

ECCE APP CHALLENGE 2024 BRIEFING



PURPOSE

The Esri Canada GIS Centres of Excellence (ECCE) App Challenge is an annual activity among students studying at higher education institutes that are members of the ECCE program. The purpose of the challenge is to engage teams of participating students at each center, with a maximum of three members per team, to work collaboratively on building a new app within one week using Esri technology, and other components as required.

OBJECTIVES

The primary objective of the challenge is, as the word suggests, ***to challenge students to use their technical GIS knowledge, creativity, and ability to innovate and work together to produce a relevant and functional app using the Esri platform.*** Realization of this objective will produce new apps that showcase the abilities of students studying at the centres of excellence.

A secondary objective is ***to contribute to building a strong sense of community among senior undergraduate and graduate students studying at Esri Canada GIS Centres of Excellence.*** Realization of this objective will allow students to 'see' beyond their own school into the broader landscape of GIScience in higher education across Canada.

THE CHALLENGE

Use **Canadian open spatial data**¹ to develop an app with Esri technology.

Crowd-sourced information that serves a specific purpose may also be used in your app, in addition to the open spatial data sources that you use.

THE CHALLENGE THEME

The app you create must be focused on a topic or issue that is related to **Urban Expansion**. This theme has been chosen in response to urbanization and the effects it has on people and the environment. Your task is to identify a relevant topic or issue related to this theme and ensure it is reflected effectively in the overall design and presentation of your project. Some examples of relevant topics include, but are not limited to: horizontal and vertical expansion, infill, densification, infrastructure, housing affordability, urban agriculture, green space, and transport systems.

TERMS

The following terms apply to the App Challenge competition:

- Apps can be built on almost any aspect of the Esri platform, including Web, mobile, or desktop.
 - **New this year:** the use of Web AppBuilder, AppStudio, or StoryMap Collections is no longer allowed.
- Open-source software components can be used in conjunction with Esri software components.
- **All apps must be tested and run on Canadian open spatial data.**
- All intellectual property (IP) associated with the developed apps resides with the developers, and pre-existing IP conditions hold for any commercial or open-source components used.
- You have **one week** (i.e. 7 days) to complete your app from the start date and time that is announced to you.
- **At or prior to the 7-day deadline (5:00 pm local time, unless otherwise specified for your school)**, your completed apps and all items noted in the deliverables section of this document must be uploaded to a private folder

¹ Open spatial data refers to data accessed from an open data site, data accessed from a social media site according to conditions of use defined by the social media company, or any open geographic information services such as rest endpoints that Canadian government agencies have made available.

using a file hosting service (e.g., Google Drive, OneDrive, GitHub). A link to the folder must be emailed to Alex Smith (asmith@esri.ca) **by the final deadline.**

- If your team uses a private repository on GitHub to maintain the source code for your project, you may choose to invite Alex Smith's GitHub account (alexksmith) as a collaborator. Any files not included in the repository will still need to be delivered by the same deadline.
- **Note:** Please do not publish applications, source code, or videos for your project to public repositories on GitHub or through public services like YouTube until April 6th, when all ECCE schools have completed the App Challenge.
- You may obtain technical assistance from faculty/staff at your school, and you may contact Esri Canada higher education staff for support during the event:
 - Dr. Alex Smith (asmith@esri.ca)
 - Dr. Krista Amolins (kamolins@esri.ca)
 - Michael Luubert (mluubert@esri.ca)
 - Jonathan Van Dusen (jvandusen@esri.ca)
- Review the resources provided to you through the ECCE Web site (<http://ecce.esri.ca/>). Specifically, you should **review the videos posted** on the [App Challenge](#) page, and the various items posted in the [Resources](#) page.
- If you have any other questions, please feel free to contact Alex Smith (asmith@esri.ca), or any of the four Esri Canada contacts noted above.
- **All code written and submitted for the apps will be made open source under the GNU General Public License v3.0** (<https://www.gnu.org/licenses/gpl-3.0.en.html>), and will be hosted via the ECCE GitHub repository (2023 repository: <https://github.com/EsriCanada-CE/ecce-app-challenge-2023>).
- Esri Canada retains the right to publicize the challenge and showcase the apps produced by the winner(s) through the ECCE Web site, through social media, and at regional user conferences.

JUDGING

Judging will be completed in two rounds. The first by all members of the Education and Research group at Esri Canada to select the top 10 submissions. For the second round, the top 10 submissions are judged by a team of external judges who select the winners.

DECISION

The judges' decision will be final, and the decision will be conveyed to all participants and the Centre Directors by email before the end of April 2024. There will be a simultaneous announcement posted on the ECCE Web site and in the following week a blog post will be published about the challenge and the winners through esri.ca. Standard social media will also be used to publicize the winners (e.g., Twitter, LinkedIn, etc.) and press releases issued from Esri Canada and each of the centres. There will be no feedback provided from the judges to participating groups, and no rankings beyond the top three will be announced.

PRIZE

This year we will offer a cash award of \$1000 per member on the winning team, \$500 per member of the team that is ranked 2nd, and \$250 per member of the team that is ranked 3rd.

DELIVERABLES

For your reference, a checklist has been included in the [resources](#) provided to your team prior to the start of the challenge. Please refer to this checklist at the start, and throughout the week that you work on your projects. Complete all items in the checklist to help ensure that you have all the deliverables specified below ready to submit at the end of the week.

On the first day of the challenge at your school:

Please submit the following to Alex Smith (asmith@esri.ca):

1. A name for your team
2. A photo of all your team members (either individually, as a group, or perhaps a creative combination of your individual photos in a single image)
3. Prepare a short bio for each team member.

These will be included in a team profile displayed in the ECCE GitHub webpage (<https://esricanada-ce.github.io/>) for this year's App Challenge.

To be delivered by 5:00 pm local time (unless otherwise specified for your school) at the end of the week for the challenge at your ECCE to Alex Smith (asmith@esri.ca):

1. Mission statement for your app (i.e., a clear description of what your app seeks to achieve and why);
2. Statement of the characteristics of the app that make it appealing, interesting and useful (i.e., how does it help the end user);
3. A video with voice over that promotes and demonstrates use of your app, with a thumbnail and short description (max 10 minutes, recommended 5 minutes);
4. A well-structured readme file (in markdown format) suitable for GitHub that states the goals of your app and how to use it;
5. Organized code base suitable for upload to a GitHub code repository with all applicable instructions for downloading, compiling, and/or installation.

The judges for the competition will evaluate all apps based on the quality and completeness of the 5 deliverables mentioned above, as well as the following criteria:

6. The quality of the user experience provided by your app (i.e., it should have a well-structured UI and workflow)
7. The reliability of the application (i.e., it should error-free and should not crash during use)

DELIVERABLES - ADDITIONAL DETAILS

There are some additional details for the above deliverables:

- Readme
 - The readme file must be in markdown format with the name "README.md". If it is not in markdown format with that name it will not display properly on the GitHub page.
 - The readme file can contain copies of the Mission Statement and the Statement of Characteristics, but there must be copies of both in their own documents for judging purposes.
- Video
 - The video, thumbnail, and description must be appropriate to upload to YouTube, using only content that does not have royalty or copyright restrictions.
 - The thumbnail can simply be a frame from your video, or it can be custom designed.

- The description can have any information you want for the viewer, but should have any required credits for stock content used.
- App
 - You need to have one main app, but you can have two optional supporting apps only when required due to technical or design limitations.
 - One can be a story app that is used to provide additional information. For example, this could be a StoryMap or custom website that acts as the landing page with your main app embedded. Alternatively, it could be used as an about page for when the main app itself is not capable of effectively having its own about page. Any other use that fits this sentiment is also acceptable.
 - The other can be a secondary app for functionality that does not fit into the main app, such as a data collection app. This app must not needlessly replicate the functionality of the main app, and must complement it by being relevant to the usage of the main app.
 - All three apps (main, story, and secondary) must be accessible through one submitted link, and are considered to be a single app. The apps can be accessible through various means, such as through being embedded in the linked app, having links or buttons open another app, having a QR code for a mobile device, etc.
 - There is no advantage for simply having the supporting apps, and having redundant or unnecessary supporting apps may be viewed negatively.
 - You may use multiple maps to support your app. For an extreme example, see [Team GeoJAM](#) from 2023 where you can access unique maps of each ecosection through the pop-ups.
- Restrictions
 - Web AppBuilder and AppStudio will no longer be allowed.
 - These are both based on the ArcGIS API for JavaScript v3.x, which is being retired (AppStudio may already be partially retired by the time you start your challenge week).
 - The main alternative for these is to use Experience Builder, a much more capable platform with no-code options. Reference materials, tutorials, and documentation can be found in the Resource Guide.

- StoryMap Collections
 - This is being restricted simply because submissions have gotten to be too big, with teams every year trying to build bigger than the year before. StoryMaps can still be used, just not StoryMap Collections.