FLUX

SUSTAINABLE
ARCHITECTURE
@SCALE

EMERGING ARCHITECTS
DESIGN COMPETITION

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last updated 12/01/2015

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INTRODUCTION

Flux is calling on the next generation of building designers to enter our student architecture competition. Based in San Francisco, Flux develops cloud-based collaboration tools that exchange data between existing design environments, allowing for automated and parametric workflows that extend across multiple platforms. Our mission is to spread design knowledge and improve the accessibility of design tools, in order to help the AEC industry design buildings smarter, faster, and more sustainably.

CHALLENGE

Today over 3 billion people live in urban areas, composing 50% of the world population. By 2050, it is estimated that the world population will grow to between 9 and 11 billion people, and over 70% will be living in urban areas. This means that within 35 years, we will need to house an additional 3 billion people within cities by the most conservative estimates. Even if we could build large apartment complexes that house 500 people each, we would need to construct 500 buildings each day every day for the next 35 years to meet that demand.

How might the architecture, engineering, construction (AEC) industry meet the demand for affordable and sustainable buildings in this rapidly urbanizing world? At Flux, we believe technology will play a central role. Therefore, in our competition this year, we ask students to explore the role technology solutions can play in accelerating the building design process and increasing the innovation capacity of design teams.

TIMELINE

November 2   Registration opens
November 15   Early bird registration closes
December 1   Competition brief released
December 31   Registration closes 11:59 PM PT
January 31   Competition submissions due 11:59 PM PT
February 29   Winners announced

ELIGIBILITY

All currently enrolled students worldwide studying subjects related to the built environment are eligible to participate in this competition.

You may enter the competition as an individual or on a team (with no maximum number of people). Please register individually first to receive unique access credentials; teams will be declared later on in the competition during the submission process.

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DESIGN REQUIREMENTS

Design a project that demonstrates technology-empowered design. You must use Flux as part of your solution but are not limited in using other technologies and design tools as well. In particular, use Flux to do something that previously could not be done or required significantly more time, such as but not limited to:

- exchanging data between multiple software platforms and/or devices
- collaborating real-time on a project with multiple team members
- leveraging the cloud to perform computationally-intensive calculations

Your final design can be, but is not limited to, any of the following:

- a building or part of a building
- an application (refer to the "Beam Framing Collaboration App" under the resources section for an example)
- a design process (refer to "AEC Hackathon" under the resources section for an example)
- a product (e.g: furniture, a 3D art piece)
- an animation (refer to "Human Dynamo" under the resources section for an example)

Beyond the use of Flux in your project, there are no further design requirements for the competition. Of course, remember that whatever you choose to design should relate back to the overarching theme of providing sustainable and affordable housing. You do not need to design a building to stay relevant to the theme. For example, a relevant application could be one that rapidly calculates the optimal window-to-wall ratio of a building to achieve the most energy efficient design. A relevant product could be a digitally fabricated chair, which demonstrates a technique for the cost-efficient use of materials that can also be applied to building design.

Currently, Flux can exchange data between Grasshopper, Dynamo, and Excel via the web. Think creatively, boldly, and outside the box. Check out the resources section for video tutorials and examples of how Flux may be used, and refer to the judging and awards section for further guidelines.

Ongoing or previously competed school projects may be repurposed to meet the themes and requirements of the competition. Please make sure that if the school project was completed in a team, all team members must register for the competition and be listed during the submission process, unless they have given written permission of exclusion.

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JUDGING

All entries will be evaluated by a jury board based on the following criteria:

Requirements   Does the project meet the requirements?

Potential   Does the project demonstrate the role and potential of technology in sustainable and affordable building design?

Creativity   Is technology used in an innovative and unconventional way?

Simplicity   Does the project reduce the complexity (eg: number of steps, length of time) of a conventional design solution?

Transferability   Can the technology solution be replicated or repurposed for other projects?

The jury will be announced later in the competition.

AWARDS

All winning entries will be featured on the Flux webpage. Receipt of an award in one category does not exclude an individual or team from the receipt of awards in any other category. Award of monetary prizes are subject to US and domestic laws and restrictions.

Most innovative project   **5,000 USD**
The winner of this category would either demonstrate an innovative approach for leveraging technology in building design or design an innovative project that requires technology for its execution or completion.

Best building performance   **5,000 USD**
The winner of this category would either demonstrate a technique to achieve or design a project that achieves better building performance (ie: reduced energy use, reduced water use, reduced material use, reduced cost, etc).

Best digital fabrication using Flux   **1,000 USD**
The winner of this category would leverage Flux for digital fabrication.

Best data harvesting using Flux   **1,000 USD**
The winner of this category would leverage Flux to harvest large amounts of data during the design process.

Best multi-user collaboration using Flux   **1,000 USD**
The winner of this category would leverage Flux to integrate the work of multiple team members into one unified workflow.

People's choice for best overall   **2,500 USD**
The winner of this category will be elected by a public vote! More details to come.

plus honorable mentions   *value TBD*

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SUBMISSION REQUIREMENTS

Competition submissions are due by January 31, 2016 11:59 PM PT and must include the following:

A. Send an email to competition@flux.io with the following files. (If your file sizes exceed the email attachment limit, please send the entry form and video in one email and the zip folder in a separate email.)

  1. An entry form (in .pdf format) that declares
      a. the project title
      b. the participants names, emails, and universities
      c. a project description (max 500 words) that provides an overview of the project, highlights how Flux was used, and ties the project back to technology's role in meeting urban housing demand
      d. a list of all the documents included in the .zip folder with short descriptions of their contents
      required file name: project title_entry (eg: Fabricated Chair_entry.pdf)

  2. A 2-5 minute video (in .mov, .mp4, or .wav format) that covers
      a. a brief overview of the project
      b. the technical details of how Flux & other design tools were used (this should be the bulk of your video and take up ~3/4 of your overall video length)
      c. how the project ties into the competition theme
      required video name: project title_video (eg: Fabricated Chair_video.mp4)

  3. A zip folder that includes
      a. all design files used in the design process (ie: Excel, Grasshopper, Rhino, Dynamo, Revit)
      b. [optional] any other supplementary materials, such as images, drawings, posters (please use .jpg, .png, or .pdf formats)
      required folder name: project title_materials (eg: Fabricated Chair_materials.zip)

  NOTE: To ensure an anonymous judging process, do not include your name(s), initials, or school name(s) on the video or any documents within the .zip folder.

B. Share your Flux project with competition@flux.io. Read this article for how: https://community.flux.io/questions/1241/how-can-i-invite-someone-to-collaborate-on-a-flux.html. *Required project name: project title (eg: Fabricated Chair).*

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INTELLECTUAL PROPERTY RIGHTS

All submissions must be the intellectual property of the individual or team who submitted the entry. Any violations result in immediate disqualification of the submission. Flux will bear no responsibility for copyright protection of submission materials.

By submitting an entry, the individual or team grants the competition organizer permission to use the work in future promotional activities without need for further approval.

RESOURCES

Introduction to Flux

What is Flux? https://www.youtube.com/watch?v=P6B5H1zUWW4
Using Data to Improve the Built Environment https://vimeo.com/107291814

Flux Tutorials

An Introduction to Flux Workflows, Modules 1 - 4
    https://youtu.be/VX_hcq4OTIo?list=PLfc0LqQjls6Hi47gZW_v-u3ZTk16Lwvsh
    https://youtu.be/vFlggKCUxTI?list=PLfc0LqQjls6GbZJKgr-wys9xs0aeikHhE
    https://youtu.be/LFiTMb0D6qk?list=PLfc0LqQjls6EiA8DEL3QBZG9FomRDHTHN
    https://youtu.be/m1SlhHrGm98?list=PLfc0LqQjls6G1Pgv3b67w-CrBeuVNAUS2
Flux Snippets
    https://youtu.be/SBg2nSGazhg?list=PLfc0LqQjls6FkuL1dS-DdmffylIOTkSwo

Examples Using Flux

Beam Framing Collaboration App
    https://community.flux.io/articles/1407/auto-beam-framing-app.html
AEC Hackathon https://www.youtube.com/watch?v=aXnxHEymTsE
Human Dynamo https://twitter.com/rwemay/status/670274453150928896

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QUESTIONS & SUPPORT

If you have any technical questions about using Flux, check out our community forum https://community.flux.io/. This is a place where users can ask questions, offer solutions, and share best practices around Flux workflows. We closely monitor the site and will respond to every question.

If you have any questions about the competition itself, email us at competition@flux.io.

CONTACT

Website	https://flux.io/compete/
Facebook group	https://www.facebook.com/fluxhq/?notif_t=page_fan
Facebook event	https://www.facebook.com/events/1713021545583826/
Twitter	https://twitter.com/flux_io
Email	competition@flux.io

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