

# PROGRAMMING

UBISOFT TORONTO  
**NEXT**

## **Be Inspired. Be Creative. Be NEXT.**

[Ubisoft Toronto NEXT](#) is an annual competition designed to showcase the talent of video game development students in Ontario and to help kick-start their careers in the industry by awarding apprenticeships to competition winners.

Compete in one of seven disciplines to win an apprenticeship:

- Modelling
- Animation
- Programming
- Concept Art
- Level Design
- User Interface
- Technical Art

Last year, 12 students made the transition from student to game developer at Ubisoft Toronto through this program.

### **Ubisoft Toronto NEXT Showcase: Programmer Apprentice Competition**

The winner of the Programmer Apprentice will spend the summer working with the studio's top programming talent as the Ubisoft Toronto NEXT Programmer Apprentice 2019.

#### **Eligibility**

- You must reside in Ontario
- Be eligible to work in Canada
- Currently attend or have graduated from an Ontario post-secondary school no earlier than Spring 2017.
- This challenge must be done individually. Team based submissions will not be reviewed.

## **Challenge Brief**

This year's challenge is focused on game AI (Artificial Intelligence). Take PacMan as inspiration and create a game that showcases interesting AI, using the tools (API) provided. You should have a maze-like play space and AI controlled enemy characters with different behaviours. The AI should go beyond a base PacMan clone. You have complete freedom to be creative, but the game should still fit the PacMan theme. PacMan can be AI or Player controlled, it's up to you. Your entry must be entirely in C++.

We will provide you with a simple framework for drawing lines and an update loop supplying input from the player. We will also provide a simple tile map class to support randomly created mazes, but you are at liberty to implement your own.

You will need [Microsoft Visual Studio 2015 or 2017](#) in order to successfully complete this challenge.

This challenge must be done individually and **all code must be original**. Team based submissions will not be reviewed.

This is a technical AI challenge – we will ignore artistic merit in the judging. We are less interested with how your PacMan game looks, more in how it behaves. To this end, please only use lines.

## **Game Specifications**

Go wild! Make a game that you enjoy playing. If your PacMan is AI controlled, make a simulation that justifies this choice. We've intentionally kept the rendering limited because we want to see how well your simulation works, rather than how good you are at drawing. We want to see something that reveals systemic interactions.

- Your game must successfully compile and run on a Windows 10 PC.
- Don't change the API. Please stick to lines and text.

## **Tips**

- Feel free to be creative and push your game in an interesting direction.
- The base PacMan game has AI for the Ghosts, but don't let that limit you.
- What if the player controlled the Ghosts instead, while your PacMan AI cleared the map?
- Consider changing or adding to the goals of the PacMan and the Ghosts.
- How could the AI be enhanced from the original game? How does this affect gameplay?
- Don't get bogged down with trivia, try to really push yourself.
- We hope to see some personality in your agents.

- Think about what made the original a hit, and what you can do to adapt that in new and interesting ways.
- Don't limit yourself to the suggestions here. Your unique decisions could be the deciding factor.

### **Submission Requirements & Documentation**

Submit your entry at <http://toronto.ubisoft.com/next-submissions/>

**\*\*All items are mandatory\*\***

- **The entry package must be named as follows:**  
**NEXTShowcase\_Programming\_FirstnameLastname**
  - **Code and documentation should be in a .zip file**
  - **Documentation must be in PDF or PowerPoint format**
    - Full name;
    - School;
    - Program;
    - Your brief biography;
    - Your résumé and cover letter;
    - The complete code to your game;
    - The link to a YouTube video of a play-through of your game in HD at a resolution of 1080p, highlighting the gameplay and technical features. This video should be approximately 5 minutes in length.

### **Judging criteria**

A panel of expert judges will individually rank the overall entry package, out of 30, based on the following criteria:

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Code Structure (1-15):

- Clear and simple structures with thought for future expansion
- Self-documenting code with clear interfaces
- Well-managed memory and data flow

Technical Challenge (1-10):

- Advanced and well-applied techniques
- Ambitious design

Innovation (1-5):

- Unique solutions to technical problems
- Interesting and effective artificial intelligence

## **Deadlines**

Challenge Starts (Files available): Friday March 22<sup>nd</sup>, 2019, 2:00 pm EST

- Full challenge details and files will be published at <https://toronto.ubisoft.com/next>

Full submission Deadline: Sunday March 24<sup>th</sup>, 2019, 11:59 pm EST

Submit your entry at <http://toronto.ubisoft.com/next-submissions/>

Interviews: Early May 2019

Selected candidates will be invited to the studio for an apprenticeship interview.

Portfolio Reviews Mid-May 2019

Those who complete a submission by the deadline will be contacted by email in early May by email with the opportunity to sign-up for a limited number of portfolio review sessions with Ubisoft Toronto developers. Note: Session spots are first-come, first-serve and are not guaranteed. Due to the volume of submissions we receive each year, we regret that we cannot provide feedback on submissions outside of these portfolio review sessions.

Awards Ceremony: Mid-May, 2019 – By Invitation Only

Finalists will be invited to attend the Ubisoft Toronto NEXT Awards Ceremony in May 2019. We will announce the Grand Prize Winner during this reception, and we will showcase and celebrate the talent of all of the NEXT finalists.

**Prizes:**

- 1<sup>st</sup> Prize:
  - One (1) paid Programmer Apprentice position at Ubisoft Toronto. The Apprentice position shall be for a length of three (3) months at Ubisoft Toronto studio, and is currently scheduled to begin June 3<sup>rd</sup>, 2019. Dates subject to change at the sole discretion of Ubisoft;
  - One Ubisoft prize pack valued at approximately \$300
  
- Finalist Prizes:
  - One Ubisoft prize pack valued at approximately \$300

**Questions?**

Email us at [NEXT@Ubisoft.com](mailto:NEXT@Ubisoft.com). Note: Email is not monitored 24/7 but we will do our best to respond within

24 hours.