



HACK
DUKE '13

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Welcome

Meow meow meow meowmeow meowmeowmeow meow meow meowmeow!

...Oh wait, stupid Cat-to-English Translator...

Hey there! My name is Hack Kitty, and on behalf of the hackDuke team, I'd like to welcome you to hackDuke 2013! Get pumped, make yourself at home, meet new people, make new friends and most of all, have fun! (:

I'd also just like to lay down a few rules as well.

1. No alchamaholz!
2. Know your limits on energy drinks.
3. Be respectful and mindful of your peers, surroundings and facilities.
4. No coding in advance and max teams of 4 please!
5. If you need assistance, look for people in royal blue color shirts.
6. Keep your valuables close to you. We are not responsible for lost items.

Alrighty! That's it for now!

Hack Kitty and the rest of the hackDuke team <3

Schedule

SATURDAY

<i>Event</i>	<i>Time</i>	<i>Location</i>
Check-In	12:00 PM	CIEMAS
Doors Open	1:00 PM	Griffith Film Theater
Opening Ceremony	2:00 PM	Griffith Film Theater
Hacking Begins	3:00 PM	CIEMAS
Photo Scav Hunt Begins	3:00 PM	CIEMAS
Crash Courses Begin	3:30 PM	Teer and Hudson Hall
Raffles Begin	3:00 PM	CIEMAS
Ice Cream Food Truck	4:00 PM	E-Quad
DiVE Tours Begin	5:00 PM	CIEMAS
Tech Talks Begin	5:00 PM	Teer and Hudson Hall
Dinner	7:00 PM	Check Ticket
Nerf Gun War	11:00 PM	CIEMAS Basement

Schedule

SUNDAY

<i>Event</i>	<i>Time</i>	<i>Location</i>
Cookout Midnight Snack	12:00 AM	E-Quad
Breakfast	9:00 AM	E-Quad
Hack Submissions Begin	12:00 PM	
Photo Scav Hunt Begins	12:00 PM	CIEMAS
Hacking Ends	1:00 PM	
Lunch	1:00 PM	E-Quad
Expo Begins	1:30 PM	CIEMAS
Expo Ends	3:00 PM	
Closing Ceremony	3:30 PM	Page Auditorium
Go Home	5:30 PM	

Crash Courses

WEB DEVELOPMENT (HTML/CSS)

Instructor: Joshua Miller

Time: 3:30PM - 4:45PM

Place: Teer 203

MICROCONTROLLERS

Instructor: Logan Su

Time: 3:30PM - 4:45PM

Place: Hudson 222

IOS DEVELOPMENT

Instructor: Davis Gossage

Time: 3:30PM - 4:45PM

Place: Hudson 208

ANDROID DEVELOPMENT

Instructor: Sai Cheemalapati

Time: 5:00PM - 6:15PM

Place: Hudson 208

WEB DEVELOPMENT (JAVASCRIPT)

Instructor: Kiril Klimuk

Time: 5:00PM - 6:15PM

Place: Hudson 207

Tech Talks

REVERSE ENGINEERING UNOFFICIAL APIs FOR FUN AND PROFIT

Speaker: Joe Levy (Microsoft)

Place: Teer 203

Time: 3:30PM - 4:30PM

Description: While many apps and websites provide official APIs to allow integration into their services, some do not. But with the tools, tactics, and technologies discussed in this talk, you'll learn how to take your hacks to the next level by integrating into services behind walled gardens.

QUANTUM TECHNOLOGIES IN INFORMATION SECURITY: THE SPEAR AND THE SHIELD

Speaker: Professor Jungsang Kim (Duke University)

Place: Teer 203

Time: 4:45PM - 5:45PM

Description: New discoveries in quantum information processing technologies provide the means to break the most secure encryption techniques known to men. At the same time, it provides secure communication techniques that nobody can break, even in principle. This disruptive technology, if realized, has the potential to change what security means in information science.

HOW TO BE A BADASS HACKER

Speaker: Mike Swift (MLH & hackNY)

Place: Teer 203

Time: 5:50PM - 6:20PM

Description: Learn how to beef up your hacker skills with some protips and tricks from Swift, founder of Hacker League and Commissioner of Major League Hacking. You'll also have the opportunity to hear about the hackNY Summer Fellowship program and how you can spend your summer living and working in the heart of NYC with some of the top hackers around.

INTRO TO LOCK-FREE CONCURRENCY

Speaker: Dean Chen (eBay)

Place: Teer 203

Time: 6:30PM - 7:15PM

Description: Scaling up backend services is hard. Fortunately, it is not necessary to resort to locks in many situations. This talk will demonstrate and compare and contrast three popular lock-free abstractions for addressing concurrency: actors(scala)/message passing(go), the event loop(node.js) and STM(haskell)/SSI(postgres).

Tech Talks

MANAGING ASYNCHRONICITY WITH RQ

Speaker: Doug Crockford (eBay)

Place: Teer 203

Time: 7:30PM - 8:30PM

Description: Turn based servers are now joining turn based browsers in providing race-free and deadlock-free interactivity. The event-driven model has long been popular in UI systems, but the nature of work in servers presents some new challenges. Functional programming provides solutions, including monads, arrows, promises, and various flavors of FRP. This is another such solution, intended to enhance ease of use through minimalism.

AAA GAME GRAPHICS FOR MOBILE DEVICES

Speaker: Niklas Smedberg (Epic Games)

Place: Teer 203

Time: 8:45PM - 9:45PM

Description: The fast progress of mobile graphics hardware is making it possible to implement advanced rendering techniques that were previously only considered for dedicated gaming consoles. This presentation provides a detailed technical description of how a mobile GPU works and how console-style graphics effects have been implemented for mobile in Unreal Engine.

SOFTWARE ENGINEERING AFRICA: HOW TO IMPACT 1 BILLION LIVES

Speaker: Baris Yuksel (Google)

Place: Teer 203

Time: 10:00PM - 11:00PM

Description: In this talk, we will cover the flourishing software engineering scene in Africa and how you can contribute as a prospective engineer. We will look into some key data in depth, and explore the not-so-underground software circles. We guarantee that this talk will wake you up both mentally and physically as we will be serving zesty cupcakes!

Entertainment

DIVE TOURS

Place: CIEMAS

Time: 5:00PM - 8:00PM

Description: The DiVE is a research and education facility dedicated to exploring techniques of immersion and interaction. This virtual reality system has a unique potential to give the participant a sense of being present in a digitally created spaces and situations that are often impossible to see otherwise. From flying through a neuro-chemical pathway, to standing in an ancient roman villa, virtual reality gives us the opportunity to engage in formerly inaccessible experiences.

PHOTO SCAVENGER HUNT

Place: CIEMAS

Time: 3:00PM Saturday - 12:00PM Sunday

Description: Each person earns points in the hunt (identified by email address doing submitting) and at the end the top 50 people get prizes. Multiple people can work together to submit under the same address, but they can only win one prize. Multiple people can take photos of the same thing if they contributed, but no two people can submit the exact same photo (regardless of filters). Example, if you and 3 friends do target #1 you can take 4 photos and each person should send them to photos@hackduke.org from their own email address. There's a 200 point maximum. Email addresses will be used to identify individual people.

NERF GUN WAR

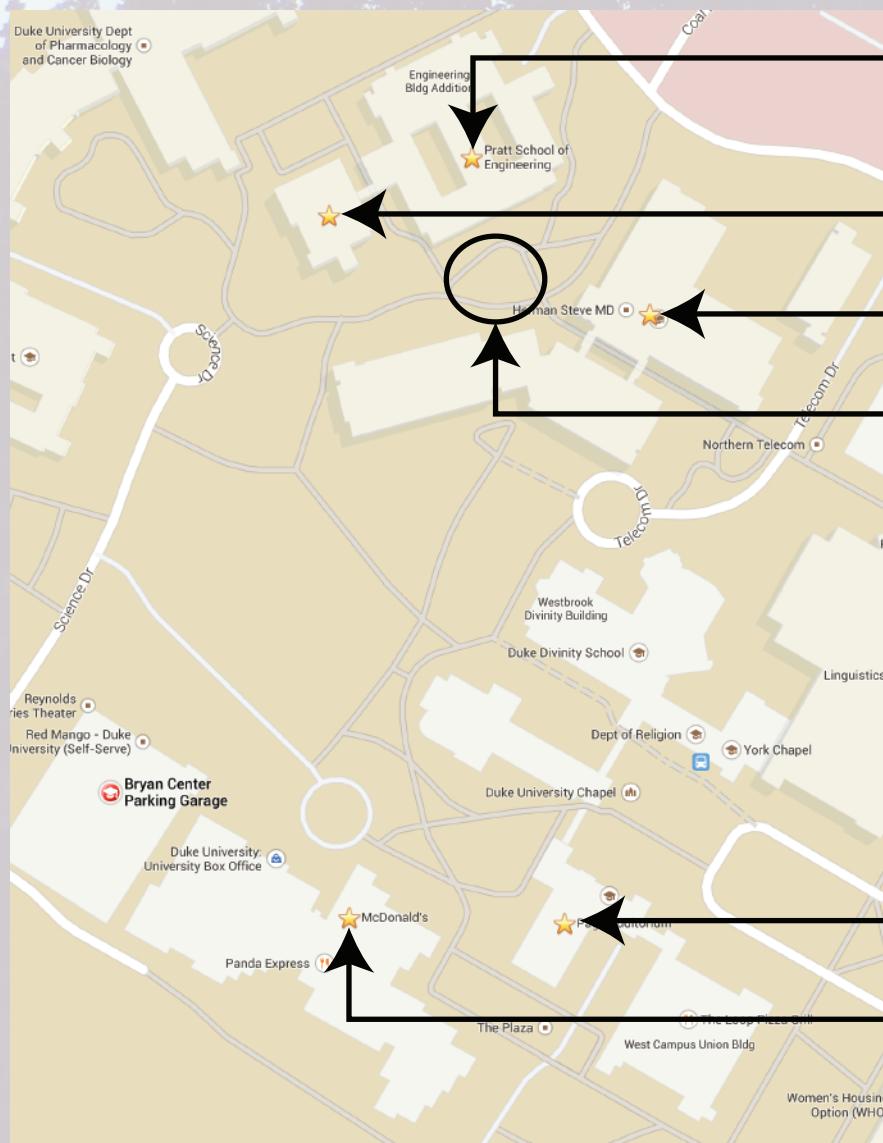
Place: E-Quad

Time: 11:00PM - 1:00AM

Description: 16 person games, 8 person teams.

The game is capture the flag. Teams will be marked off by duct tape markers. If hit, you have to call each other out and run back to base team. A team wins when they have retrieved the opponent's flag and escaped to their own base other team can defend around the flag but cannot move their own flag back to base.

Map



Hudson Hall

Teer

CIEMAS

E-Quad

Page Auditorium

Griffith Theater

Map

Teer



Hudson Hall



CIEMAS



Prizes

Catagory

Prize

Details

1st Place Best Overall Hack

\$5,000 and admission to Greylock HackFest

2nd Place Best Overall Hack

\$2,000

3rd Place Best Overall Hack

\$1,000

Best Novice Hack

\$1,000

This prize goes to the newbies attending the hackathon. All members of the team must be first-timers.

AT&T Dev Challenge

6 month unlimited pre-paid SIM Cards for the top 2 teams

Build an application (native or mobile web) that utilizes both the AIO PC and a smartphone (Android, iOS, BB or Windows Phone). This application can be a family scheduling app, communication hub, check-in hub or game consol.

Best Use of Twillio API

\$150 Amazon Giftcard

Best Use of Coinbase API

\$1,000 in BitCoins

Best Usage of SendGrid API

Supaboy

eBay: Best Payment App

4 Nexus 7s

Best Use of Duke Streamer API
or Best Education Hack

\$250

Duke Students Only
<http://streamer.oit.duke.edu/>

Prizes

Category

HackDuke Under 20 Prize

Prizes

Priority review of your 2014 Thiel Fellowship application
And a Thiel Under 20 Summit prize package which includes:

- Free registration at one Under 20 Summit in 2014
- Airfare and hotel accommodations
- The opportunity for an informal meet-and-greet with members of the Thiel Fellowship leadership and mentor council

Best Integration of Lob

\$150 Lob Credits

Best Use of a Microsoft Platform

Up to 2 Surface Tablets

Epic Games: Best Game

Lunch with Epic Games' Co-Founders & iPad mini
Top 3 also receive early access to Unreal Engine 4

Details

The HackDuke Under 20 Prize, provided by the Thiel Fellowship, is open to any hacker or team aged 19 and under (for team hacks the entire team must be under 20). The Thiel Under 20 Summits are invitation-only events for young innovators looking to connect with the Thiel network and collaborate with other visionaries. The 2014 Summits will be held in San Francisco (June) and Las Vegas (November).

Lob provides the easiest way to integrate print & mail solutions into your business and applications. Think Amazon Web Services, Twilio, or Stripe for printing & mailing. The hack will be judged in terms of creativity, cleverness, and utility.

Apps for Windows Phone, Windows 8, and any app/website/hack utilizing Windows Azure are eligible.

Contact

<i>Role</i>	<i>Phone Number</i>	<i>Name</i>
Organizer	(703) 624 6103	Dennis Li
Organizer	(415) 806 2051	Ashley Qian
Organizer	(512) 632 4017	Juilian Borrey
Organizer	(510) 358 5312	Logan Su
Duke Police	(919) 684 2444	

Sponsors



greylockpartners.

