

# CardControl



Matt Asnes







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## Team 6 ★

# Access Control

-  Ever wonder what buildings you have access to?
-  Well, it's impossible to check
-  You could walk to TUPD and ask? 



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# Mission Statement

-  Open access to information
-  Transparent process for gaining access
-  Users should have the right to state their case

*Democratizing access to the University's resources*

We are  CardControl



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# Use Case

-  Access control for all aspects of a university
-  Central portal for requesting access to resources

## ID Issuance

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### **Tufts ID cards are use for:**

- Accessing buildings
- Check-out books at the library
- Use at the dining halls for meal plans
- JumboCash to pay for meals, books, laundry and vending machines, and parking permits

Source: <http://publicsafety.tufts.edu/adminsvc/id-issuance/>



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# Use Case

-  Access control for all aspects of a university
-  Central portal for requesting access to resources

 But...

 The current system sucks



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# The Current System

## Student IDs

- Will receive Tufts ID card during First-Year Orientation and matriculation
- Transfer students and graduate students must go to the [University Police](#) station on their respective campus to be issued a University ID card

## Staff/Faculty IDs

- Must complete Human Resources paperwork (24 hrs to process), an employee ID# will be assigned
- Afterwards, go to the [University Police](#) station at your respective campus to receive University ID

Source: <http://publicsafety.tufts.edu/adminsvc/id-issuance/>



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# The Current System

[Detailed Instructions](#)
[Terms Of Use](#)
[Check Status](#)
[FAQ's](#)
[Picasso II](#)



## Picasso II Photo Upload Site

**Welcome to Picasso II, the Tufts University Photo Upload Site**

Use Picasso II to upload your Tufts ID card photo. By uploading a photo you will avoid the time and hassle of waiting in line to have your photo taken and your ID card created. Another benefit of using Picasso II is that it lets you choose the image that will appear on your Tufts ID card; as long as it conforms to the guidelines below. Most cellphone cameras are capable of taking your ID photo. Please, no funny poses or backgrounds!

Source: <https://picasso.publicsafety.tufts.edu/>



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# The Current System

## **Boston SMFA Campus:**

- Location: Student Services window (to pay), then the student must submit work order here:  
<http://operations.tufts.edu/facilities/service-requests/>
  - Select “Submit a Request for Key, Lock, or Card Access
  - Select Location “SMFA 230 Fenway”
  - Select under Access Request “Access – Card Access Request”
  - Attached photo of receipt from Student Affairs
  - New ID will be mailed to you and sent to front desk at 230 Fenway
- Damaged or defective ID cards will be replaced at no charge
- Replacement ID will operate normally, with all dining meal plans, JumboCash, and card access intact

*Alternatively you can deactivate a lost or stolen ID card at <http://www.jumbocash.net/>*

Source: <http://publicsafety.tufts.edu/adminsvc/id-issuance/replacing-lost-ids/>



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# Back to Us

-  Application created to address very specific needs
-  Some characteristics that we wanted:



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# Back to Us

 Application created to address very specific needs

 Some characteristics that we wanted:

*fast*



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# Back to Us

 Application created to address very specific needs

 Some characteristics that we wanted:

s c a l a b l e



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# Back to Us

 Application created to address very specific needs

 Some characteristics that we wanted:

intuitive



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# Back to Us

-  Application created to address very specific needs
-  Some characteristics that we wanted:

## ROBUST



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# Back to Us

-  Application created to address very specific needs
-  Some characteristics that we wanted:
-  Future-proof with generalized classes of resources: doors, buildings, web applications...
-  As easy to use for managers as for users



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# Our Evolution

-  Buildings and doors
-  Regions, multiple campuses, departments
-  Web applications and beyond



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# Demo Time!



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# Now What?

-  Concerned with making our application easy to use, open, & accessible
-  Considered other final projects:
  -  Didn't have to do authentication without SSO
  -  Considered rate limiting
-  So we decided to build a **second** web application
  -  Proof of concept



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# Our Final Project: azzaiip

-  Pronounced as anything except "Pi-az-za"
-  System of submitting messages and posting notes to a board
-  Web application that uses CardControl
-  Manages a user's access to resources (e.g. classes)



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# An Audit of Sorts

 Essentially: a usability audit of our own system

 Challenge of building a web application:

*How will other services use it?*

 Transition to using our API from an outside point of view



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# Demo Time!

*Part II: The Reckoning*



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# Full Functionality

-  Real SSO authentication to link with the university
-  Update backened to filter out sensitive information
-  File upload for users' photos
-  More granular management levels
-  Temporary and timed access to resources



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# Links & Goodies

 CardControl repository:

<https://github.com/tuftsdev/comp120-s2017-team6>

 azzaip repository:

<https://github.com/CaerusKaru/azzaip>

 These slides:

<https://github.com/tuftsdev/comp120-s2017-team6/raw/dev/doc/COMP-120-S17-Team-06.pdf>



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