SMART Karabakh Hackathon
(Smart City, IOT)
REV.1

1. INTRODUCTION

"What makes a city smart?" There are different answers to the question with different approaches. In general, a "smart city" is defined as a better understanding of intracity operations and the ability to manage them along with the optimization of limited resources. In another approach, the "smart city" is evaluated as increasing the efficiency of operations, sharing information with the public, using information and communication technologies to provide better public services and the well-being of citizens.

"Smart City" uses a variety of software, interfaces, and a communication network to deliver closed solutions to the population through the Internet of Things (IoT). Internet of Things (IoT) technology is one of the most important solutions in the concept of "Smart City". IoT is an existing network for interconnected devices to communicate with each other and shares information. These solutions may come across in every sphere, from cars to household chores, on the streets, and at some point. The data collected from the devices pick up on cloud technology or physical servers, optimized by the private and public sectors making available for the convenience of the population within the Smart City.

In addition to the importance of the Internet of Things (IoT) in this project, other technologies also play an undeniable role. As an example, "Application Programming Interface" (APIs), "Artificial Intelligence" (AI), "Cloud Computing Services", "Dashboards", "Machine Learning", "Machine-to-Machine Communications", and "Mesh Networks" and other technologies can be reported.

2. Purpose of SMART Karabakh Hackathon

The main goal of the planned hackathon is to take advantage of the above technologies, implement "Smart City" solutions in the liberated territories of Azerbaijan, transform these areas into a comfortable, economical, and ecologically clean region, create a fertile ecosystem for residents and entrepreneurs and contribute by creating a more efficient ecosystem for agriculture. The prevention of forest fires, the construction of smart buildings that save energy and water resources, the advancing of the population to bicycle or on walking instead of cars, and more intelligent solutions can be considered as topics.

3. HACKATHON TOPIC

- To propose "smart" solutions in the concept of the "smart city" within framework of reconstruction work in the liberated territories of Azerbaijan, using a number of technologies and solutions below listed and not listed.
- The proposed solutions are able to relevant for existing reality and feasible.

4. HACKATHON FORMAT

The Hackathon will be held in the dynamic format of any-kits-in-house. The selected teams for participation are going to take place in Hackathon which will be held in Crystal Hall on May 25. Teams will be presented by the specification of types of equipment and programs which will be available at the Hackathon's warehouse along with the launch of the 50'hour marathon. After the expiry of 24 hours from the start, the jury will review the Critical Design Point and progress of a prototype assembly. Moreover, making any changes after the CDR point will be prohibited. After this stage, the teams must finalize their prototypes within 26 hours and hand in their projects to the jury.

5. WE WILL SUPPLY THESE TECHNOLOGIES:

Proffered Equipments :

- Application Proqramming Interfaces (APIs)
- Virtual infrastructure over cloud solutions
- Open Data Platform for information acquiring
- Sensors in the following areas to crete solutions :

The main directions of "smart solutions" :

- Education
- Agriculture
- Transport
- Household
- Energy consumption
- Water consumption
- Environment
- Security

Examples of directions:

Water and energy consumption:
- Effective solutions for water and energy consumption
- Solutions that can measurea and monitor the level and pollution of water bodies

Evvironment:
- Solutions that can measurea and monitor air quality and cleanliness
- Solutions to increase green areas
- Solutions for the protection of flora and fauna

Security:
- Solutions for visualization of demined territories
- Solutions for civil alarm
- Solutions for sending information about suspicious cases

Education:
- Solutions for improving education and mobilizing students
- Distance learning solutions

Agriculture:
- Solutions to increase agricultural productivity
- Solutions for efficient land use

Transport:
- Intelligent management of public transport
- "Smart parking" solutions
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6. CONDITION OF PARTICIPATION IN THE COMPETITION

- Individuals can perform individually or as a team
- The number of team members shouldn't exceed 3 people
- Age limit 18+
- To have innovative and analytical thinking, understanding modern trends, being able to develop ICT solutions, IoT, Smart solutions, etc. Young people which are familiar with the technology
- Hackathon participants cannot be members of the jury, organizers and their family.
- Candidates will be interviewed online by individuals/teams selected in advance by Teknofest Azerbaijan. Individuals/teams selected as a result of the interviews will be invited to participate in the Hackathon competition.

7. APPLICATIONS

Applications will be received on the official website of the Aviation, Space and Technology Festival TEKNOFEST Technology Competitions www.teknofest.az
For application, the application form must be filled until 01.04.2022.

8. TIMELINE

Table 1:

DATE	DESCRİPTİON
01.04.2022	Competition Application Deadline
25.04.2022	Announcement of the Teams who passed the selection

25.05.2022	TEKNOFEST AZERBAIJAN 2022 12:00 p.m. Announcement of technical specifications of available equipment in the warehouse and launch a 50 hour Hackathon
26.05.2022	12:00 p.m. Submitting crticial design review to the jury (CDR).
27.05.2022	14:00 p.m. Hackathon stop ! Hand in prototypes to the jury
28.05.2022	12:00 p.m. Winners anouncement ,awards ceremony

9. <u>DISTRIBUTION OF THE REPORT</u>

Table 2:

Category	Percentage of Score	Subcategory	Percentages
Theme	30%	İdea	5%
		Consept	10%
		Plan (mockup)	15%
Team	5%	Potential level of the team	5%
Performance	50%	Presentation skills	5%
		Technical Solution	30%
		Implement of modern technology	10%
		Easy of solution	5%
Economic efficiency and importance	15%	Realization potential of project	10%
		Economic efficiency	5%

10. AWARDS

The winner will be determined for the first 3 places and the following prizes are going to be awarded for each category.

Table 3:

Category	Award
First Place	10 000 USD
SecondPlace	5 000 USD
Third Place	3 000 USD

"Best project presentation" award in the nomination

The award in the form of a diploma will be presented to the teams that try to solve the task better, regardless of whether they reach the final. It transforms into a presentation of the teams working properly at all levels on the implementation of the project. The diploma is a sign of prestige and has no monetary equivalent.

11. GENERAL RULES

- Teams have the right to object to the concerned judge through their team leaders. Objections can be made verbally, provided that they are submitted in writing at a later time. Verbal objections must be put in writing within 24 hours. In any case, non-written objections will not be taken into consideration. Objections will be finalized within 72 hours after having examined by the judge panel.
- After the evaluation results are announced, team leaders are required to submit their objections and justifications in writing. Objections must be received from contest@technofest.az
- The appeal process must be made within one week - 7 days - after the results of the competition are announced. Otherwise, the objections are not taken into consideration.
- The role of the advisor; to help students to plan their own education, to guide them in academic, social and cultural issues, to help prepare the appropriate

environment for the development of the student's personality as a whole with its mental, social and emotional aspects, etc. tasks and services. The role of the advisor in the team is to provide the academic support that will be needed in the project, to guide the team members to find solutions to their problems.

- The work of ideas that is the subject of the competition is; may produce with member of the team and this idea belongs to the team and the consultant will not be accepted as the owner of the work.

- Our teams that have benefited from the reports of the past years on our website have to include cited phrase after the sentence cited. CITED FORMAT: "Cited Phrase/s (Year, Competition Name, Category, Team Name) EXAMPLE QUOTE: "Failure to determine the location of the earthquake victim in the wreckage is the most important problem that slows down the debris removal and search for the earthquake victim." (2020, TechnologyFor Humanity, Disaster Management, X Team)

- Each contestant is responsible for taking the necessary precautions and showing the expected attention to his/her peers and the environment.

- Turkish Technology Team (T3) Foundation and the organisation committee reserve the right to make any amendments to the specifications in order for the contest to take place in accordance with the specified impartial criteria so that any violations may result in judicial outcomes, to better meet all sorts of requirements by the contestants, to provide necessary safety precautions and to maintain the functionality of the contest specifications.

- Having made the necessary evaluations following the application deadline, T3 Foundation and the organisation committee reserves the right to cancel the contest given that sufficient number of applications is not reached with the required technical knowledge and skills.

- TEKNOFEST AZERBAIJAN Safety and Security Terms and Conditions will be communicated to all contestants, delegations and concerned parties. All competing teams are responsible for observing the safety terms and conditions specific to their respective categories specified in TEKNOFEST AZERBAIJAN Safety and Security Terms and Conditions. In this regard, with the exception of security precautions contained in the aforementioned security instructions, it is the contestants' responsibility to take additional precautions arising from the systems employed.

- T3 Foundation and the organisation committee has the right to exclude any and all teams from the contest who do not fulfill the terms and conditions of TEKNOFEST AZERBAIJAN Safety and Security Terms and Conditions to provide a safe environment for holding the contest. T3

  Foundation and organization officials cannot be held responsible for damages arising from the violation of terms and conditions by the contestants,

delegations and concerned parties.

- Regarding the competition, the competitor hereby accepts and consents to any kind of written or visual promotion, publication, social media and internet broadcasting to be made by the T3 Foundation and / or TEKNOFEST AZERBAIJAN before or after the competition. In addition, the competitor agrees and submits that any and all intellectual property generated as pertains to the competition, including but not exclusive to designs, code, and manufactured products, belongs exclusively to the T3 Foundation and / or TEKNOFEST AZERBAIJAN and that the competitor does not have any rights to or demands on these artifacts. T3 reserves the right to disclose all intellectual property thereby for public consumption in a manner it deems fitting.
- In the event that a competitor infringes upon the intellectual property rights of any product, and T3 Foundation and/or TEKNOFEST AZERBAIJAN incur damages, the responsibility for such damages will be borne entirely by the relevant participant(s).
- All teams who qualify to compete in the contest will be given a Participation Certificate.

12. <u>**ETHICAL RULES**</u>

- The legal process will be urgently initiating for the people who performs a situation, action, speech, etc. contrary to social morality in the festival area or during the competition process (report stages, evaluation process, etc.) And team will be banned from all kinds of events and activities of T3 Foundation to participate at least 2 years.
- The issues to be considered in the language used in all communication with the TEKNOFEST AZERBAIJAN Competitions Committee are as follows
- Rude and impolite words and behaviors must be avoided,
- Insults, threats and bad words must be avoided,
- Direct targeting and insulting with social media tools such as E-mail, facebook, skype, messenger, whatsapp, twitter etc. must be avoided,
  It is necessary to pay attention to the spelling rules and style in your petitions and objections.
- Situations, verbs, words etc. that will affect the functioning and motivation of other teams in the festival area must not be exhibited.
- Social peace in the dormitory and its surroundings where accommodation services are provided should be taken into consideration. Otherwise, the initiation of the legal process against the person will be carried out by the relevant institutions.

- During the project and product development process, it is the responsibility of the team to back up / store the necessary equipment and materials in advance, taking into account all kinds of negativity, and to change parts in case of a possible negativity. Product supply from another team must not be provided.
- Care should be taken to act in accordance with the service requirements in neutrality, without discrimination of language, religion, philosophical belief, political opinion, race, age and gender, and without giving rise to behaviors and practices that prevent equal opportunity in the festival area and in all kinds of services offered by TEKNOFEST AZERBAIJAN.
- It is necessary to pay attention not to use and use TEKNOFEST AZERBAIJAN and other company- institution-organization goods and resources outside of their purposes and service requirements, and not to waste these goods and resources.
- It is necessary to support the activities carried out in order to facilitate the functioning of the festival, to meet its needs in the most effective, fast and efficient way, to increase the quality of service and to increase festival satisfaction.
- Be careful about all kinds of benefits and financial or other liabilities and similar personal interests provided to themselves, their relatives, friends or the persons or organizations with whom they are in contact and that affect or seem to affect the competitors in the festival area to perform their duties impartially and objectively, to act and take the necessary precautions to avoid conflicts of interest.
- When using TEKNOFEST AZERBAIJAN buildings and vehicles and other public goods and resources, it is necessary to avoid waste, to act effectively, efficiently and economically while using working time, public goods, resources, labor and facilities.
- TEKNOFEST AZERBAIJAN team members must be accountable for their responsibilities and obligations during their execution, and are open and ready for corporate evaluation and supervision, advisors should take the necessary measures to prevent corruption with the actions or actions that are not in line with the goals and policies of their institutions, and train their members on ethical principles of behavior, It should be monitored whether these principles are followed or not and provide guidance on ethical behavior.
- While fulfilling their duties, team members should not make any commitments, promises or attempts binding the institutions they work for, and should not make deceptive and untrue statements.

STATEMENT OF LIABILITY

Turkish Technology Team Foundation and Ministry of Digital Development and Transport of The Republic of Azerbaijan are in no way liable for any injury or damage caused by any entry, any entrant, or by the disqualification of an entry. Turkish Technology Team Foundation and Ministry of Digital Development and Transport of The Republic of Azerbaijan at large are not responsible for ensuring teams operate their systems within the law of the Turkish Republic. The Turkish Technology Team Foundation and Ministry of Digital Development and Transport of The Republic of Azerbaijan, and organization officials cannot be held responsible for the damages inflicted upon third parties by the contestants.

The Turkish T3 Foundation and Ministry of Digital Development and Transport of The Republic of Azerbaijan have the right to make any changes in the rules and regulations that are listed above, including agreements of the specifications.