

BRENDEN GOETZ AND ALEX KARKLINS

INTELLIGENCE FOR SUCCESSFUL SPY OPERATIONS: CANVAS-HOSTED DATA AND TABLEAU

Mission:
InstructureCon
0017
JULY 25-27, 2017 | KEYSTONE, COLORADO



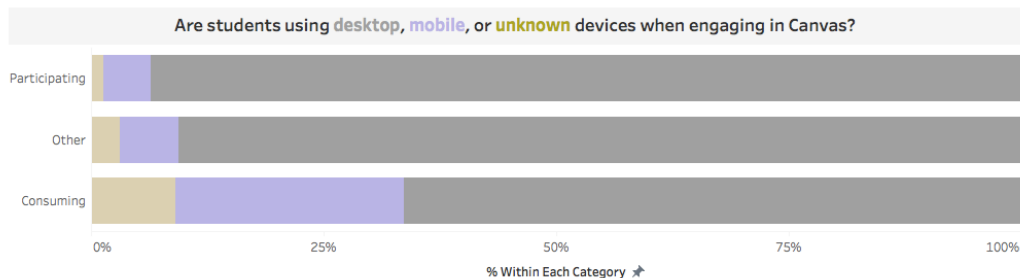
**I WANT THE
DATA**

**AND I WANT IT
MEOW**

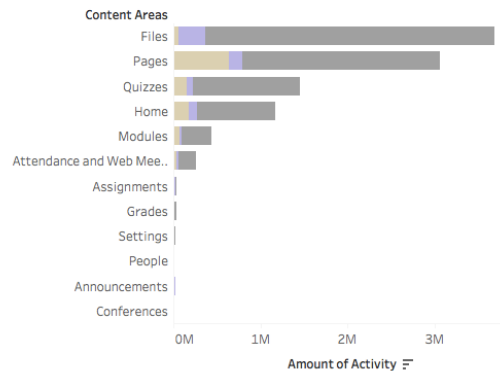




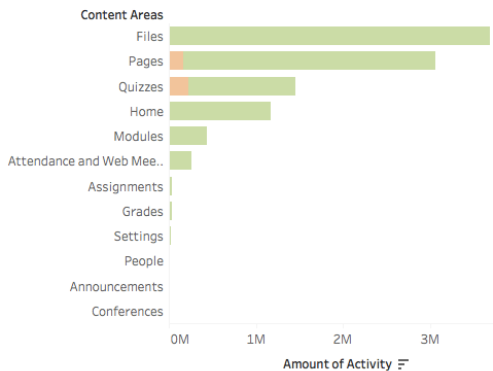
How Do Students Engage with Content in Canvas?



How much are students using **desktop**, **mobile**, or **unknown** devices within each content area?

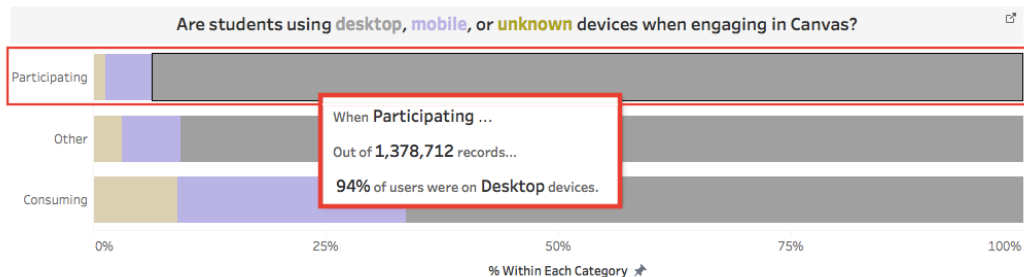


How much are students **participating** vs. **consuming** within each content area?

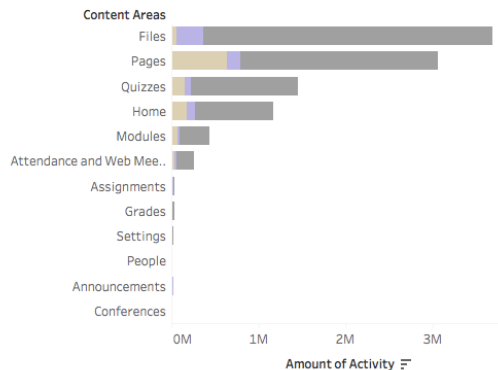




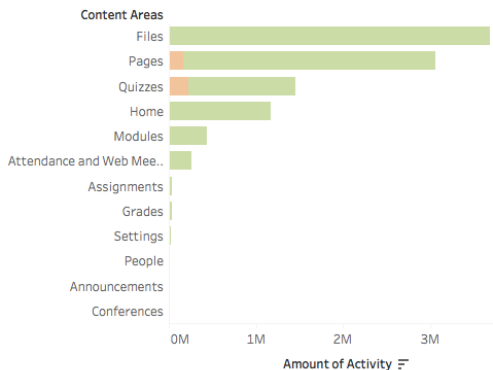
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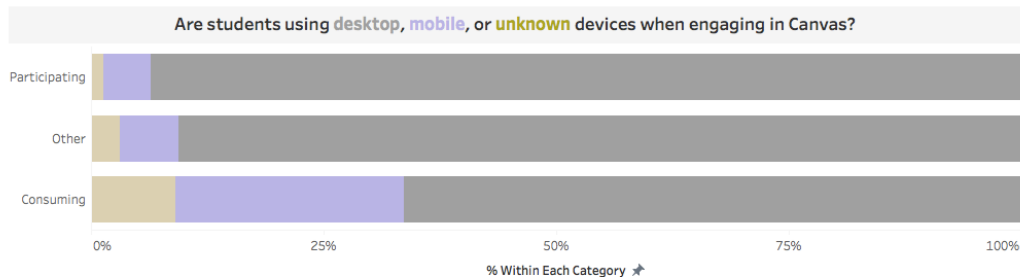


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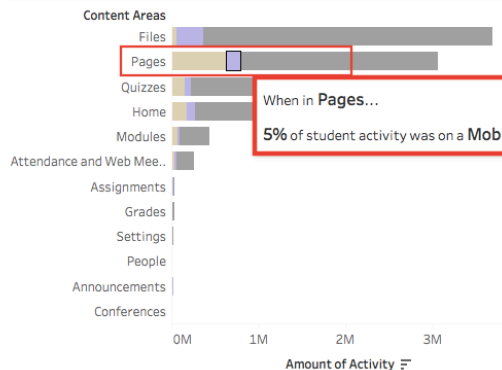




How Do Students Engage with Content in Canvas?



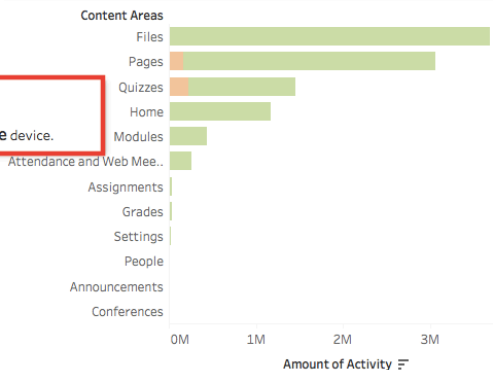
How much are students using **desktop**, **mobile**, or **unknown** devices within each content area?



When in Pages...

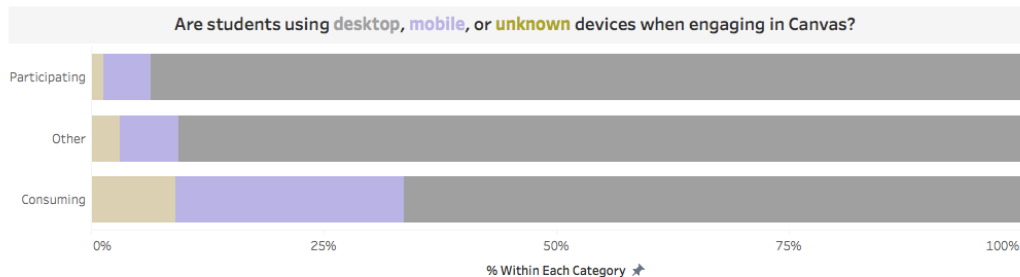
5% of student activity was on a Mobile device.

How much are students **participating** vs. **consuming** within each content area?

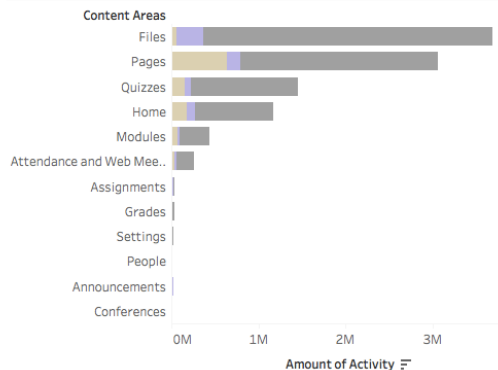




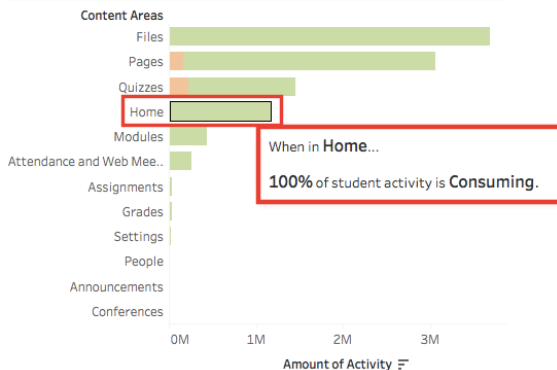
How Do Students Engage with Content in Canvas?



How much are students using **desktop**, **mobile**, or **unknown** devices within each content area?



How much are students **participating** vs. **consuming** within each content area?



When in Home...
100% of student activity is Consuming.

How We Built It

- Tableau
- Data Source
- Data Understanding

Edit Group [Group WAA]

Field Name:

Groups:

▼ ⓘ Participating

add_entry
add_reply
close
create
edit
enroll_users
join
new
record_answer
speed_grader
unenroll_user
update
update_item
update_settings
update_submission

▼ ⓘ Consuming

backup
front_page
grade_summary
index
roster
roster_user
settings

☒ Show Add Location

☒ Include 'Other'


```
IF (([web_application_controller] = "courses"
    AND [web_applicaiton_action] = "show")
    AND [http_status] = "200"
    AND [http_method] = "GET"
    AND CONTAINS([url],"api") = FALSE)
OR (([web_application_controller] = "courses"
    AND [web_applicaiton_action] = "update"
    AND [http_status] = "302"
    AND CONTAINS([url],"api") = FALSE))
THEN "Home"

ELSEIF (([web_application_controller] = "announcements"
    AND [web_applicaiton_action] = "index"
    AND [http_status] = "200")
OR ([web_application_controller] = "discussion_topics"
    AND [web_applicaiton_action] = "show"
    AND [http_status] = "302")
OR ([web_application_controller] = "discussion_topics"
    AND [web_applicaiton_action] = "new"
    AND [http_status] = "200"
    AND CONTAINS([url],"announcement")))
THEN "Announcements"

ELSEIF (([web_application_controller] = "assignments"
    AND [web_applicaiton_action] = "index"
    AND [http_status] = "200")
OR ([web_application_controller] = "assignments"
    AND [web_applicaiton_action] = "show"
    AND [http_status] = "200"))
```

The calculation is valid.

Sheets Affected ▾

Apply

OK

Mobile V1



```
IF CONTAINS(LOWER([user_agent]), 'ipad') THEN "Mobile"
ELSEIF CONTAINS(LOWER([user_agent]), 'iphone') THEN "Mobile"
ELSEIF CONTAINS(LOWER([user_agent]), 'intel mac') THEN "Desktop"
ELSEIF CONTAINS(LOWER([user_agent]), 'windows nt') THEN "Desktop"
ELSEIF CONTAINS(LOWER([user_agent]), 'android') THEN "Mobile"
ELSEIF CONTAINS(LOWER([user_agent]), 'canvaskit') THEN "Mobile"
ELSEIF CONTAINS(LOWER([user_agent]), 'ios/9') THEN "Mobile"
ELSEIF CONTAINS(LOWER([user_agent]), 'ios/8') THEN "Mobile"
ELSEIF CONTAINS(LOWER([user_agent]), 'ios/7') THEN "Mobile"
ELSEIF CONTAINS(LOWER([user_agent]), 'icanvas') THEN "Mobile"
ELSE "Unknown"
END
```

The calculation is valid.

Sheets Affected ▾

Apply

OK



How Do Students Engage with Content in Canvas?

This data is from the CU Online Student Success Course. We hope to add more courses in the future.

Amount of Activity measures the number of records in the data. A **Record** is created each time a user clicks something on a webpage (i.e. a Record is an http request sent to the Canvas server).

Engagement type (participating, consuming) is identified using the **web_application_action** field. We tried to follow Canvas definitions for "participating" by categorizing those **web_application_action** values tied to submitting assignments, discussion posts, etc. Similarly "consuming" are actions that appear to be primarily reading content. "Other" is a category for actions that didn't seem to fit in "participating" or "consuming."

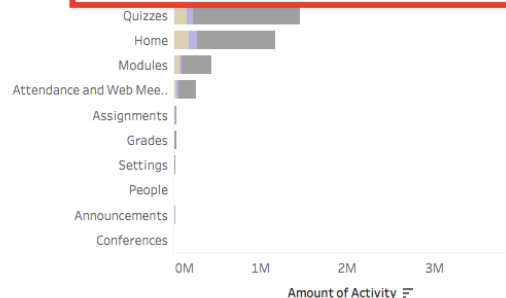
Devices are identified using the **user_agent** field.

Content Areas are identified using the following fields:

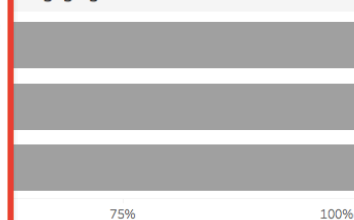
- url
- web_application_action
- web_application_controller
- http_method
- http_status

Certain content areas have been excluded from the view, such as "API" and "Unidentified."

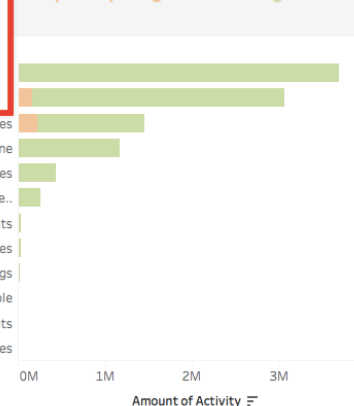
Source: *Requests* table in Canvas Hosted Data.



Amount of Activity by Engagement Type



Amount of Activity by Device



How We Built It

- Tableau
- Data Source
- Data Understanding
- Caveats and Learnings

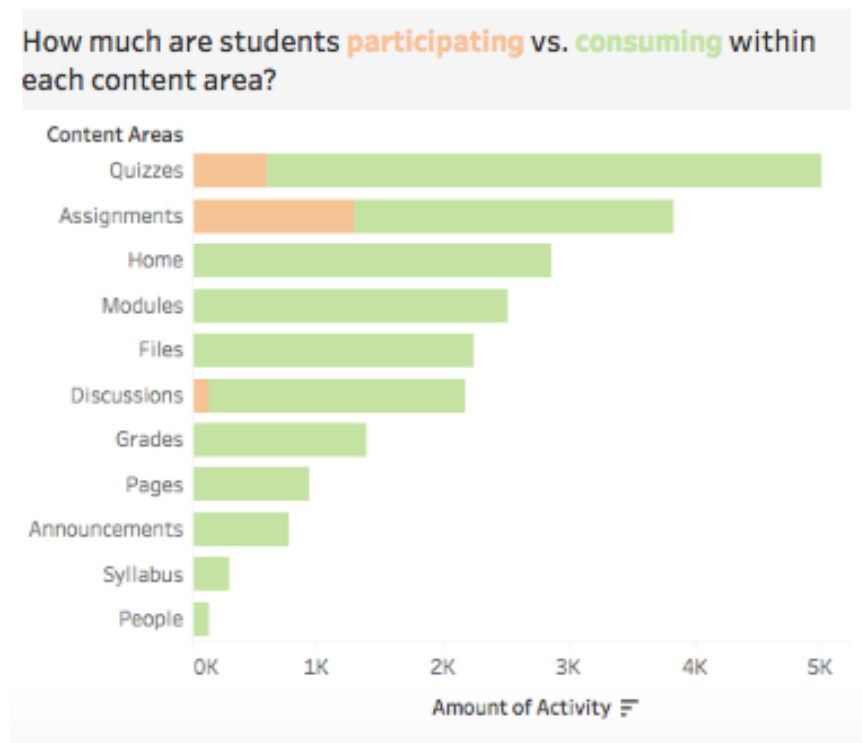
“There is no doubt that mobile learning has caught the imagination of e-learning developers worldwide.”

- Hema Gopalakrishnan

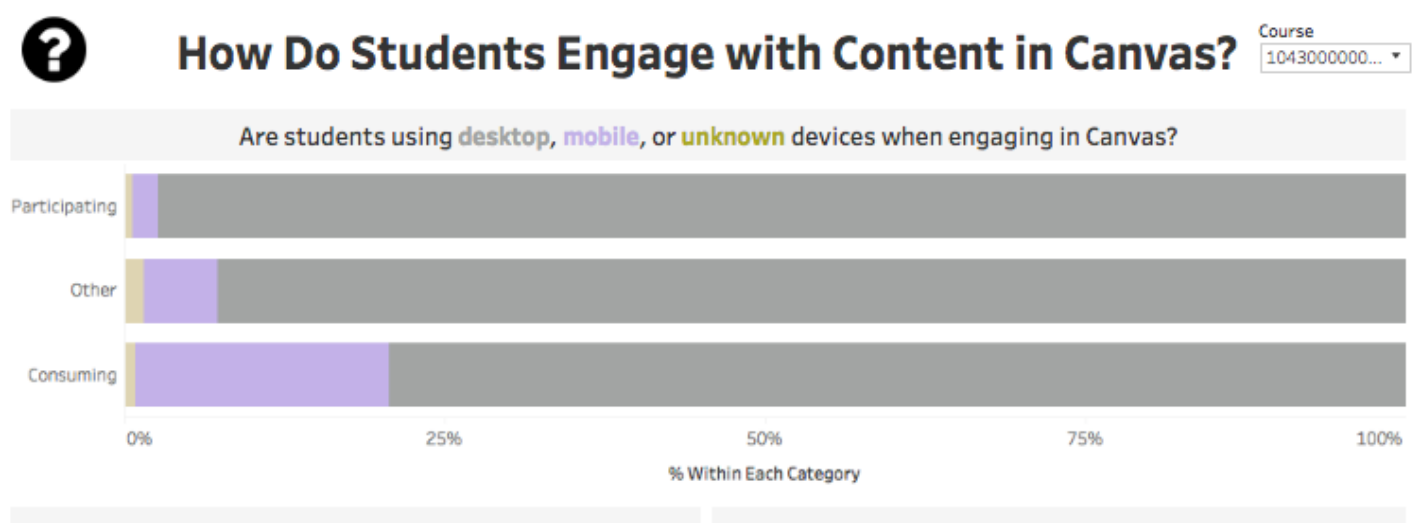
Source: <http://blog.commlabindia.com/elearning-development/mobile-learning-design-considerations>

What We're Doing With It

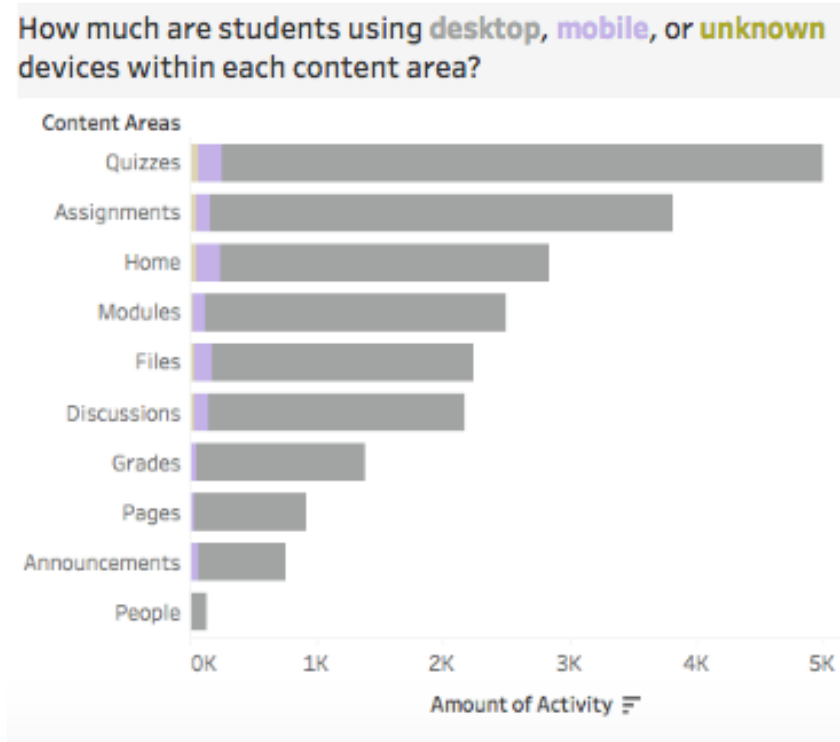
1) Showing instructors how students interact with content types



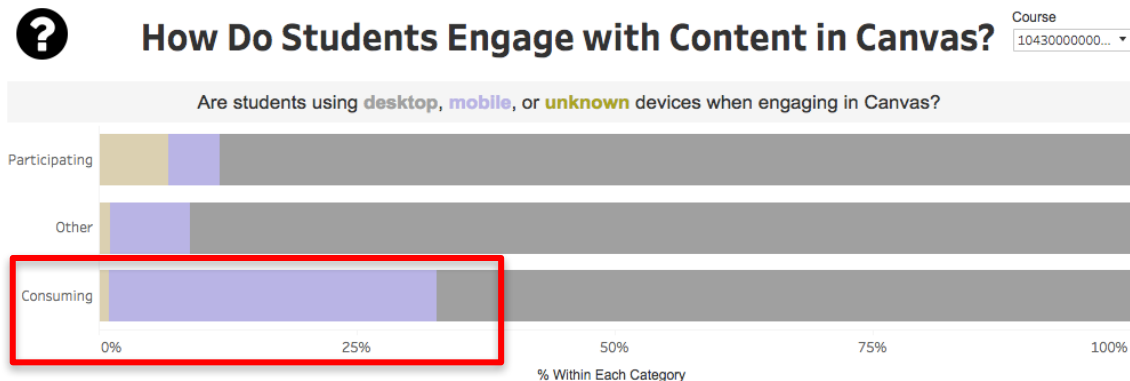
2) Seeing what percentage of students use mobile features



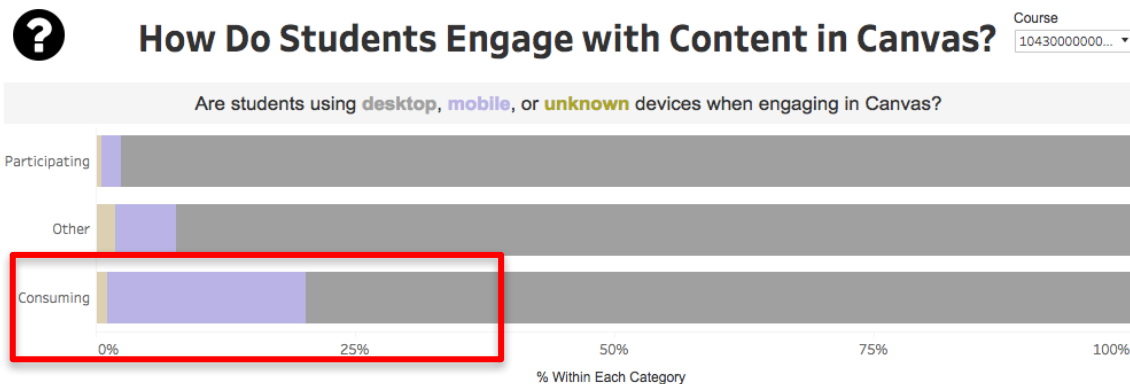
3) Prioritizing what content to revise for accessibility and mobility



4) Explore trends over time



Fall 2015



Fall 2016

What's Next

- Design study to see effects of mobile design over time
- Explore “Chicken and egg” question
- Deploy to instructional designers
- Dashboard enhancements
- Community Feedback



Device Usage in Canvas Data with Tableau

 Discussion created by **Brenden Goetz** on Nov 2, 2016
Latest reply on May 4, 2017 by Brenden Goetz 

<https://goo.gl/sWdXm9>

THANK

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THIS PRESENTATION

WILL SELF-DESTRUCT

YOU