



**ConUHacks**  
CONCORDIA UNIVERSITY

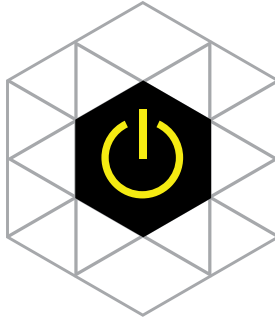
2016

HACKER'S BOOKLET



CONUHACKS.IO





# ConUHacks

Welcome, fellow hacker, to ConUHacks 2016! We're super excited that you'll be hacking with us this weekend. Whether this is your first ever hackathon (woo!) or you're a seasoned hacker veteran (woooooo!), we're sure you'll get something out of this event. All it takes is an open mind, a desire to learn, and a blatant disregard for sleep to get the most out of ConUHacks 2016. So plug in, team up, work it out, and get down for a fantastic 24 hours!

See you.



[facebook.com/conuhacks](https://facebook.com/conuhacks)



[@ConUHacks](https://twitter.com/ConUHacks) [#ConUHacks](https://twitter.com/ConUHacks)



We are on Snapchat: [conuhacks](https://www.snapchat.com/add/conuhacks)



[linkedin.com/company/hackconcordia](https://linkedin.com/company/hackconcordia)



[hackers.conuhacks.io](https://hackers.conuhacks.io)

# IMPORTANT INFORMATION

## RULES FOR HACKING

- A team can be formed by no more than **4** people
- The hack you submit must have been started *at this event* and made during the 24 hours of the event.
- Hacks must be worked on *at the event*, you cannot work remotely
- Submit your projects at ***conuhacks.devpost.com***

## CONNECTING TO THE INTERNET

- Connect using Ethernet located in the following areas:  
Room: **2.255, 2.265, 2.285, 2.430, 2.435, 2.445**
- Connect using Wifi
  - Option 1: Connect to **ConUHacks2016** using the password **HackConcordia**
  - Option 2: Connect to **eduroam** with school's standard login **username** and **password**.

## HOW TO USE QR CODES

- Download the app for your smartphone:  
Android: Barcode Scanner from the Play Store  
iOS: QR Code Reader by Scan from the App Store
- Open the application and scan the QR code
- It will redirect you to the desired website

## AVAILABLE HARDWARE DURING EVENT

For a full list of available hardware, please go to:  
*hackers.conuhacks.io*

## DESIGNATED SLEEPING AREAS

There are rooms in **S1** (Please see page 12) for you to rest in.

## WE ALSO HAVE SHOWERS!

From **9am to 10pm** on **Saturday** and from **9am to 5pm** on **Sunday**, head over to **Le Gym** at the **EV building**, next door metro-level, for a much needed shower (EV-S2-206).

## EMERGENCY CONTACT

Emergency: 911

Concordia University Security: (514) 848-3717

Dial 1 for urgent situations

Dial 2 for non-urgent situations

HackConcordia: [security@hackconcordia.com](mailto:security@hackconcordia.com)

## EVENT SCHEDULE

### SATURDAY

7:30	Breakfast	2.130
9:00	Opening ceremony	1.210
10:00	- <i>START HACKING</i> -	
12:00	Lunch	2.130
18:00	Supper	2.130

### SUNDAY

8:00	Breakfast	2.130
10:00	- <i>END OF HACKING</i> -	
10 – 13	Judging Period	
11:00	Lunch	2.130
13:00	Closing ceremony	H 110

## THANKS TO THE SPONSORS FOR THE MEALS

### SATURDAY

Breakfast is provided by *Nuance*

Lunch is provided by *InterDigital*

Dinner is provided by *AppDirect*

### SUNDAY

Breakfast is provided by *TECSYS*

Lunch is provided by *SAP*

**Snacks will be served every two hours in-between every meal, provided by:**

*Banque Nationale du Canada, CAE, Clarifai, Morgan Stanley,*

*Dental Wings, Macadamian, Microsoft, Real Ventures, Transat*

## WORKSHOP SCHEDULE

11:15	<b>Clarifai</b> Machine Learning Basics with the Clarifai API	2.270
13:00	<b>Banque Nationale de Canada</b> Living the startup life within a big enterprise	2.210
13:45	<b>SAP</b> Intro to SAP Hybris YaaS	2.270
14:30	<b>AppDirect</b> AppDirect Challenge	2.210
15:15	<b>InterDigital</b> IoT Development with the oneMPOWER platform	2.270
16:00	<b>Nuance</b> The Secrets of AI and Natural Language Processing with Nuance API	2.210
16:45	<b>Morgan Stanley</b> Using PowerShell, data mining and analytics to monitor end user experience	2.270
17:30	<b>TECSYS</b> Regular Expressions Demystified	2.210
19:00	<b>Dr. Constantinides</b> Separation of concerns with AspectJ	2.270
19:45	<b>CAE</b> Simulating Flight: From Code to Cockpit	2.210
20:30	<b>Dental Wings</b> Medical Software Development @DW	2.270
21:15	<b>Real Ventures</b> Raising money in the jungle	2.210

**COMPLEXITY**

HAS A MILLION IDEAS IT  
CAN'T MAKE HAPPEN.



**SIMPLE**

FINISHES WHAT IT STARTS.



[sap.com/runsimple](https://sap.com/runsimple)



Run Simple



High Demand | Omni-Channel | Complex Distribution

TURN YOUR  
supply chain  
complexity  
TO  
simplicity  
with

TECSYS EASE - The Visual Supply Chain Platform



Modernize your supply chain management software for the digital era and experience swift execution, ease of use, adaptability and scalability to meet your relentless challenges profitably!

**TECSYS**  
[www.tecsys.com](https://www.tecsys.com)

INTERDIGITAL<sup>®</sup>

# Creating the Living Network

In a world of ubiquitous connectivity, everything changes. People and objects are connected to each other seamlessly, by networks that dynamically, intelligently optimize. The challenge of connectivity disappears, and new capabilities, business models, and possibilities emerge.

This is **The Living Network**, and we're helping create it.

[www.interdigital.com](http://www.interdigital.com)



**Nuance Communications** is reinventing the relationship between people and technology. With our market-leading **speech** and **natural language technology**, Nuance is creating a more human conversation between us and the many devices, systems, apps, and services. Every day, millions of people and thousands of organizations experience Nuance through **intelligent systems**

that can listen, understand, adapt to, and facilitate our life and our work.

**Nuance is a global organization** with more than 35 international operating locations and a sales presence in more than 70 countries. We deliver solutions to markets around the world and bring global perspective and capabilities to everything we do.





### APPDIRECT

AppDirect's API challenge may be a little different than what you are accustomed to. Rather than providing you with an API endpoint, we will ask your team for an endpoint for us to contact you!

This pattern is sometimes called a webhook. It is particularly useful for real-time integration scenarios between systems. Much of AppDirect's billing and event functionality works that way. Rather than having a client poll for events happening in a third party system, you reverse the roles: don't call us, we'll call you.

For ConUHacks, we have created a system that enables participants to register their team members & hackathon projects into a demonstration marketplace. It is in a sense a miniature version of how AppDirect works.

When you implement the endpoint correctly, your application & team will show up on the marketplace with the information you have provided to us. The more information you provide, the better your profile on the marketplace will look.

The marketplace is visible to everyone at <https://conuhacks.appdirectondemand.com>. Other teams and event attendees will be able to see your project and team profile and it will be displayed on a big screen TV.

### CLARIFAI

The best use of the Clarifai API gets Clarifai skateboards and DSLR cameras for each team member! We're looking for applications that are creative, technically challenging, polished, and just fun to use.

### INTERDIGITAL

InterDigital is a leading contributor to the evolving oneM2M global standard and has developed a service platform (oneMPOWER) based on that standard that can be used for any M2M/IoT application.

The challenge is to develop the best IoT application that leverages the InterDigital oneM2M service platform. The use case will be home automation where the home devices will be simulated. Your application can be the web or mobile application that is used to monitor/control devices in the home.

### MACADAMIAN

SmartPantry helps you keep track of your groceries and your shopping list. It is available for free from the Play store and Open Source on Github. The winners of this challenge will be the team that implements a new feature to this application that will add value to the software while maintaining good code quality standard.

## NUANCE

Nuance's mission is to automate customer service transactions through artificial intelligence, and to have consumers prefer it. Nuance provides a variety of speech recognition, text-to-speech, and natural language understanding API's that can be used to assist in building iOS, Android and Web applications using websockets. In an application, these services can either be complementary functionality (i.e. to enhance a user's experience) or made a necessary system component. Further, Nuance provides a full tooling ecosystem to help developers build, maintain, and deploy their NLU models easily. All of the services provided use the network to perform their function and communicate with servers in the cloud. All services are only provided in US English (en-US).

### **\*Extra Challenge:\***

Nuance's R&D division is also inviting hackers to a special challenge. If you're interested in building artificial intelligence technology, come see the Nuance representatives at the Hackathon for a list of technology challenges that aren't solved, and that can propel the industry forward. The winner of the special challenge will see an opportunity for their project to be part of Nuance's products, and/or an internship opportunity at Nuance, in the R&D division.

## SAP

YaaS, from SAP hybris, is the next generation microservice cloud platform that allows everyone to easily develop, extend and sell microservices. They are RESTful, Secure, Scalable, Reliable, Multi-Tenant Services & APIs, based on Open Technologies and Developer Friendly.

Checkout the YaaS devportal for more information : <https://devportal.yaas.io>

Build a microservice in your favorite programming language! Any team that develops a new YaaS service or consumes an existing one, will be eligible to participate in our challenge.

## TRANSAT

Transat offers to the team that bests respond to our challenge, \$400 (4 x \$100 vouchers) applicable towards a Transat-Vacations package or an Air-Transat flight. Using one or a combination of the following commercial travel API, imagine and build a unique travel application or website that caters to your generation, the millennium generation. You can go beyond these travel API and leverage other API from Facebook, Instagram, Google Map etc. Also, when feasible, your application or website can encapsulate websites of your choice, that directs the users to sites that helps complete activities not available through an API (like Hostelsworld, <http://partners.hostelworld.com/solutions.html>). Be creative, think of the full journey, and show us what your generation wants from a travel website or mobile application to help them plan and live their vacations. In order to secure developer access to the following API in time for the contest, please submit your request for access as soon as possible!

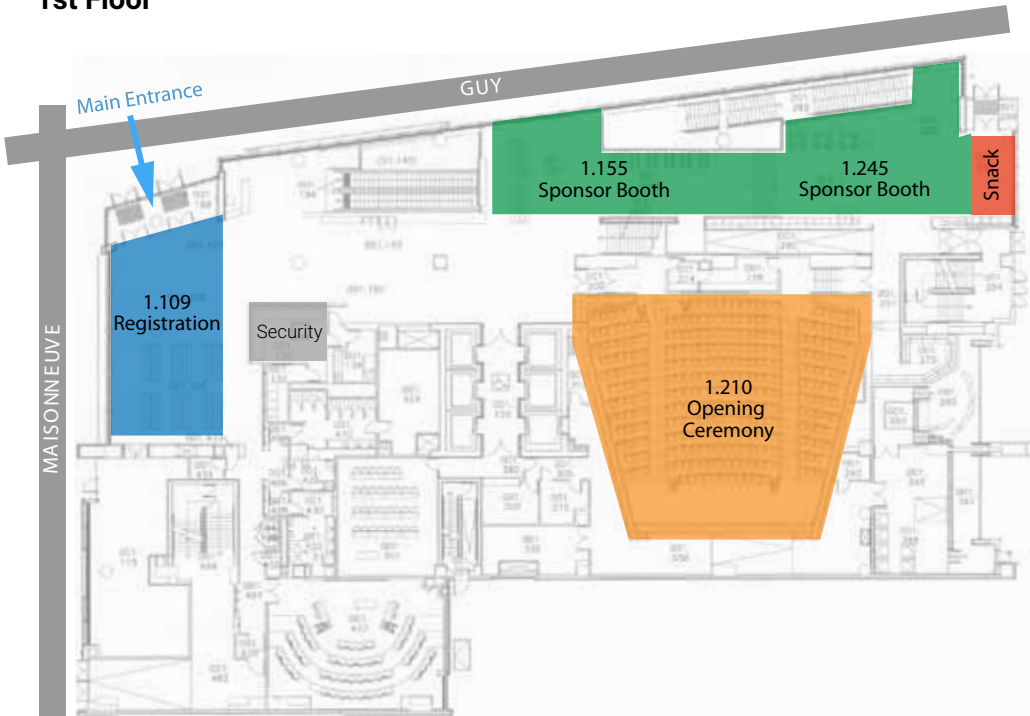
# CAMPUS MAP



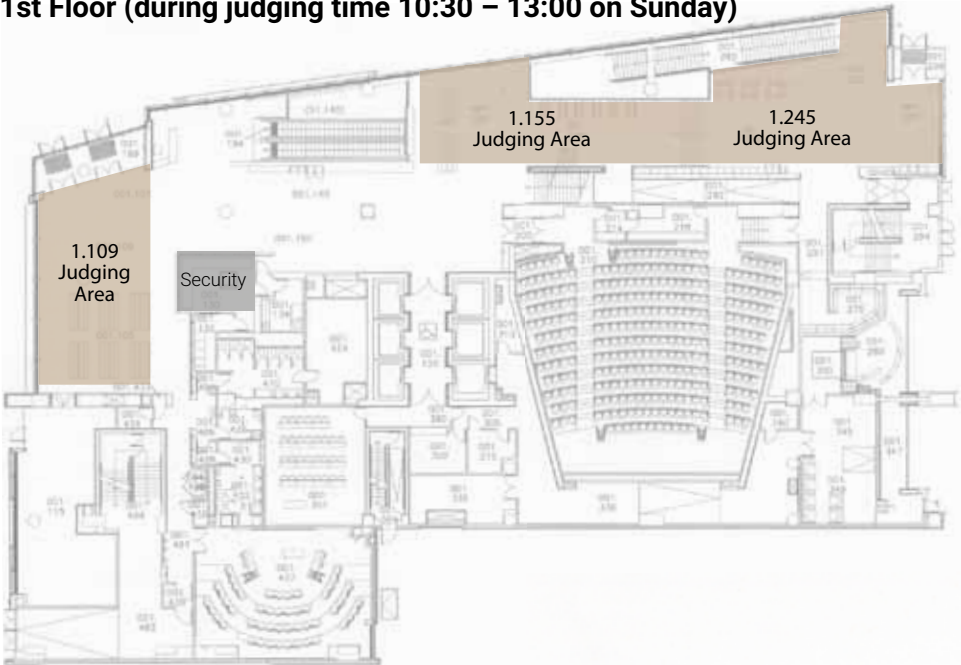
# EVENT MAP

- |                    |                  |
|--------------------|------------------|
| ■ REGISTRATION     | ■ FOOD STATION   |
| ■ OPENING CEREMONY | ■ HACKER ROOM    |
| ■ SPONSOR BOOTH    | ■ SLEEPING ROOM  |
| ■ WORKSHOP         | ■ REST/GAME AREA |
| ■ JUDGING ROOM     |                  |

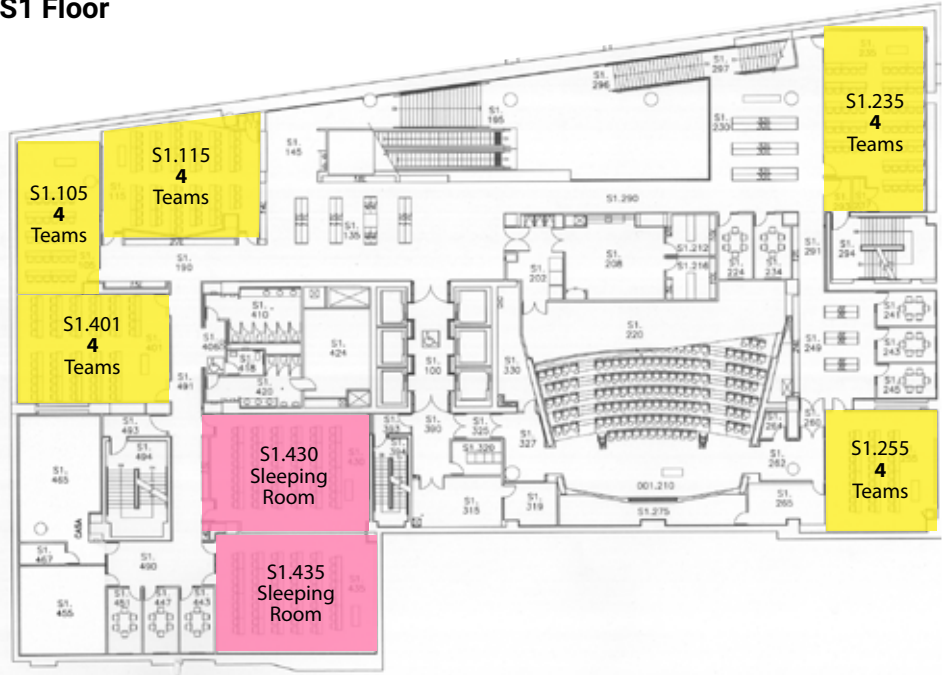
## 1st Floor



1st Floor (during judging time 10:30 – 13:00 on Sunday)



S1 Floor



2nd Floor



3rd Floor

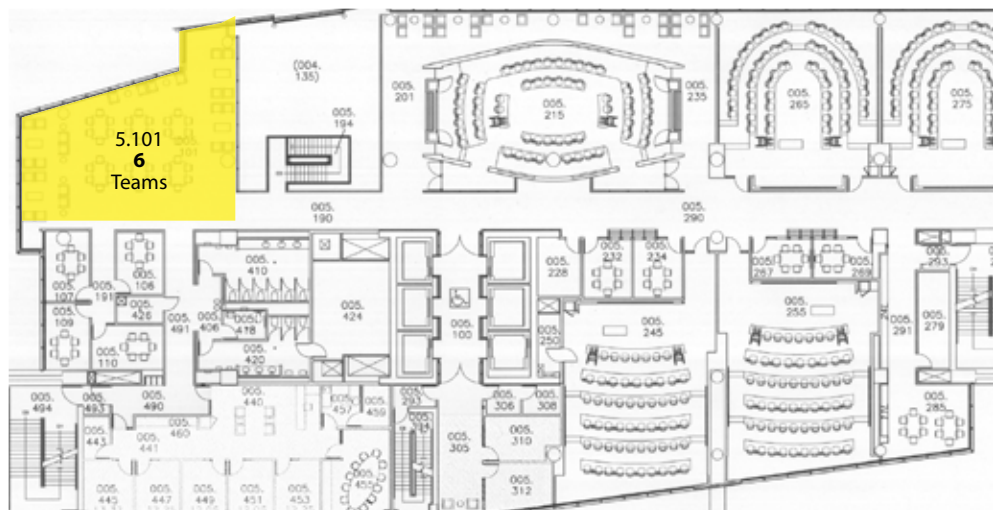




## 4th Floor



## 5th Floor





[appdirect.com/careers](https://appdirect.com/careers)



## OUR SPONSORS



AppDirect is the cloud service commerce leader making software and products accessible globally. The AppDirect cloud service

commerce platform unites providers, developers and consumers of cloud services into a single ecosystem. This makes it easy for businesses to find, buy, manage and monitor cloud services from a central location and delivers new opportunities to distribute, sell, and market cloud services. AppDirect-powered marketplaces, billing and distribution, and reselling services help providers – including Telstra, ADP, Samsung, Deutsche Telekom and others – connect millions of businesses to solutions from Microsoft, Google, Box and more. AppDirect is headquartered in San Francisco with global offices.



InterDigital, Inc. designs and develops advanced technologies that enable and enhance mobile

communications and capabilities. Since our founding in 1972, our engineers have designed and developed a wide range of innovations that are used in digital cellular and wireless products and networks, including 2G, 3G, 4G and IEEE 802-related products and networks.

The company's activities are organized around the concept of the Living Network: a future where intelligent networks self-optimize to deliver service that is tailored to the content, context and connectivity of the user, device or need.



As the market leader in enterprise application software, SAP is at the center of today's business and technology revolution. Our innovations enable more than 296,000 customers worldwide to work together more efficiently and use business insight more effectively.

SAP helps organizations of all sizes and industries overcome the complexities that plague our businesses, our jobs, and our lives. With Run Simple as our operating principle, SAP's nearly 75,600 employees focus on a singular purpose that inspires us every day: To help the world run better and improve people's lives.



Our Vision is to be the best software and technology solutions provider for mid to large-size warehousing, order fulfillment, distribution operations, health systems and hospitals. Our Mission is to deliver the highest value to our clients through unparalleled software solutions based on the industry expertise of our employees and on our advanced, proven technologies. Our solutions deliver unequalled efficiency and end-to-end visibility to distribution organizations in many industry verticals. The results are measurably reduced operating costs, improved customer service, and software that is enjoyable to use.



We are Canada's Cloud Infrastructure. Our mission is to provide regional cloud infrastructure for businesses relying on mission critical software and data, with a focus on automation, utility, and keeping data safe in Canada. Our team of IT professionals has extensive expertise in network security, web optimization, elastic computing, and high-availability architectures. CloudOps, a leader in hybrid cloud infrastructure solutions, provides cloud.ca as a regional cloud service for businesses requiring that all or some of their data remain in Canada, for reasons of compliance, performance, cost or privacy.



At NuanCe, we believe in the power of intelligent systems, and quite specifically what the power can do for you. Our innovations in voice, natural language understanding, reasoning and systems integration come together to create more human technology.

We are pioneers in making technology fluent in all things human: from understanding spoken words and extracting their meaning to adaptively and seamlessly interpreting the swipe of a fingertip. We continuously evolve the ability to perceive the nuance of words, actions and meaning — to fit seamlessly into your life, your business and your world.



Clarifai is a New York City-based artificial intelligence company. It was founded in 2013 to bring the world's best image recognition technology to market. Clarifai's deep learning systems have improved orders of magnitude in speed, vocabulary size, memory footprint, and have expanded beyond images to extract knowledge from all forms of data. The hub of Clarifai's technology is our high performance deep learning API on which a new generation of intelligent applications is being built. Check out our iOS app, Forevery, to see it in action with your own photos, or check out our demo at [clarifai.com](http://clarifai.com).



National Bank is an integrated group that provides comprehensive financial services to consumers, small and medium-sized enterprises and large corporations in its core market, while offering specialized services elsewhere in the world. National Bank offers a full array of banking services, including corporate and investment banking. It is an active player on international markets and, through its subsidiaries, is involved in securities brokerage, insurance and wealth management, as well as mutual fund and retirement plan management.



CAE is a global leader in the delivery of training for the civil aviation, defence and security, and healthcare markets. We design and integrate the industry's most comprehensive training solutions, anchored by the knowledge and expertise of our 8,000 employees, our world-leading simulation technologies and a track record of service and technology innovation spanning seven decades. Our global presence is the broadest in the industry, with 160 sites and training locations in 35 countries, including our joint venture operations, and the world's largest installed base of flight simulators.

## Morgan Stanley

Morgan Stanley is a global financial services firm providing a wide range of investment banking, securities, investment management and wealth management services. Technology works as a strategic partner with Morgan Stanley business units and the world's leading technology companies to redefine how we do business in an ever more global, complex and dynamic financial markets.

Our significant investment in technology results in quantitative trading systems, cutting-edge modeling and simulation software, comprehensive risk and security systems, robust client-relationship capabilities as well as the world-class infrastructure that forms the backbone of these systems and tools.



Founded in Montreal in 2007, Dental Wings is a leading provider of digital dentistry technologies. Our solutions cover dental scanning, implant planning, prosthesis design, manufacturing and communication among dental professionals.

Dental Wings' vision is to create the largest global network of digitally enabled dental professionals, and equip them with diagnostic, design, and manufacturing tools that increase the efficacy, quality, and profitability of the services they provide to patients.

Our mission is to help our customers improve the lives of millions of dental patients worldwide.

As a full-service software and design firm, we develop innovative and even transformational applications for our clients – work that delights and occasionally inspires exclamations of “that’s

like something out of science fiction!” (We’re always glad to hear stuff like that.)

What else sets us apart? We care about the intersections of design and usability, engineering and emotion, while striving to achieve just the right amount of “wow factor.”



Our Mission is to empower every person and every organization on the planet to achieve more. Our Strategy is to build best-in-class platforms and productivity services for a mobile-first, cloud-first world. Our Ambitions are to reinvent productivity & business processes, build the intelligent cloud platform, and to create more personal computing.



Real Ventures is the leading source of seed stage capital in Canada. Established in 2007, we’ve invested in over 150 companies across three funds. Our growing team of ex-founders and entrepreneurs is laser focused on doing one thing: serving entrepreneurs and nurturing the communities in which they thrive. We invest in ambitious entrepreneurs that are creating the Internet experiences of the future, or embracing the power of the Internet to disrupt existing industries or business models. We will invest pre-traction and have the team and networks to support entrepreneurs and propel their companies forward.



Air Transat is Canada’s leading holiday travel airline. Every year, it carries some 3 million passengers to nearly 60 destinations in 30 countries aboard its fleet of Boeing narrow-body and Airbus wide-body jets. Air Transat is a business unit of Transat A.T. Inc., an integrated international tour operator with more than 60 destination countries and that distributes products in over 50 countries. Air Transat was named Best North American Leisure Airline at the 2015 Skytrax annual World Airline Awards. The Montreal-based Transat is also active in air transportation, destination services and distribution.



## THANK YOU

On behalf of the whole HackConcordia team, we would like to thank our sponsors for helping us host Concordia's first MLH hackathon. Special thanks to Dr. Terrill Fancott, Kim Fuller BFA '96, President of the Concordia University Alumni Association; Jonathan Brunette, Development Team Lead at Morgan Stanley; Dean of Engineering Amir Asif, William Cheaib, Chief of Staff for Concordia's Office of the President and Vice-Chancellor; the Faculty of Engineering, and the rest of Concordia University's Administration for supporting us in our quest to deliver the best hackathon and allowing us to host the event at the LEED certified JMSB building. We also couldn't have done it without the help of the volunteers: go team! And, of course, we'd like to thank **you**, fellow hacker, in deciding to make this weekend a **ConUHacks** weekend. Happy hacking!

## A HUGE THANKS TO OUR SUPPORTERS



**Hospitality  
Concordia**





Morgan Stanley



HACK IS TEMPORARY. GLORY IS FOREVER