Greater Goods Donation Software

ISTM 6210.11: MSIST Capstone
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Team G

John Keegan:
Reports, Maps, Databases, Graphic Design

Xinxin Zheng:
Documentation, Planning, Diagrams

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Site Coding, Design, Databases

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Site Coding, Planning,Diagrams

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Management, Documentation, Diagrams

Introduction

Non-monetary goods donation management system to efficiently handle:

- Inventory
- Donations
- Potential Donors

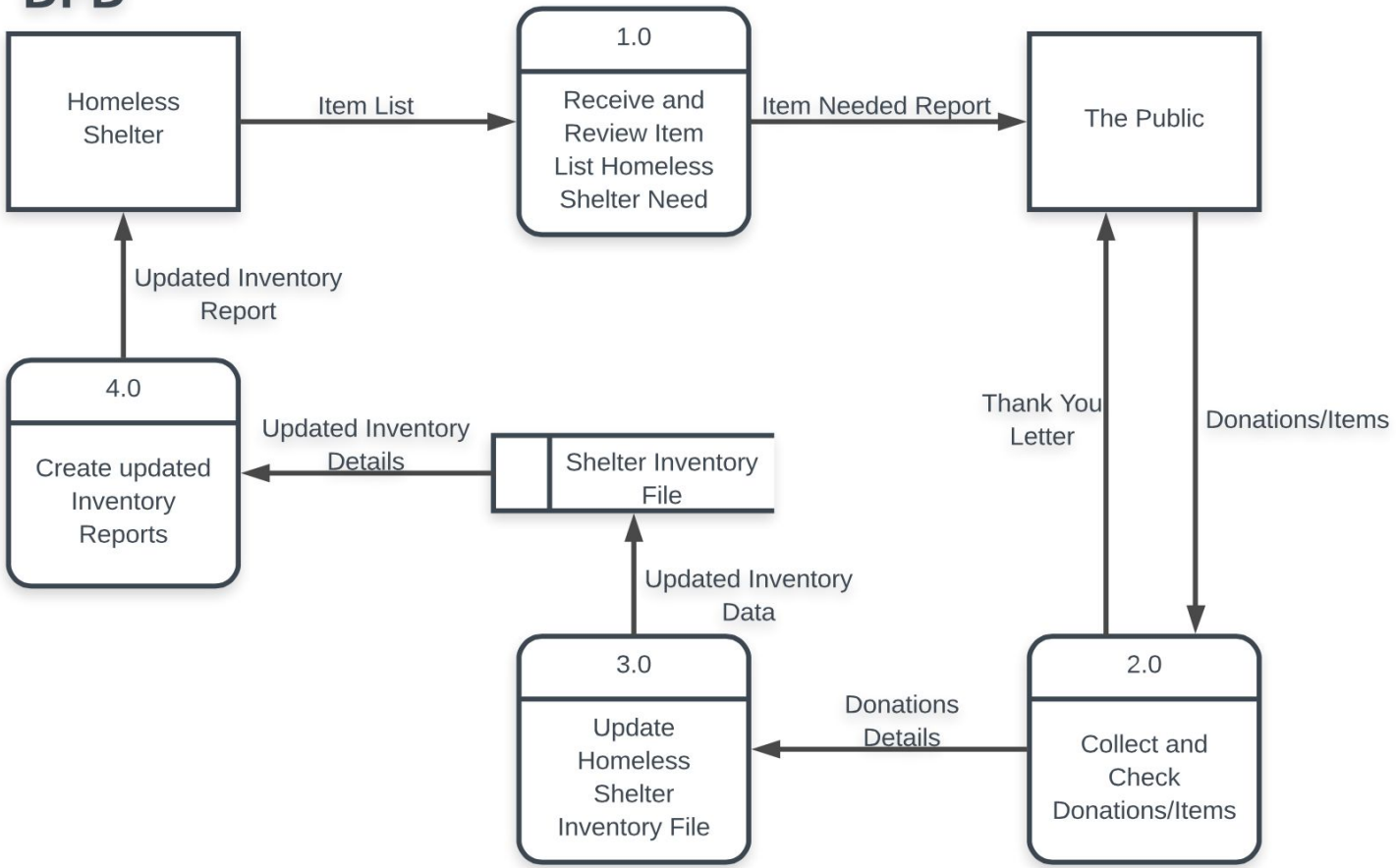
In Short:

GreaterGoods.care helps charities advertise what stuff they need & record donations received.

Business Need:

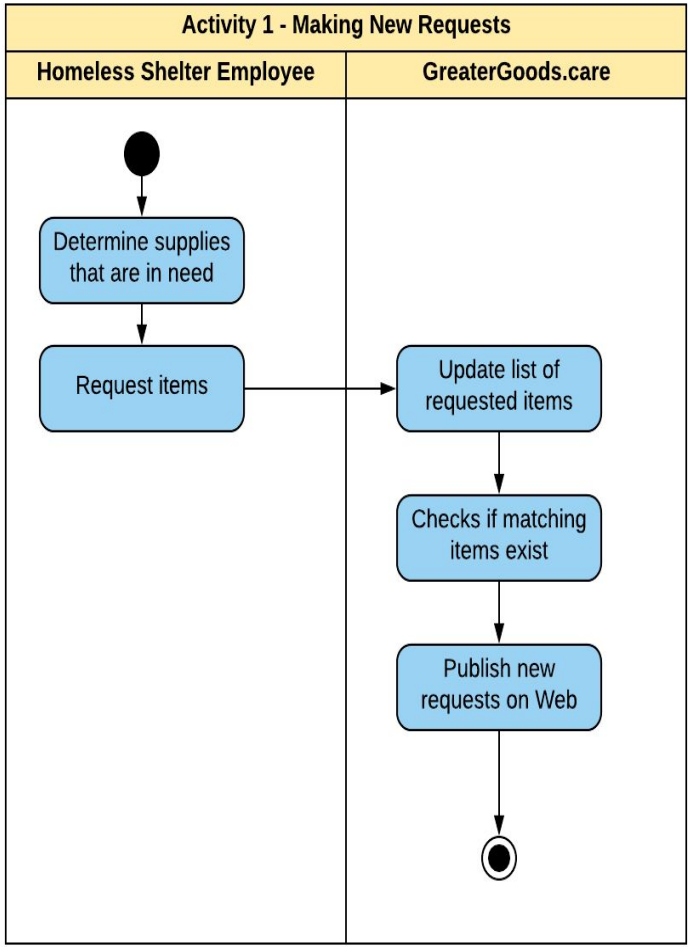
- ~100 million people are homeless **worldwide** (UN, 2005).
- 500,000+ people experienced homelessness during 2017 in **U.S.** (HUD, 2017).
- First increase in U.S. homeless population in 7 years (HUD, 2017).
- 35% of homeless in U.S. are unsheltered (HUD, 2017).
- Charities / shelters have limited resources.

Level-0 DFD


Homeless Shelter
Item List
1.0
Receive and Review Item List Homeless Shelter Need
Item Needed Report
The Public
Updated Inventory Report
4.0
Create updated Inventory Reports
Updated Inventory Details
Shelter Inventory File
Thank You Letter
Donations/Items
Updated Inventory Data
3.0
Update Homeless Shelter Inventory File
Donations Details
2.0
Collect and Check Donations/Items

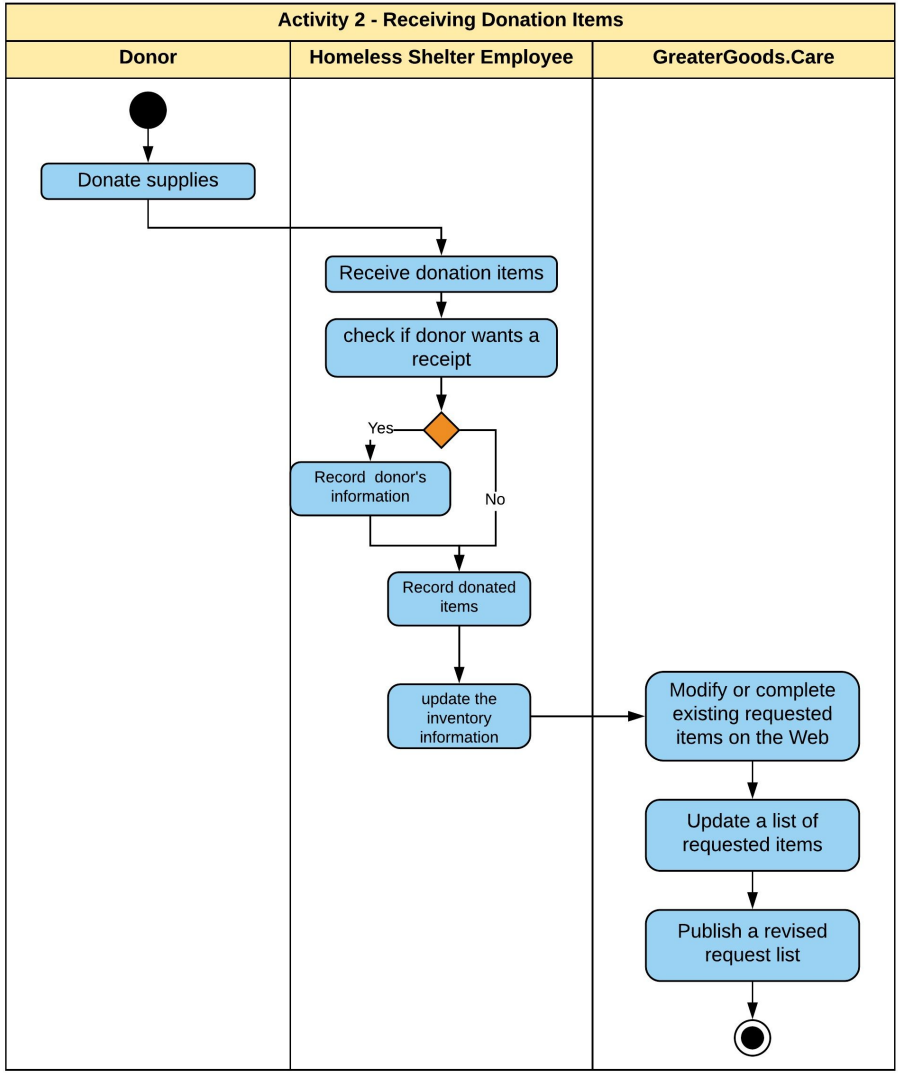
Activity Diagram 1

1. Homeless shelter employee creates a new/edits an existing request through the GreaterGoods system.
2. System adds a new requested item to shelter's list.
3. Updated list of requested items will be published on the shelter's profile page.
4. Potential donors who have listed their excess goods are emailed which charities nearby them need their stuff.
5. Shelter decides whether to publish the request on their social media feeds.



Activity Diagram 2

1. Donor brings donation items to shelter.
2. Shelter receives the donated items.
3. Shelter records the donated supplies and adds donor's contact information to the system if donor is willing to provide.
4. GreaterGoods automatically updates the shelter's page with modified item listing.



Sprint and Product Backlogs

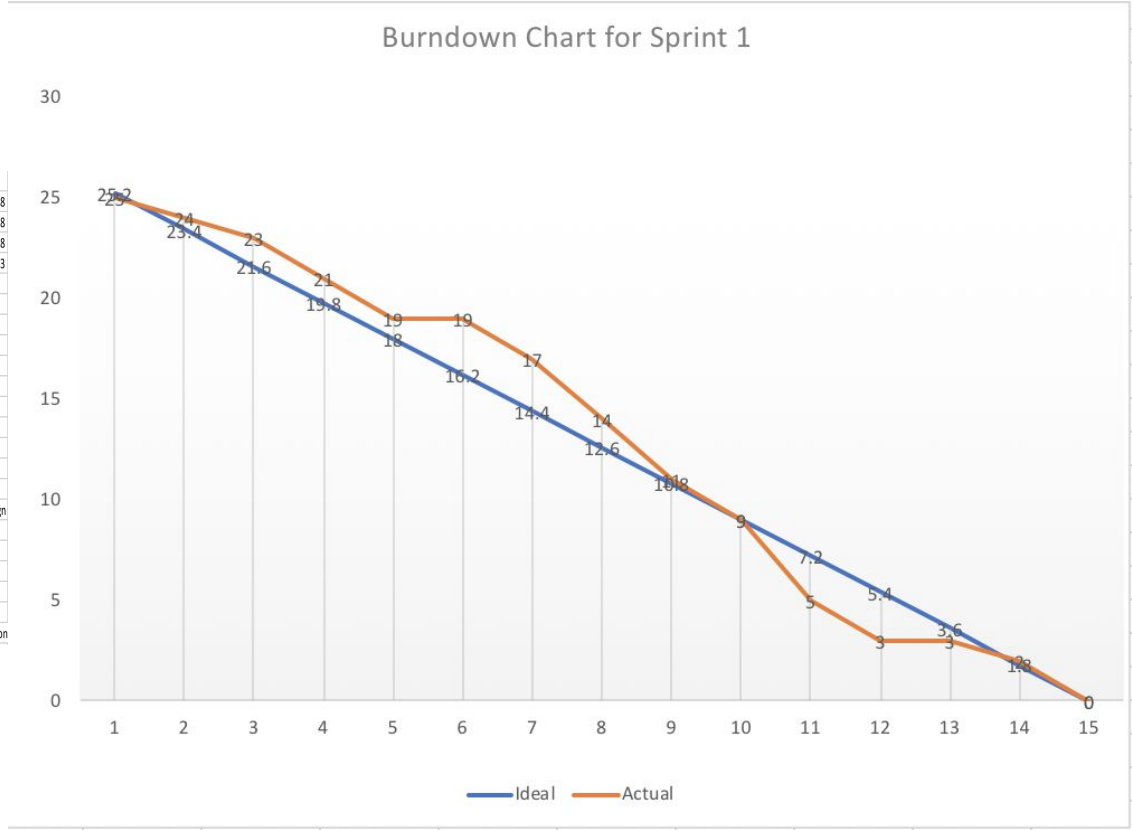
GreaterGoods.care Product Backlog					
Key	***Summary***	***Priority***	***Points***	***Status***	***Sprint***
GREAT-1	Wireframe user interfaces	High	8	Done	Sprint 1
Create wireframe for charity user interface to add requests and manage donations.					
GREAT-2	Public-facing interface design	High	8	Done	Sprint 1
Create wireframes for the public facing site to allow for non shelter users to view the currently requested items and status					
GREAT-3	Create database tables	High	8	Done	Sprint 1
Will create the database tables in MySQL to keep track of charities, users, non charity users, items, requests, donations, inventory					
GREAT-4	Charity sign up and validation	Medium	3	Done	Sprint 1
Create an interface to allow charities to sign up with our service, and validate their EIN against the database here: https://apps.irs.gov/app/eos/forwardToPub78Download.do					
GREAT-5	"Contact Us" Page	Medium	3	Done	Sprint 2
Allow users, both non charity and charity, to reach us via a contact us page.					
GREAT-6	Account Creation	High	8	Done	Sprint 2
Allow the public donor to register the account					
GREAT-7	Create and Publish Requests for Donations	High	8	Done	Sprint 2

GreaterGoods.care Product Backlog					
Key	***Summary***	***Priority***	***Points***	***Status***	***Sprint***
GREAT-8	Log Donations	Medium	3	Done	Sprint 2
Allow charity users to log received donations.					
GREAT-9	Donors add and monitor Items	Medium	5	Done	Sprint 2
Allow registered donors to monitor items needed when they have specific items to donate and don't know where to bring them.					
GREAT-10	Management Reports	Medium	3	Done	Sprint 3
Create tables/scripts/ and subsequent reports for charity usage, requests, and other pertinent information.					
GREAT-11	"Thank You" letter generation	Medium	5	Done	Sprint 3
Create thank you letter given to non-anonymous donors					
GREAT-12	Donate to GreaterGoods.care	High	8	Done	Sprint 3
Add functionality for visitors to donate to our organization, as we are a non-profit.					
GREAT-13	Social Media Sharing	Medium	3	Done	Sprint 3
Allow users to share interactions via social media.					
GREAT-14	Create API	High	8	Done	Sprint 3
Create an API to allow paying charities to leverage our system in their own site's framework.					

Burndown Chart

Sprint 1			Task number	Task name	Task points
Start date	3/12/18		GREAT-1	Wireframe user interfaces	8
End date	3/26/18		GREAT-2	Public-facing interface design	8
Total days	15		GREAT-3	Create database tables	8
Total points	27		GREAT-4	Charity sign up and validation	3
Ideal points per days	1.8				

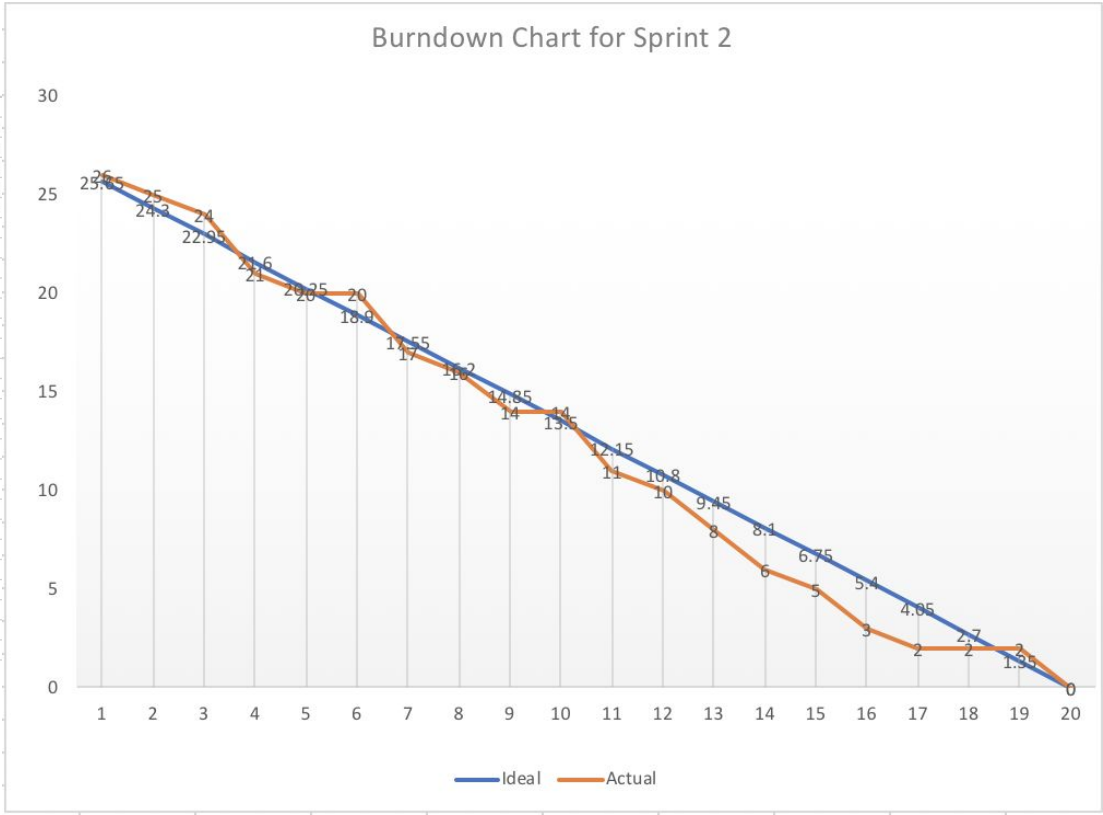
Day	Date	Ideal	Actual values	Actual	Completed Tasks
1	3/12/18	25.2	2	25	
2	3/13/18	23.4	1	24	
3	3/14/18	21.6	1	23	
4	3/15/18	19.8	2	21	
5	3/16/18	18	2	19	Wireframe user interfaces
6	3/17/18	16.2	0	19	
7	3/18/18	14.4	2	17	
8	3/19/18	12.6	3	14	
9	3/20/18	10.8	3	11	Public-facing interface design
10	3/21/18	9	2	9	
11	3/22/18	7.2	4	5	
12	3/23/18	5.4	2	3	Create database tables
13	3/24/18	3.6	0	3	
14	3/25/18	1.8	1	2	
15	3/26/18	0	2	0	Charity sign up and validation



Burndown Chart

Sprint 2			Task number	Task name	Task points
Start date	3/27/18		GREAT-5	"Contact Us" Page	3
End date	4/15/18		GREAT-6	Account Creation	8
Total days	20		GREAT-7	Create and Publish Requests for Donations	8
Total points	27		GREAT-8	Log Donations	3
Ideal points per days	1.35		GREAT-9	Donors add and monitor Items	5

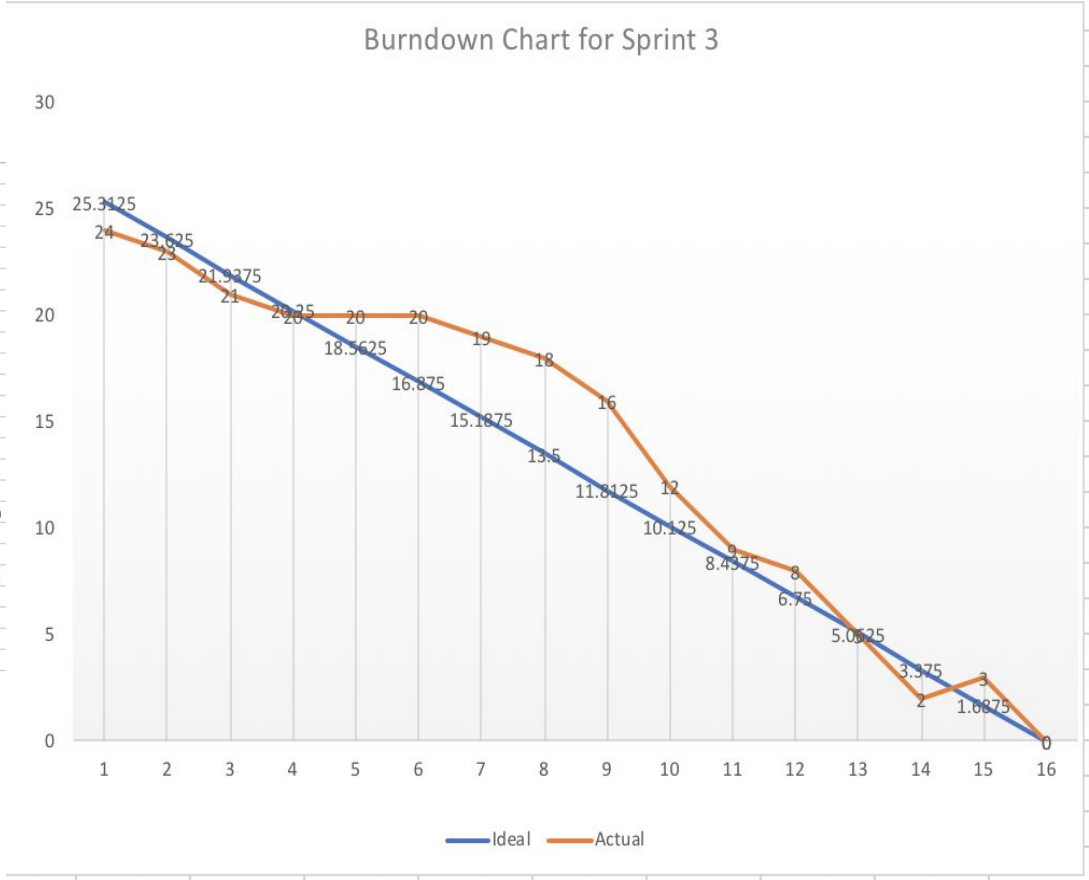
Day	Date	Ideal	Actual values	Actual	Completed Tasks
1	3/27/18	25.65	1	26	
2	3/28/18	24.3	1	25	
3	3/29/18	22.95	1	24	"Contact Us" Page
4	3/30/18	21.6	3	21	
5	3/31/18	20.25	1	20	
6	4/1/18	18.9	0	20	
7	4/2/18	17.55	3	17	
8	4/3/18	16.2	1	16	Account Creation
9	4/4/18	14.85	2	14	
10	4/5/18	13.5	0	14	
11	4/6/18	12.15	3	11	
12	4/7/18	10.8	1	10	
13	4/8/18	9.45	2	8	Create and Publish Requests for Donations
14	4/9/18	8.1	2	6	
15	4/10/18	6.75	1	5	Log Donations
16	4/11/18	5.4	2	3	
17	4/12/18	4.05	1	2	
18	4/13/18	2.7	0	2	
19	4/14/18	1.35	0	2	
20	4/15/18	0	2	0	Donors add and monitor Items



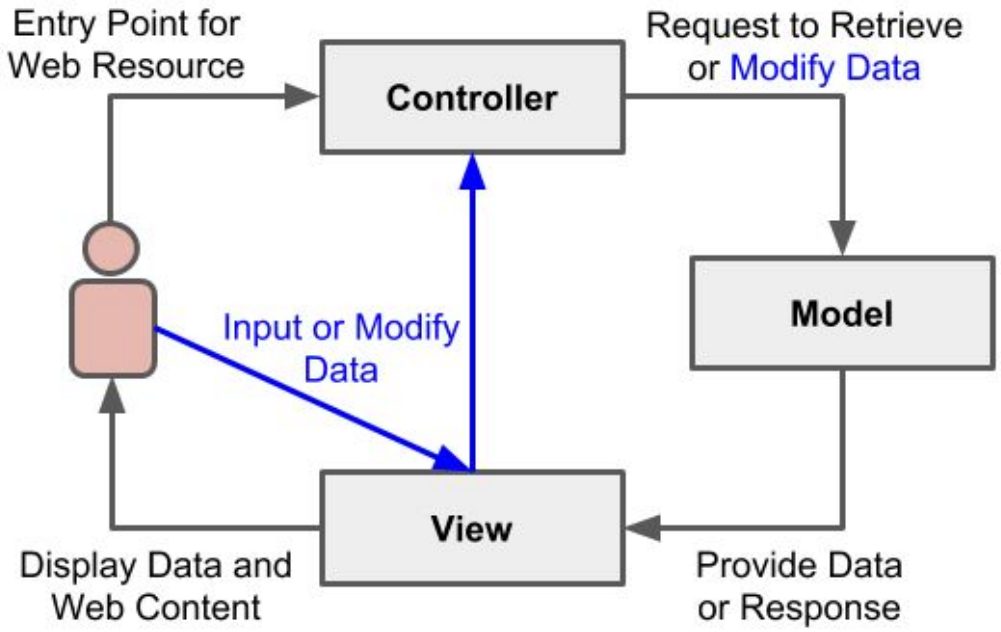
Burndown Chart

Sprint 3			Task number	Task name	Task point
Start date	4/16/18		GREAT-10	Management Reports	
End date	5/1/18		GREAT-11	"Thank You" letter generation	
Total days	16		GREAT-12	Donate to GreaterGoods.care	
Total points	27		GREAT-13	Social Media Sharing	
Ideal points per days	1.6875		GREAT-14	Create API	

Day	Date	Ideal	Actual values	Actual	Completed Tasks
1	4/16/18	25.3125	0	24	
2	4/17/18	23.625	1	23	
3	4/18/18	21.9375	2	21	Management Reports
4	4/19/18	20.25	1	20	
5	4/20/18	18.5625	0	20	
6	4/21/18	16.875	0	20	
7	4/22/18	15.1875	1	19	
8	4/23/18	13.5	1	18	
9	4/24/18	11.8125	2	16	"Thank You" letter generation
10	4/25/18	10.125	4	12	
11	4/26/18	8.4375	3	9	
12	4/27/18	6.75	1	8	Donate to GreaterGoods.care
13	4/28/18	5.0625	3	5	Social Media Sharing
14	4/29/18	3.375	3	2	
15	4/30/18	1.6875	2	3	
16	5/1/18	0	3	0	Create API



Custom, Simple MVC Design



W's Pet-Peeve: Should be "CMV"

Purpose

Maintainable code w/o URL rewriting.

Definitions

Controller: index.php page entry.

Model: Database interaction.

View: Images, CSS, JavaScript, and some PHP files (e.g., header/footer). Input data is submitted after CSS and JavaScript rendering.

Security

- Data-in-Transit: HTTPS is enabled!

- Data-at-Rest:
  - Passwords use a secure hashing algorithm with random salt (bcrypt).
    No plain-text passwords are ever stored in the database.
    Example: The password hash for account "**test_user_1**" is:
    $2y$10$5eCYhInILuAmvfev4elYZufG1a1rFKg6tPvWKrG6DTTo6U.lPD38S

- Secure Coding: Our code is designed, as best as possible, to protect against:
  - SQL Injection (SQLi), Cross-Site Scripting (XSS), Cross-Site Request Forgery (CSRF)
  - PHP Session Fixation Attacks, Brute Forcing, Password Sprays, etc.

References

U.S. Housing and Urban Development (HUD). (2017). *The 2017 Annual Homeless Assessment Report (AHAR) to Congress, Part I*. HUDExchange.info. Retrieved from https://www.hudexchange.info/resources/documents/2017-AHAR-Part-1.pdf

United Nations (UN). (2005). *Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living*. UN.org. Retrieved from https://daccess-ods.un.org/access.nsf/Get?Open&DS=E/CN.4/2005/48&Lang=E