description of activities

ICT-INOV was presented in one of a total of 4 scientific presentations. The audience could reflect on the importance of innovation skills for industry and society. They were further familiarized with the design thinking steps of empathy, project definition, ideation, prototyping, and testing. They received examples of problem discovery and empathy practices. They were further exposed to project activities in partner countries such as Nepal, Vietnam, Pakistan, and Malaysia.





Figure 4. Community building event in Greece at the Secondary Education STEM Careers Day, March 28, 2024.

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2. Porto Polytechnic

The following community-building event was organized by Porto Polytechnic.

2.1 Community building event in Portugal organized by Porto Polytechnic, November 6, 2023

2.1.1 Date and location

A community-building event took place online on November 6, 2023. The event was organized as a theoretical presentation of the project and platform.

2.1.2 Description of the participants

The event was attended by 65 teachers and researchers from different organizations in Europe.

2.1.3 Description of activities

The event mainly addressed theoretical concepts about active learning, design thinking and gamification. Subsequently, the audience was exposed to the ICT-INOV platform from both the educator's and the student's point of view.

On the educator side, the audience was able to see how to create an activity, how to post instructions for students for each design thinking step, the platform analytics, the gamification elements that promote engagement through rewards, the access to the reference manual, the calendar of activities, and more. Furthermore, the audience saw the resource library available on the platform, which includes suggested exercises for each design thinking step from which educators can select ideas for integrating into the activities they design for their students.

On the student side, the audience saw how students register for a class, join a team, and participate in design thinking by sharing ideas in a common team working space; in addition, how

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to ask for help from the instructor and open the team canvas to the entire class for additional feedback, if so desired.

A presentation describing design thinking and gamification in general and the ICT-INOV project objectives was prepared.

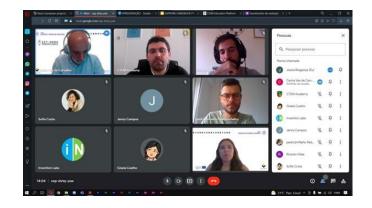


Figure 5. Community building event in Portugal, November 6, 2023.

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3. Tallinn University

The following community-building event was organized by Tallinn University.

3.1 Community building event in Estonia organized by Tallinn University at Tartu University, April 18, 2023

3.1.1 Date and location

A community building event was organized at the University of Life Sciences (EMÜ) in Tartu at FR.R Kreutzwaldi 5, room 2A13 April 18, 2023.

3.1.2 Description of the participants

This event was announced as a training for EMÜ staff members. All teaching and technical staff were invited. As the day was quite long, people came and went throughout the event. Slides and all other materials were distributed after the event. It is estimated that the event helped reach at least 50 participants.

3.1.3 Description of activities

The event included several sessions. First, participants were exposed to design thinking and why it is relevant for higher education staff members. Participants became aware of the methodology's user-centred approach, which helps develop solutions to difficult challenges by considering users' experience from their exposure to a proposed solution. Organizers provided an overview of design flaws in a humorous way to engage the adult audience.

The second session focused on design thinking concepts. Participants were familiarized with wellaccepted design thinking steps, such as problem discovery and empathy, through which designers strive to understand the real parameters of a problem through research, identification of user needs through a process of empathy that helps designers identify real, as opposed to perceived

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requirements, ideation or brainstorming through a series of exercises and practices that help bring out the creativity of the design team, selecting a solution to turn into a tangible prototype, and evaluating the prototype through the engagement of characteristic users.

Participants also developed an understanding of the circular nature of the design thinking process. Namely, designers may revert to any of the above steps if they find that their designed prototype must be enriched to effectively address user needs.

The third session focused on design thinking practical exercises, during which participants were exposed to practical design thinking activities that can be deployed in the classroom to support design thinking steps. We guided the participants through the challenges of 30 circles and waterfalls.

In the last session, the participants divided themselves into groups and decided on a problem to tackle with design thinking on the ICT-INOV platform. They worked in teams using online shared workspaces to edit jointly owned files for brainstorming and idea-sharing purposes.





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Figure 6. Community-building event in Estonia at Tartu University, April 18, 2023.

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3. EU-Track

The following community-building event was organized by EUTrack.

4.1 Il Design Thinking: l'innovazione per la didattica organized by EU-Track, March 23, 2023

4.1.1 Date and location

The event occurred on March 23, 2023, at the Istituto Comprensivo "M. Montessori" of Terracina.

4.1.2 Description of the participants

The workshop was addressed to teachers from Italy and Belgium, educators, instructors, professionals, students, and public authorities with an interest in deepening and enhance their knowledge in learning and experimenting with innovative teaching methodologies, like design thinking, that promote the ability to think critically, take initiatives, solve problems and work collaboratively through experiential learning. A total of 50 participants attended the event.

Description of activities 4.1.3

The event was focused on learning in a practical way how to implement the design-thinking methodology in the classroom to promote an increasingly interdisciplinary and multidisciplinary approach, essential in the STE(A)M field and using the tools developed within the ICT-INOV project.

First, the project ideas and aims were presented to the audience. Afterwards, the principles and the steps of the methodology were introduced to help the participants become familiar with it before a hands-on workshop was delivered. The workshop aimed to underline the potential of design thinking as an innovative approach to support the development of creativity and innovation in students and to build participant knowledge on how to work and think through the

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5 phases of the method, namely empathy, problem definition, ideation for introducing ideas for innovative solutions, prototyping for starting to create solutions, and testing of the proposed solutions.

In addition, the ICT-INOV platform was demonstrated as a good practice for engaging students in classroom activities.



Figure 7. Community building in Italy at Istituto Comprensivo "M. Montessori" of Terracina, March 23, 2023.

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4. University of Malaya

The following community-building events were organized by the University of Malaya.

5.1 Knowledge sharing activity on Design Thinking for Scientists at National Cheng Kung University, Tainan, Taiwan, June 14, 2023

5.1.1 Date and location

The event took place on June 14, 2023, at the building of the Department of Computer Science and Information Engineering, National Cheng Kung University, Tainan, Taiwan as part of the knowledge-sharing session for the research and collaboration visit by the Department of Information Systems, Faculty of Computer Science and Information Technology, University Malaya.

5.1.2 Description of the participants

The event was attended by approximately 10 postgraduate students and 6 professors from the department. The event was conducted in 2.5 hours in a physical flipped classroom.

5.1.3 Description of activities

The event program opened with a briefing on ICT-INOV project activities at the University of Malaya. Following that, the training begins with the introduction of five stages of design thinking. Associate Prof. Dr Azah Anir Norman, a member of the ICT-INOV research team at the University of Malaya, facilitated this knowledge-sharing workshop.

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Figure 8. Community building event at National Cheng Kung University, Tainan, Taiwan, June 14, 2023.

5.2 Faculty of Computer Science and Information Technology (FSKTM) Open Day 2023

5.2.1 Date and location

The Faculty of Computer Science and Information Technology, University of Malaya, held an open day onits premises on July 28 – 29, 202s.

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5.2.2 Description of the participants

The total number of visitors for both days was 248 individuals interested in familiarizing themselves with the University of Malaya's education and research programs.

5.2.3 Description of activities

All University of Malaya departments participated in the event, which presents the organization's educational and research initiatives to the general public. The Software Engineering Department did not miss out on the opportunity to display videos and pictures of ICT-INOV implementation to attract visitors' interest.

Project ICT-INOV can contribute to attracting more young people to choose the University of Malaya Software Engineering Department in the future since most of the lecturers in the department practice design thinking in teaching classes that emphasize innovative and creative thinking in group activities. ICT-INOV further had a positive impact in making the Software Engineering Department Open Day 2023 a success.



Figure 9. Community building event at the University of Malaya Open Day, July 28 – 29, 2023.

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5.3 Design thinking challenge and booth exhibition, September 23, 2023

5.3.1 Date and location

A community building event was organized on September 23, 2023, at the Institute of Advanced Studies, University of Malaya, in conjunction with International Youth Day delivered by the University of Malaya UNESCO Club.

5.3.2 Description of the participants

Participants were among the visitors who visited the Institute of Advanced Studies to participate in International Youth Day.

5.3.3 Description of activities

The event was conducted by the IEEE Women in Engineering (WIE) UM Affinity Student Branch student committee. A design thinking challenge and booth exhibition took place on September 22, 2023, to provide exposure and cultivate hands-on skills in design thinking. The event was organized in collaboration with IEEE UM Student Branch and IEEE UM Women in Engineering, with contributions from the International Youth Day by UM UNESCO Club at the Institute of Advanced Studies, University of Malaya. The event was perceived as a good opportunity for community building of ICT-INOV to reach a wide range of audiences from different backgrounds and education levels.

Visitors to the International Youth Day were invited to visit the ICT-INOV booth. They were exposed to design thinking and how it is applied to solve problems in various domains. In addition, a challenge was held to test visitors' understanding of design thinking. Participants were assigned 3 challenges or problems to address through design thinking. The visitors also had the opportunity to use 3D pens to develop their proposed solutions.

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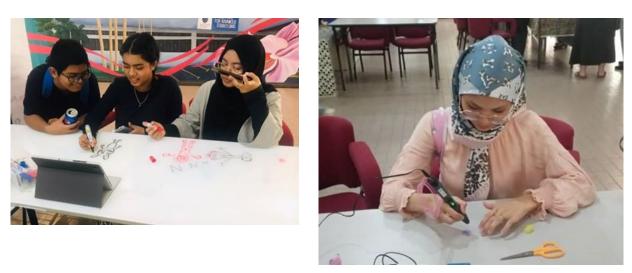




Figure 10. Design thinking challenge and booth exhibition at the University of Malaya, September 23, 2023.

5.4 Community building event at Binus University, Indonesia, October 9 – 13, 2023

5.4.1 Date and location

The workshop was held on October 9 – 13, 2023, at the Binus University in Jakarta and Bandung, Indonesia.

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5.4.2 Description of the participants

The event was conducted at Binus University, Jakarta. It had an estimated attendance of 40 students. In addition, a workshop was conducted at Binus University, Bandung, Indonesia. It had an estimated attendance of 80 undergraduate students.

5.4.3 Description of activities

The event was conducted by Dr. Raja Jamilah Raja Yusof in conjunction with the International Week at Binus University, Indonesia. An introductory lecture on design thinking lecture was delivered to approximately 40 students in Binus Jakarta on October 9, 2023. The lecture focused on design thinking principles and exercises, including the empathy map, mind map, persona, user interviews, problem framing, solution evaluation, and more.

Participants were asked to select a problem to solve and create a user persona as well as an empathy map. Examples of challenges undertaken by participants include:

Morning Routines: Many individuals feel rushed in the morning and struggle to start their day positively and productively.

Healthy Eating: Individuals often face difficulties in maintaining a balanced diet due to busy schedules or lack of knowledge.

Exercise and Fitness: Many individuals face challenges in fitting regular exercise into their daily lives.

Digital distractions: Individuals are often distracted by smartphones, social media, and other digital notifications, affecting their productivity and well-being.

Commuting: Daily commutes can be tiring, long, and stressful, impacting the overall mood and energy of commuters.

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Recycling and waste management: Despite the desire to recycle, many individuals are unsure about what can be recycled or find the process inconvenient.





Figure 11. Community building event at Bindu University, Indonesia, October 9 – 13, 2023.

5.5 Developing projects using design thinking and notion technology event, October 19, 2023

5.5.1 Date and location

The event took place on October 19, 2023, at the building of the Institute for Advanced Studies of the University of Malaya in conjunction with Academia Month launched by the Ministry of Education.

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5.5.2 Description of the participants

The workshop was attended by 23 participants, both academic and non-academic staff, including administrators, researchers, technicians, and management.

5.5.3 Description of activities

The workshop was divided into 2 sessions over 3 hours.

The first session focused on principles of design thinking. The workshop provided an overview of the phases involved in the design thinking methodology, especially regarding creating successful university projects. The session concluded with a group activity in which participants were presented with a case study and tasked with generating potential solutions by following the steps of the design thinking process.

In the second session, participants were introduced to the use of "notion" for project management. Participants identified missing steps in the management of their existing projects and worked to rectify weaknesses to ensure that their projects would achieve their objectives. At the conclusion of this session, participants were required to present the projects they had developed using notion, highlighting the incorporation of design thinking principles.



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Figure 12. Developing projects using design thinking and notion technology event, October 19, 2023.

5.6 Drone and robotic arm workshop, October 23, 2023

5.6.1 Date and location

The workshop was held on October 23, 2023, at the Faculty of Computer Science and Information Technology, University of Malaya.

5.6.2 Description of the participants

The workshop was attended by 15 undergraduate students from several faculties of the University of Malaya.

5.6.3 Description of activities

The event was conducted by the student committee of the IEEE Women in Engineering (WIE) UM Affinity Student Branch and took place on October 23, 2023, at the Faculty of Computer Science and Information Technology, University of Malaya to provide exposure to drone and robotic arm technologies as well as demonstrating their significance in industry. The workshop was organized

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in collaboration with the IEEE UM Student Branch and IEEE UM Women in Engineering Affinity Group. A total of 15 students from different departments joined the workshop.

The workshop was divided into two sessions.

The first session started with a focus on drone development and continued with robotic arm development. During the first session, participants were introduced to drone technology, mainly the Tello Edu Drone, which is developed specifically for learning purposes. Participants were also introduced to the control algorithm of a drone through flowcharts, pseudocode, or Python code. The workshop showcased the flight simulation of the Tello Edu Drone using the generated control algorithm. Participants were allowed to control the drone's movement by manipulating the Python source code.

Participants were introduced to a robotic arm with 6 degrees of freedom in the second session. It was assembled using Arduino[®] UNO as its microcontroller, Arduino[®]-compatible components, and steel frames. The schematic design, step-by-step installation, and source code of the robotic arm were provided to aid participant understanding. Participants assembled a robotic arm. They were further provided the opportunity to make changes to construction's source code to observe the different angles of movement of the robotic arm.

5.7 Series of community building activities in Malaysia, November 2023

5.7.1 Date and location

A series of community-building activities for promoting ICT-INOV project methodologies took place in Malaysia in November 2023. The activities addressed the academic communities in diverse departments of the University of Malaya. To accommodate the academic schedule of each department, a series of events was organized on November 11, November 18, November 19, and November 25, 2023.

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5.7.2 Description of the participants

The events were led by students engaged in the Human-Computer Interaction course at Universiti Malaya in the 2023 – 2024 academic year. Students were assigned a community project involving dedicated orphanage centres. They had to initiate contact with the centres directly to organize sessions focused on computational and design thinking.

5.7.3 Description of activities

During the student visits at the orphanage centre, a team member who undertook the photographer or videographer role recorded daily activities. Students organized 6 computational and 2 design thinking activities. Computational thinking activities included exercises such as logic thinking, the tower of Hanoi, colouring, parsing balls, and spinning numbers. Students created 3 activity stations, with each station offering 2 activities. Children were divided into 3 groups. They rotated from one station to another. Students also recorded the time each group took to complete the tasks.

In addition, children were engaged in design thinking to address the problems they face in their everyday lives as orphans. They engaged in the 30 circles creativity exercise and other activities.

Video presentations of the students follow:

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https://drive.google.com/file/d/152g6Ljp9fwmNBWhQ6D3Va8so40-5bzQ5/view
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https://drive.google.com/file/d/14Vm0Rhn688-S 1HrEXCev0GtLWxdJKa4/view?usp=sharing

https://drive.google.com/drive/folders/1-2_Aoi8rz5jO_M8QbRVZjc5PjVa0hN98

https://drive.google.com/file/d/18Hkd4gqzZBMV_NjlPhTndL6rlGayZq5f/view_

https://drive.google.com/file/d/14ikB1hNmYFNzplKGCBPMLD2GGIpbCpgN/view?usp=sharing

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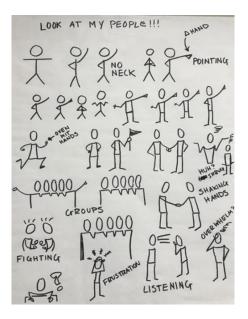


Figure 13. Series of community building events in Malaysia, November 2023.

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6. University Tenaga Nasional

6.1 Design thinking good practices and sharing of experiences, March 2023

6.1.1 Date and location

Early in March 2023, University Tenaga National organized a seminar where instructors, students, and members of academia were invited to join the sharing session for knowledge and experiences exchanged in relation to the design thinking implementation in ICT courses at the university. The seminar served as a platform for instructors to present their design thinking implementation to experts and gain feedback. The event then continued with a hybrid forum open to academics, students, and public viewers. The physical meeting of the event took place at the Advanced Learning Information Resource Centre, University Tenaga Nasional. Online participation took place through Facebook[®].

6.1.2 Description of the participants

The session was attended by 20 participants, 3 speakers, 1 government-linked university design thinking research partner, 5 University Tenaga Nasional course instructors, and others who participated online.

6.1.3 Description of activities

The one-day event was divided into 2 sections.

During the first session, the instructor shared their experiences on deploying design thinking in specific courses over 3 semesters. Each instructor further shared experiences on how grading rubrics reflect the implementation of design thinking in their courses. Invited design thinking experts gave comments and feedback on the activities and implementation of design thinking on respective courses for further improvement. The participating instructors showed enthusiasm in

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the ideas of how design thinking activities can improve students' innovativeness in solving problems and achieving the intended outcomes of the learning.

The second section was dedicated to a hybrid forum titled "Design Thinking Application: Science, Technology and Business Education". An invited guest officiated the forum, Mr. Raja Segaran, Director for Strategy, Research and Intelligence, Malaysia Digital Economy Corporation. Three design-thinking academic practitioners acted as the forum panellists, namely Professor Dr Sofri Yahya from the School of Business, University Sains Malaysia, Mr Chuah Kee Man from the Faculty of Communication, University of Malaysia Sarawak, and Associate Professor Dr Hazleen Aris from the College of Computing and Informatics, University Tenaga Nasional. They shared their knowledge and experiences on applying design thinking as an effective approach in teaching and learning to produce creative and innovative graduates sought after by industry employers.



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Figure 14. Design thinking good practices and sharing of knowledge event, March 2023.

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7. National Universities of Computer and Emerging Sciences

7.1 Forum Theatre Performance in Ireland

7.1.1 Date and location

A community building event took place at the University of Cork, Ireland, on May 25, 2023.

7.1.2 Description of the participants

The event was attended by 55 individuals, including researchers, software engineers, academicians, and the general public.

7.1.3 **Description of activities**

The event was organized as a part of a mass awareness program by the social activities in Ireland. The purpose of the event was to raise awareness of algorithmic injustice. Researchers from the National University of Computer and Emerging Sciences, Pakistan, took the opportunity to spread the word on design thinking as one of the methods applicable when designing algorithms for social use to point out and understand the socio-technical problems before deployment.



Figure 15. Multiplier event at the University of Cork, May 25, 2023.

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7.2 International final year project contest in Xi'an, China, September 12 – 13, 2023

7.2.1 Date and location

A community building event was organized in Xi'an, China, on September 12 - 13, 2023.

7.2.2 Description of the participants

The event was attended by 319 participants from 35 countries.

Description of activities 7.2.3

The event was organized by the Higher Education Authority of China, which invited contestants from all over the world to participate. Students showcased their final year projects to industry and academia. The National University of Computer and Emerging Sciences participated in 3 candidate projects. One of the final year projects was implemented in the design thinking lab developed through project ICT-INOV. The opportunity was used to disseminate project outcomes to attendants.



Figure 16. Community building event in Xi'an, China, September 12 – 13, 2023.

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8. ISRA University

8.1 Designing Impactful Solutions by Integrating Design Thinking in Final Year Projects, August 24, 2023

8.1.1 Date and location

A community building event was organized at the Department of Computer Science, ISRA University, on August 24, 2023. The event was organized in one of the general-purpose labs of the Faculty of Engineering, Sciences, and Technology, ISRA University, Hyderabad. All faculty members and students of the Department of Computer Science were invited to attend the workshop.

8.1.2 Description of the participants

The event was attended by participants, including faculty members and final-year students of the Department of Computer Science.

8.1.3 Description of activities

The purpose of the event was to introduce design thinking and its potential deployment in the implementation of students' final-year projects to improve outcomes. Final year projects are implemented over a period of 2 semesters, which allows plenty of time for students to discuss and improve their ideas and work in collaboration with their supervisor.

The event started with an introduction to design thinking and the steps involved in it. Then, students were presented with a demonstration of the ICT-INOV digital learning platform and its functionality. Subsequently, students worked in groups on activities published on the ICT-INOV digital learning platform. They used the platform to collaborate on their project, applying design thinking principles.

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Figure 17. Community building event on implementing impacting solutions through design thinking, August 24, 2023.

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9. Kathmandu University

9.1 Re-thinking education for the IR 4.0 with design thinking

9.1.1 Date and location

A community-building event was organized at Kathmandu University on January 17, 2024.

9.1.2 Description of the participants

The event was attended by over 50 faculty members from departments in the School of Education in the presence of His Excellency Ambassador of Korea to Nepal and Vice Chancellor of Prof. Dr. Bhola Thapa.

9.1.3 Description of activities

The activity took place in the context of the broader SMART classrooms event. Prof. Dr Manish Pokharel, the Principal Investigator of project ICT-INOV at Kathmandu University, delivered a presentation on "Re-thinking education for IR 4.0 with design thinking" during the opening ceremony of the SMART classrooms event. Prof. Pokharel presented the design thinking methodology and stressed the importance of building innovation skills among higher education students, who are the problem solvers of tomorrow. Prof. Pokharel further presented the ICT-INOV activities and the project's impact on capacity building for innovation.

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Figure 18. Community building event on re-thinking education to introduce g smart classrooms, January 17, 2024.

9.2 North Zone Vice Chancellors' Meet 2024 and Bharat-Nepal Education Summit, February 15 – 17, 2024.

9.2.1 Date and location

A community building event was organized at the Kathmandu University's premises at Dhulikhel on February 15 – 17, 2024.

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9.2.2 Description of the participants

The event was attended by delegates from 151 member universities.

9.2.3 Description of activities

The community-building event took place within a larger activity, which constitutes a higher education mega event in the region with the theme of globalization and internationalization of higher education and subthemes of international collaboration and partnerships. Topics include building bridges for higher education, global education policy and regulation, harmonizing standards, and student mobility and diversity to enhance international learning experiences.

The event was hosted by Kathmandu University, which is dedicated to maintaining the standard of academic excellence in various classical and professional disciplines.

The event was attended by representatives of universities from both Nepal and India. It was supported by the Association of Indian Universities, an organization and association of universities based in Delhi, India, including central universities, state universities, and institutes of national importance. The Association of Indian Universities was established in 1925 and has 809 member universities, including 17 overseas universities.

Participating universities, including Kathmandu University, showcased their academic programs, research work, and projects during the event. Project ICT-INOV was featured in the event. Presentations demonstrated ICT-INOV project objectives, activities, outcomes, and partners towards building innovation capacity. Presentations highlighted the importance of the project towards building the innovation capacity of higher education students. They underscored the usefulness and applicability of the open digital collaboration tools developed in the project in higher education practices.

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D4.2 National level events: community building, multiplier activities





Figure 19. Community building event at the North Zone Vice Chancellors' Meet 2024 and Bharat-Nepal Education Summit, February 15 – 17, 2024.

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10. Tribhuvan University

10.1 ICT-INOV Girls to Code workshop on programming and design thinking, December 29 – 31, 2023

10.1.1 Date and location

The event took place on December 29 – 31, 2023, from 10.00 – 13.00 each day at the ICT-INOV Design Thinking Lab, Center for Energy Studies, Institute of Engineering, Tribhuvan University.

10.1.2 Description of the participants

The event was attended by 58 high school and undergraduate engineering students.

10.1.3 Description of activities

This 3-day workshop was held under LOCUS 2024 20th National Technological Festival, which is held annually at the Pulchowk Campus of the Institute of Engineering, Tribhuvan University. The workshop was led by Alita Shrestha, Senior React[®] developer from Pegotec and Tanisha Chaudhary, Software Engineer from LIS Pvt. Ltd., Nepal. 10 mentors for hands-on sessions further assisted participants.

The event further included presentations by guest speakers, namely Supriya Khadka, Conversational AI Engineer from Diyo.ai, Aachal Thapa, President of Nepali Women+ in computing and Nadika Poudel, 4th year Computer Engineering student, Pulchowk Campus.

The event was managed by Mahima Dhakal and Smriti Karki, 4th year Computer Engineering students.

During the first day of the event, activities were coordinated by instructor Tanisha Chaudhary. Topics included:

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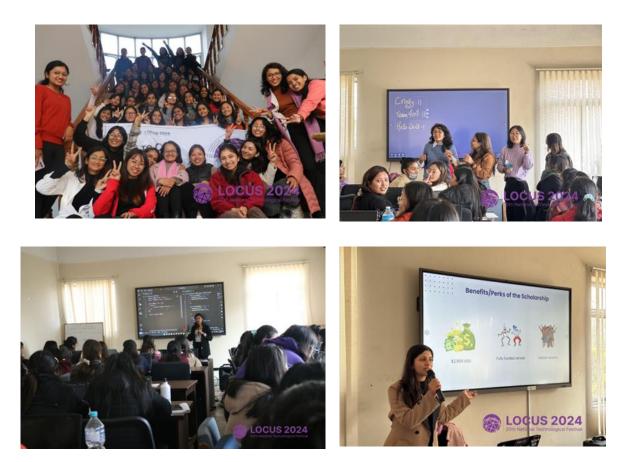


D4.2 National level events: community building, multiplier activities

- Introduction of ICT-INOV project. .
- Overview of design thinking for programming projects. •
- React[®] fundamentals. •
- Hands-on session. .

During the second and third days of the event, activities were coordinated by instructor Alita Shrestha. Topics included:

- Advanced component concepts and project exploration. •
- Hands-on session.



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Figure 20. Community building event Girls to Code, December 19 – 21, 2023.

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11. Hanoi University

11.1 Innovative system development with design thinking, January 17, 2024

11.1.1 Date and location

A community-building event was organized on January 17, 2024, at Hanoi University.

11.1.2 Description of the participants

The event was attended by 10 lecturers and approximately 70 students from Hanoi University, Hanoi Architectural University, and Posts and Telecommunications Institute of Technology.

11.1.3 Description of activities

The event was divided into 2 sessions that had a duration of 2.5 hours.

The first session opened with a brief introduction of ICT-INOV project objectives and outcomes. Activities continued with a presentation of design thinking principles and practices. The audience was familiarized with the design thinking phases. They further developed awareness of design thinking activities taking place at Hanoi University.

In the second session, participants were introduced to using the ICT-INOV design thinking platform. In addition, 3 groups of students from Hanoi University presented how they practised design thinking to find innovative solutions for their software projects. The event concluded with Q&A session and discussion on design thinking.

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Figure 21. Community-building event on design thinking, January 17, 2024.

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D4.2 National level events: community building, multiplier activities

Conclusions

This report presented community-building activities organized by consortium partners to promote project objectives, activities, and outcomes. The events helped reach 1,500 individuals in consortium member countries and beyond, reaching well over the proposal target of 50 participants in each country where the consortium has project partners. The activities helped reach higher education and other sectors, such as secondary education and industry, maximizing project impact.

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