Pay It Forward

May1706

Evan Blackwell, Brody Concannon, Christian Klein, Carter Thayer, Grace Winchip

Content

- Project Definition
- Demos
- System Design
- Management and Implementation
- Questions

Project Definition

Problem Statement

- Need to limit waste production
  - Reduce, Reuse, Recycle
  - 22 tons of items collected from rummage sale
- No central source for donations

Our Solution

- Connect Ames residents with donation centers
  - Find best outlet for desired items
- Web-based platform
- Easy and accessible for all skill levels
- Increase donations
  - Beneficial to non-profits
  - Reusing and Recycling

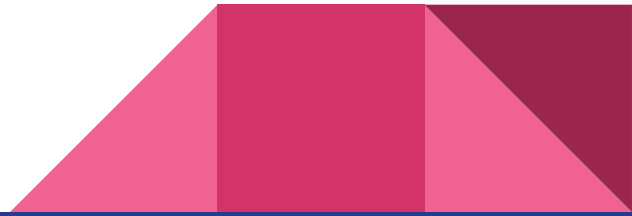
Unique Value

- Compilation of local area
- Specific to City of Ames
- Provides price estimates to aid in tax reports
- Only for non-profits and donation purposes

Functional Decomposition

Use Cases:

1. Add desired items to donate
2. Create new donation center
3. Login (for admin/donation center/person)
4. View donation center list
5. Search donation centers
6. View donation center page
7. Edit Donation center details
8. Donation History
9. Admin approve centers
10. Valuation report
11. Admins can approve and deny requests
12. Admins can add and update items
13. Admins can manage donation centers



Demo

DEMO

payitforward.ece.iastate.edu

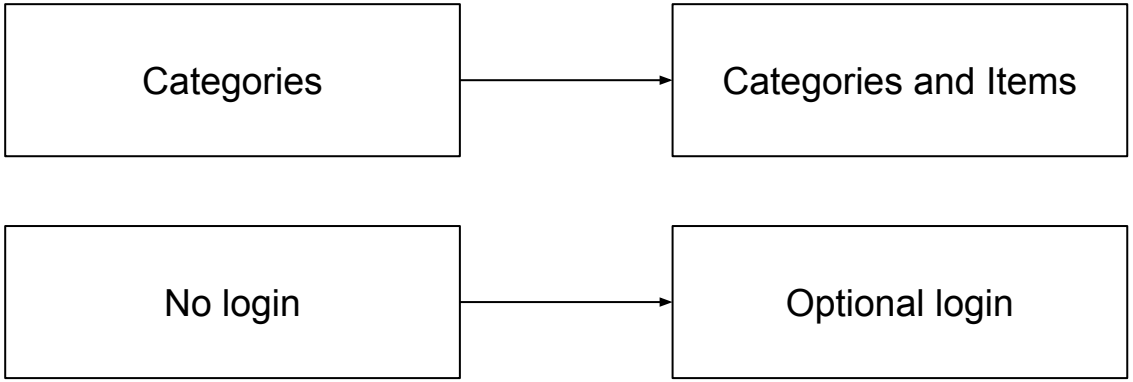
System Design

Technology Platform

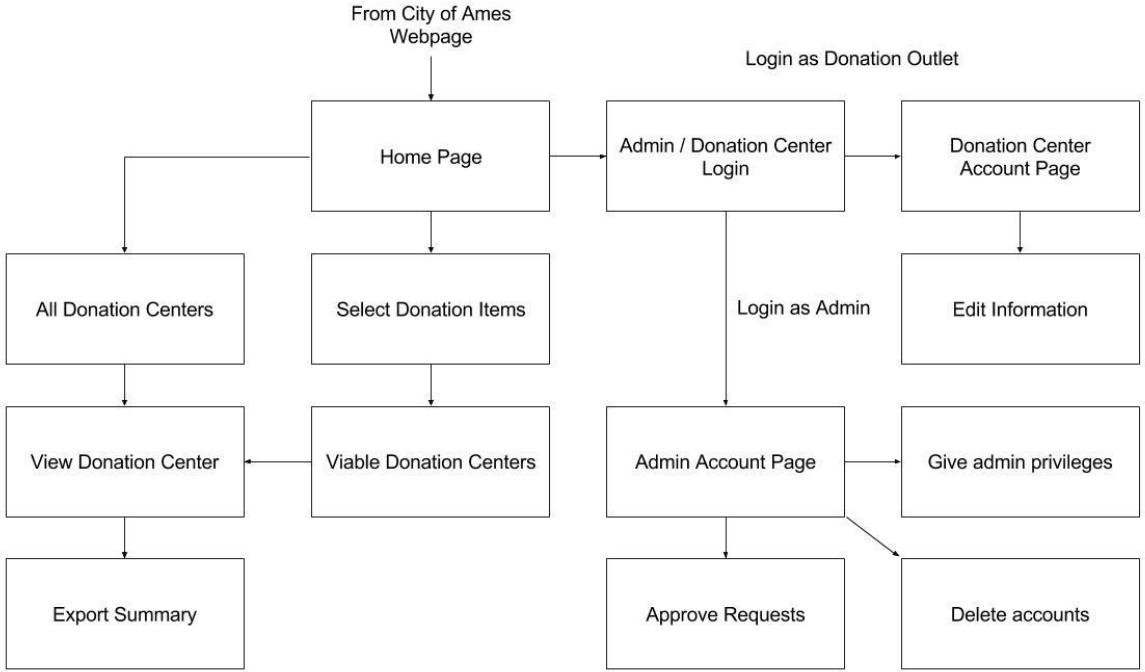
- C# Website using ASP.net
- Windows Server
- Microsoft SQL Server
- Entity Framework
- Bootstrap

Design Evolution

- Haven’t strayed much from original design concept



Detailed Design



Database Tables

Users					
UserID : int	Username : string	Password : string	Privilege : int	CentersAsString : string	DonationString : string

DonationCenters							
CenterId : int	CenterName : string	UserID : int	Hours : string	items : string	Address : string	Pickup : int	LastUpdate : DateTime
Phone : string	Description : string	Website : string	ImageURL : string	Contact Email : string	Status : int	ItemNamesAsString : string	

Database Tables

Items					
itemId : int	Name : string	Weight : int	StringCategory : string	LowPrice : decimal	HighPrice : decimal

Category		
ID : int	Name : string	itemString : string

Database Tables

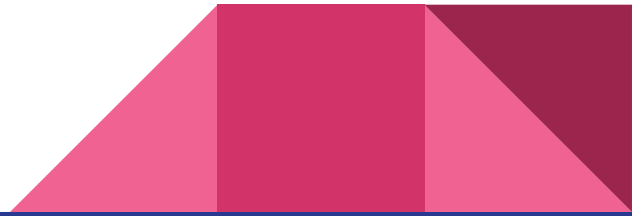
Requests					
RequestId : int	Type : string	CreatedTime : DateTime	LastUpdateTime : DateTime	MessageInfo : string	Status : int
CallingId : int	RequestRequired : int				

Donations		
Id : int	ItemsAsString : string	DonationDate : DateTime

Management and Implementation

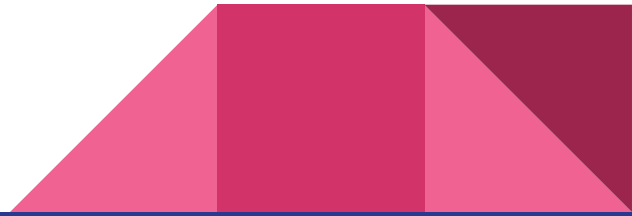
Organization

- Adviser meetings
- Team meetings
- Client meetings
- Github and project board
- Frequent communication



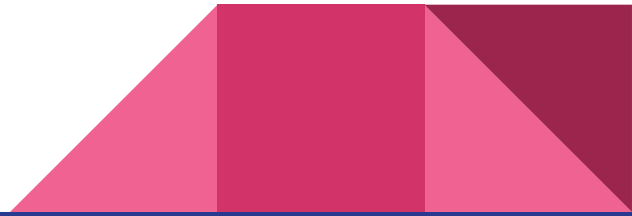
Challenges

- Becoming capable in a new platform
- Entity Framework
  - Powerful tool
  - Unique errors
- Distinguishing Client-side and server-side
- Functional, interactive, and simplistic interface



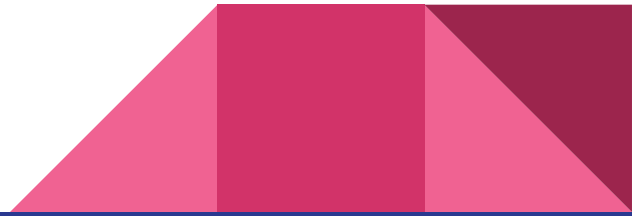
Remaining Work

- Pass off to City of Ames
  - Code and documentation available on Github
  - Ames developers will look it over and deploy it



Looking Back

- Development
  - Started slow
  - Greatly picked up pace in March
- Features
  - Implemented all core features
  - Included a few optional features



Questions?

Thank you

Potential Risks and Mitigations

- Trouble with City of Ames handoff
  - Developing in a familiar format
- Donation Centers never sign up
  - Ames advertisement strategy
  - Office of Sustainability team
- Donation Centers not maintaining pages
  - Automatic reminders
  - Expiration

Testing

- Minor unit testing
- Behavioral testing