



LOCUS 2020

17th National Technological Festival

Project Guidelines

The Roadmap

- Form a group of two to four members.
- Choose the category of project you will be pursuing: hardware, software and electrical. Each of these have their own specific guidelines below. Your projects may be thematic or non-thematic.
- Fill the project registration form as early as possible - starting the process early will help you fully reap the benefits LOCUS offers.
- After you have registered, you will be assigned a mentor.

The mentor will guide your team throughout the duration of the project, and also act as an intermediary between LOCUS and your team. Your team can report all issues that you think requires LOCUS committee's attention to your mentor (for example, request for letters of leave from college, request for help in project materials, etc). Your mentor will also periodically check upon your state of project, and will have a part in the final judging of projects.

- Your team will have to complete and submit your project documentation ten days before the start of the LOCUS exhibition. Further information on documentation will follow.
- A mock demonstration will take place a day before the exhibition officially starts. Your team needs to have put the finishing touches before it. Attendance in this rehearsal is compulsory.

The LOCUS Code

All projects must comply with the LOCUS code.

- A project must not be an existing product in the market, re-assembly or a clone of existing products, and should not violate any Intellectual Property (IP) laws.
- A project must not disturb or interfere with other projects.
- A project must not be offensive to any gender, religion, nationality, caste or community.
- A project must not be alarming or otherwise threatening to the visitors, guests and judges.
- A project must not violate any laws and regulations of Nepal.

Hardware guidelines

A project falls under hardware category if it contains a combination of physical components and code.

- Available hardware resources will be provided to each team given the project is viable.
- A project should be in working condition and its output should be observable.
- A project can use Arduino, AVR, Raspberry Pi, ARM, PIC, 8085 or any suitable microcontrollers.
- Own circuit board (in matrix board or Printed Circuit Board) are preferred in hardware projects.
- The majority portion of projects must be hardware components.
- Size of the project should not be larger than a stall. For special cases, contact LOCUS beforehand.
- Frequency band used by any RF modules must fall into the international Industrial, Scientific and Medical (ISM) devices band.
- Hazardous substances or devices (eg firearms, weapons, ammunition and reloading devices, etc) are not permitted as components.
- Flames, explosives, highly flammable materials which produce extreme temperatures are not permitted.
- The operating voltage must be up to 220V, 50 Hz (AC).
- The software and other applicable parts of your project should have a license. It is not crucial what license you use, only that you use one. We strongly recommend open source licenses from <https://choosealicense.com/licenses>.

Electrical guidelines

A project falls under electrical category if it contains physical devices and components relating to power generation, distribution, energy efficiency, as well as electromagnetic and electromechanical phenomenon and so on.

- Available hardware resources will be provided to each team given the project is viable.
- Simulation of projects in addition to the main hardware is highly favored.
- Size of the project should not be larger than a stall. For special cases, contact LOCUS beforehand.
- Low voltage electronic devices and microcontrollers project may also be employed in the project, but an electrical project should be related to electrical systems or energy problems solving technique.
- The operating voltage must be up to 220V, 50 Hz (AC).
- Proper insulation of the projects and safety must be highly considered.
- There must not be any short circuits, heating explosions or any other hazardous activities in the projects.
- The projects must not be so power-heavy as to not be supported in a domestic (15 A) line.

Software guidelines

A project falls under software category if it is focused on programming, algorithms, data processing techniques and their outputs, as well as programming languages and frameworks.

- All projects requiring an internet connection must ensure their own fall-backs in case of loss of connectivity or other connectivity issues.
- The platform for the hosting of the projects should be arranged by the participants themselves. Unless requested and approved, LOCUS will not supply computers, servers, etc.
- The software project should have a license. It is not crucial what license you use, only that you use one. We strongly recommend open source licenses from <https://choosealicense.com/licenses>.