



# TigerSnatch

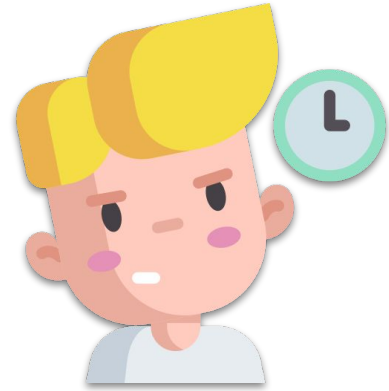
a COS333 project built in Spring '21 by

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# What's the problem?

Unable to get into your dream course or section?

Stuck refreshing the Course Offerings page?



Need to get into a full precept?

Can't find someone to switch with you?

# *Worry no longer!*



# TigerSnatch: the Solution

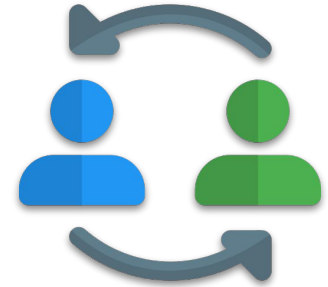


Notifies students when a new slot opens

Discovers section trades with other students

Tracks in-app activities

**Alleviates stress during course enrollment!**



# Princeton Pounce

Welcome to Princeton Pounce! We'll send you an email or text message when your desired class opens up on SCORE.



Princeton Pounce also tweets course openings at @PrincetonPounce.

© USG IT Committee 2013.



TigerSnatch

active: ●

[Admin](#)[Dashboard](#)[Activity](#)[About](#)[Tutorial](#)[Logout](#)

Note: TigerSnatch subscriptions are separate from Registrar waitlists.



Search for courses above!

## Welcome, ntyp

Check out your Snatches below ⓘ

Course	Section	Subscribe ⓘ	Time	Days
ENG321	P03	<input checked="" type="checkbox"/>	10:00 AM - 10:50 AM	Th
COS217	P05	<input checked="" type="checkbox"/>	12:30 PM - 01:20 PM	T Th
HIS270/AMS370/ASA370	P13	<input checked="" type="checkbox"/>	11:00 AM - 11:50 AM	W
COS126/EGR126	B03A	<input checked="" type="checkbox"/>	12:30 PM - 01:20 PM	T Th
COS126/EGR126	B03C	<input checked="" type="checkbox"/>	12:30 PM - 01:20 PM	T Th
COS126/EGR126	P03B	<input checked="" type="checkbox"/>	11:00 AM - 11:50 AM	F

### Contact Preferences



ntyp@princeton.edu

[Change](#)

Texts coming soon!

[Change](#)

### Trades Tracker ⓘ

→ You seek to trade out of COS226 P08

→ You seek to trade out of ORF309 P02

→ You seek to trade out of MAT201 C04



# How Subscriptions Work

- Search for a course and Subscribe to a full section
- TigerSnatch check official enrollments every 2 mins!

1

COS

Note: TigerSnatch subscriptions are separate from Registrar waitlists.

**ISC233/CHM233/COS233/MOL233/PHY233**  
An Integrated, Quantitative Introduction to the Natural Sciences II

**ISC234/CHM234/COS234/MOL234/PHY234**  
An Integrated, Quantitative Introduction to the Natural Sciences II

**EAS332/GSS429/COM352**  
Cosmopolitan Her: Writing in Late Capitalism

**COS126/EGR126**  
Computer Science: An Interdisciplinary Approach

**COS217**  
Introduction to Programming Systems

**COS226**  
Algorithms and Data Structures

**COS302/SML305**

2

**COS126/EGR126**

**Computer Science: An Interdisciplinary Approach**

☐ Show all sections

Section	Subscribe	# Tigers	Enrollment
B01C	<input type="checkbox"/>	0	16 / 16
B03A	<input type="checkbox"/>	1	16 / 16
B03B	<input type="checkbox"/>	0	16 / 16

3

Section	Subscribe
B01C	<input type="checkbox"/>
B03A	<input checked="" type="checkbox"/>
B03B	<input type="checkbox"/>

The diagram illustrates the subscription process in three steps. Step 1 shows a search for 'COS' resulting in a list of courses. Step 2 shows the selection of 'COS126/EGR126' and a table of sections. Step 3 shows the subscription status for each section, with B03A being the selected section.



# How Subscriptions Work

- Receive email notifications
- Unsubscribe to stop receiving notifications

1

gmail

A spot opened in COS126 B03B!

tigersnatch@princeton.edu  
to nicholaspad ▾

Dear ntyp,

Your subscribed section **B03B** in **COS126: Computer Science: An Interdisciplinary Approach** has one or more spots open!

Head over to [Tigerhub](#) to Snatch your spot!

2

tigerhub

2021-2022 Fall   Undergraduate   Princeton University		
Class	Message	Status
COS 126-B03B	<b>Message:</b> After you have finished making your changes, view or print your degree audit report. (PU)	✓

3

tigersnatch

Confirm Unsubscribe

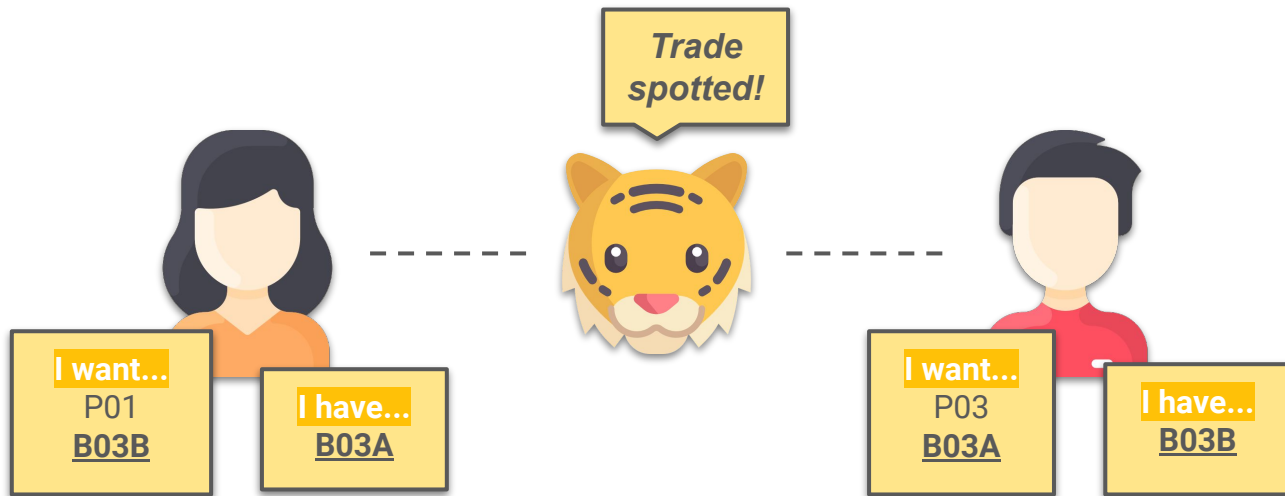
Are you sure you want to unsubscribe yourself from this section?

Cancel Confirm



# How Trades Work

- Specify your current section enrollment (e.g. B03A)
- Specify sections you want (e.g. B03B) via Subscribing
- Find Trades!



# How Trades Work

→ Choose a match

→ Email them with our pre-filled email template to coordinate a swap time

**1** Trade sections with another Tiger? ⓘ

Your current enrollment: B03A

**2** Potential Trades

NetID	Current Section	Contact
ntyp	B03B	<input type="button" value="Email"/>

**3** ntyp@princeton.edu

TigerSnatch: Trade Sections for B03B in COS126/EGR126?

Hi ntyp,

From TigerSnatch, I saw that you're enrolled in COS126/EGR126 B03B. I'm currently in B03A. Would you like to set up a time to trade sections with me?

Thank you,  
sheh





**Demonstration!**

# Summary of Features



**Subscribe** and **unsubscribe**

Continuous **monitoring** of enrollment

Section **Trades** with other users

Personalized **Dashboard**

Real-time **Activity**

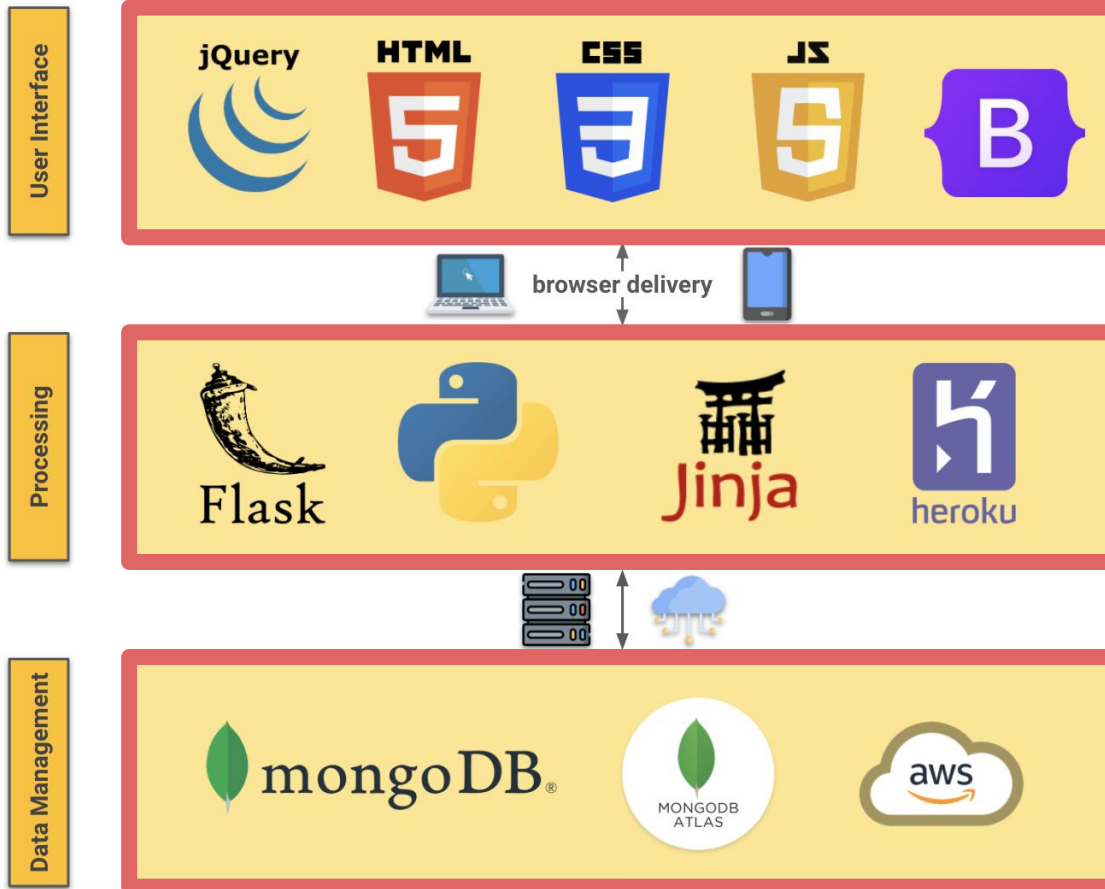
**Tutorial** and info tooltips

**Admin** tools in-app

**Mobile-friendly**



# System Architecture



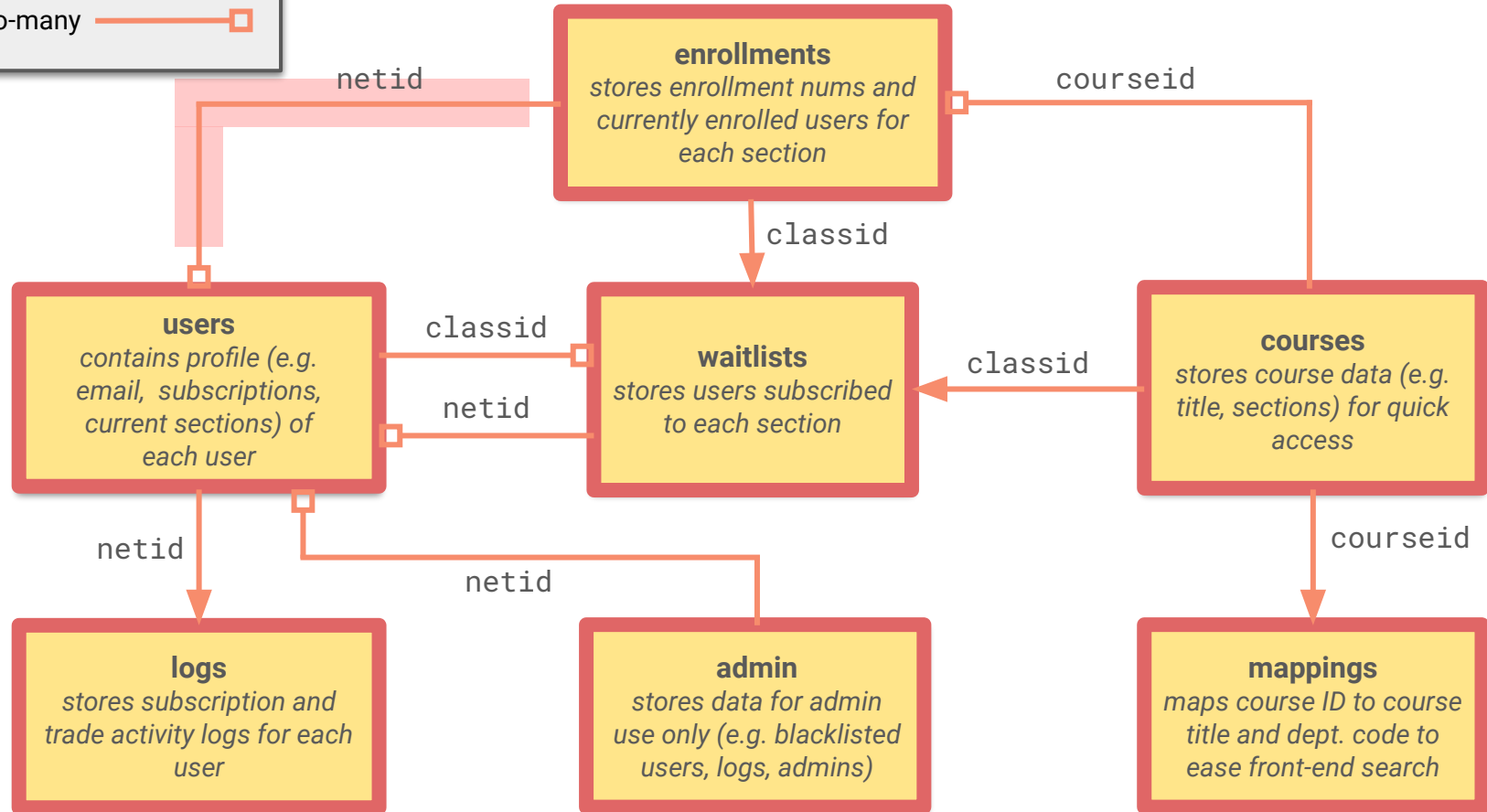
\* database schema on next slide



# Database Relations

one-to-one →

one-to-many → □



# Database Schema

## users

*contains profile of  
each app user*

**netid** pk, <str>  
**email** <str>  
**phone** <str>  
**waitlists** <str Array>  
**curr\_sections** <Object>

## logs

*logs subscription & trade  
activity of each user*

**netid** pk, <str>  
**waitlist\_log** <str Array>  
**trade\_log** <str Array>

## waitlists

*tracks users subscribed  
to each section*

**classid** pk, <str>  
**waitlist** <str Array>

## enrollments

*stores enrollment nums  
for each section*

**classid** pk, <str>  
**courseid** <str>  
**section** <str>  
**enrollment** <Int32>  
**capacity** <Int32>  
**swap\_out** <str Array>

## courses

*caches course info for  
quick access*

**courseid** pk, <str>  
**displayname** <str>  
**title** <str>  
**class\_idx** <doc>  
**classid** <str>  
**section** <str>  
**type\_name** <str>  
**start\_time** <str>  
**end\_time** <str>  
**days** <str>  
**enrollment** <Int32>  
**capacity** <Int32>

## mappings

*maps course ID to a course  
title/dept num to ease search*

**displayname** pk, <str>  
**title** pk, <str>  
**courseid** <str>

## admin

*stores data related to admin  
use only*

**curr\_term\_code** <str>  
**admins** <str Array>  
**blacklist** <str Array>  
**logs** <str Array>





## Lessons from Failure

User-first approach

Appreciate negative feedback

Cool features may need revision

Be adaptable

**Swap sections with another Tiger?** ⓘ

Your current section  
**P02** ▼

☒ I consent to provide my name and email to my matches.

☐ ⓘ



**Trade sections with another Tiger?** ⓘ

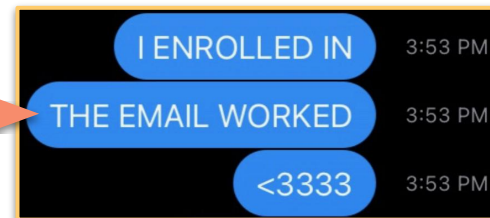
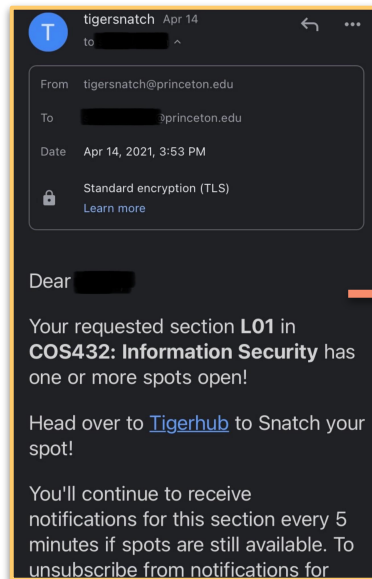
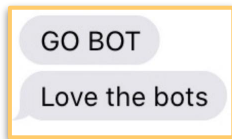
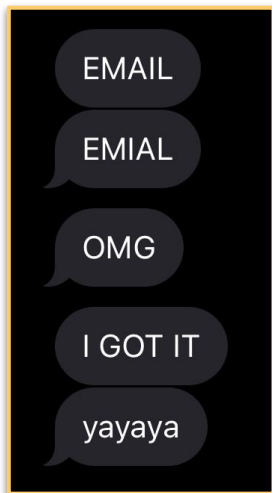
Your current enrollment: **P02** ▼ **Save**

**Find Trades!** **Remove me from this Trade**



# Successful Snatches!

→ COS432 during Fall '21 Course Selection... *success, success, success!*



*\* real users, unsolicited messages!*





## **Lessons from Success**

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Involve potential users

Real-world pilot opportunities

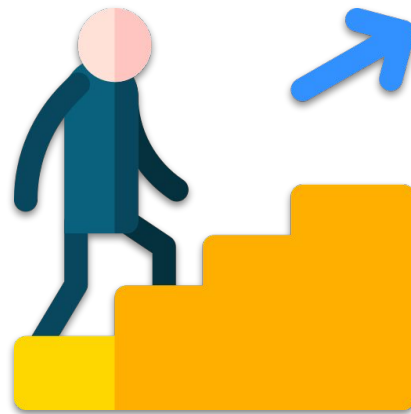
Maintain momentum





# Future Steps?

- Integrate course and departmental waitlists into TigerSnatch
  - Revive ordered waitlists for use by instructors
  - Replace the need to use & maintain a Google Form
- Closing the loop for Trades
  - In-app communication and push notifications
- USG TigerApp for future maintenance





# Thank you!

Questions?