

# Trillium Grant Management

Team Ulysses

# Agenda

- Our Product
- Methodology
- Requirements
- Design
- Tools and Technology Overview
- GUI - Evolution and current state
- Metrics/Risk
- Testing
- Project Status

# Who Is Trillium?

- Non-profit organization based in the Greater Rochester Area
- Provides a variety of health care services to Geneva/Bath/Rochester areas
- Most funding is based on grants received from Federal, State and local authorities

# Our Product

Three main areas of concern:

- Grant Management
- Task Management
- Document Management

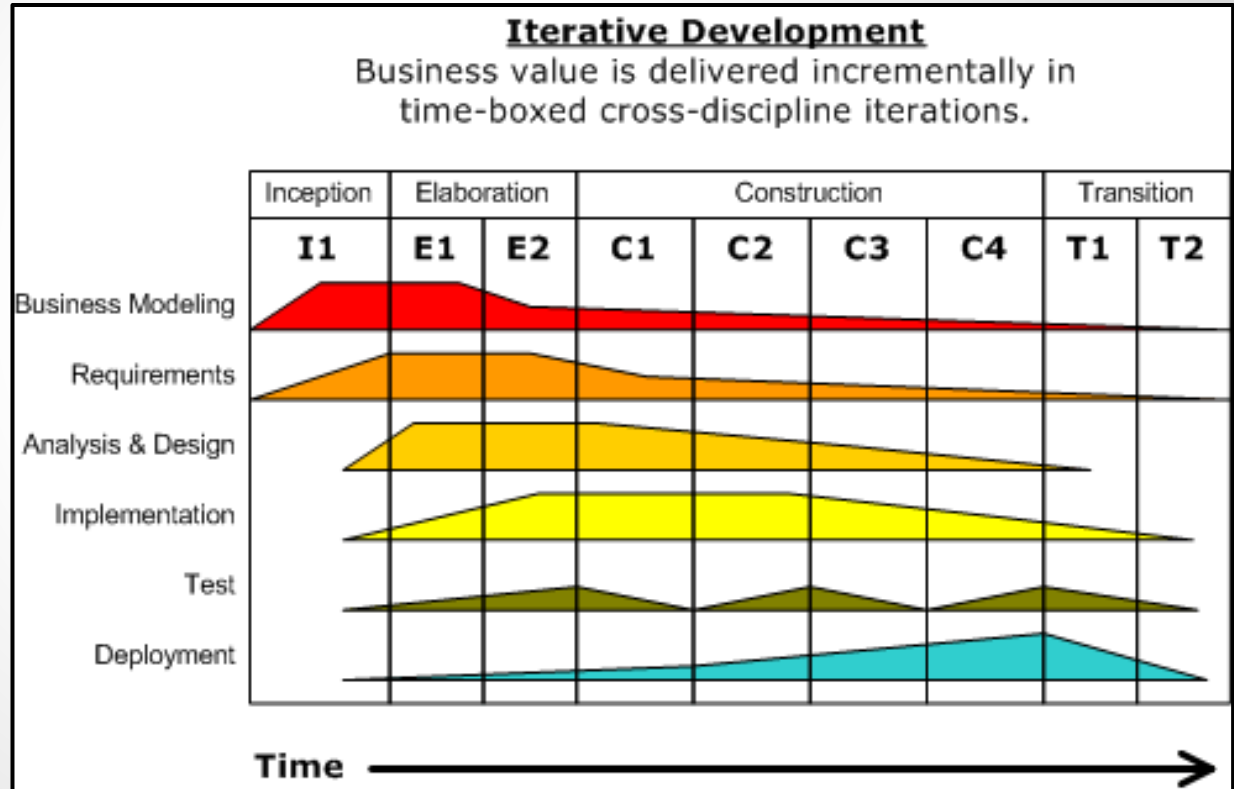
# Methodology - RUP

5 week iterations

1 inception, 1 elaboration, 3 construction, 1 transition.

## Why we choose RUP

- Develop software iteratively.
- Manage requirements.
- Use component-based architectures.
- Visually model software.
- Continuously verify software quality.
- Control changes to software



# Scope

- Main Project
- Additional Features

# Scope - Main Project

- Creation of Grants, Tasks
- Adding Documents
- Audit Trail
- Active Directory (LDAP)

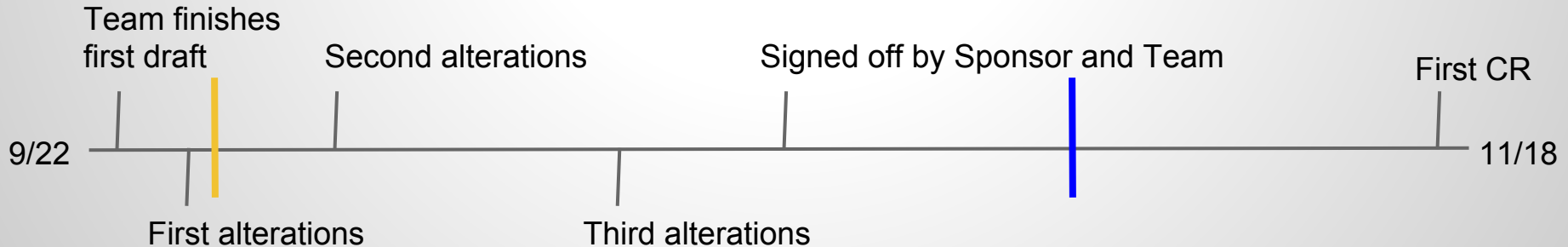
# Scope - Additional Features

- Outlook Integration
- Task Templates
- Emailing Status Updates



# Requirements

- We have 98 requirements
- For C1 we elicited 30 requirements and are in the process of completing them
- 21 so far \*As of 11/23/14
- Process for eliciting requirements.
  - Interviewing stakeholders - went to Trillium
  - Created quick prototypes (paper and computer model) and asked for feedback



# Requirements

<b>2.2.4</b>	<b>Type</b>	<b>Requirement</b>	<b>Acceptance Test</b>
1	Tasks shall	be able to contain child tasks	As a grant owner, create a task and a child task for the first task
2	Tasks shall	allow at least 9 levels of sub-tasks past the parent task	As a grant owner, create 10 levels deep of child tasks
3	Tasks shall	have due dates	As a grant worker, I can assign the due date of a task

# Design

Focused on three main quality attributes

- Usability
- Securability
- Modifiability

# Usability

“ease-of-use”

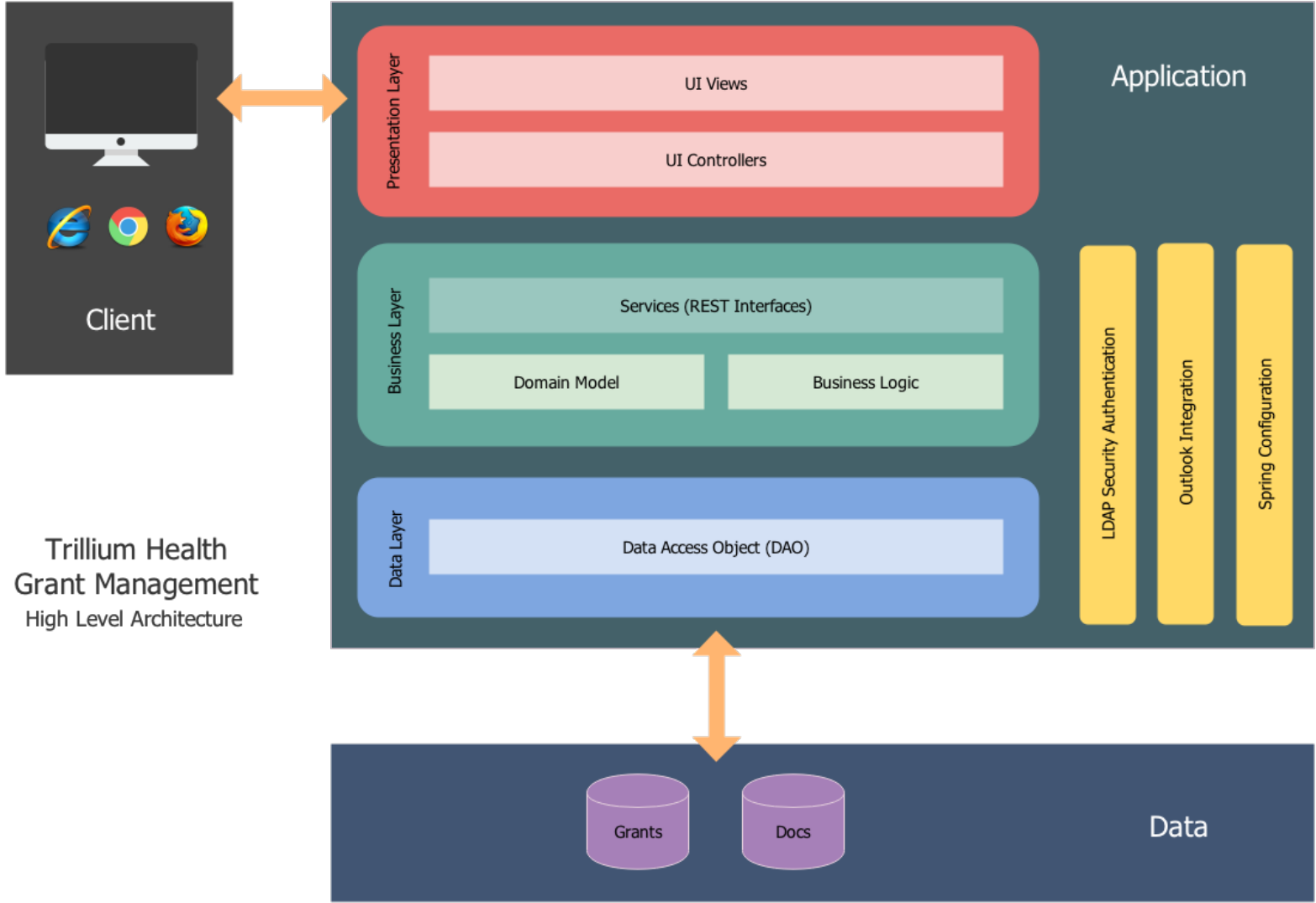
- Learnability
- Efficiency
- Satisfaction

# Securability

- Authentication / Authorization of users
- Audit Trail
- Keeping the documents in a separate server
- Backup of documents
- Sanitization of Inputs

# Modifiability

- Modules/Packages
- Increase Cohesion
- Reduce Coupling
- UI is easily modifiable
  - Mostly because we are using REST interfaces



# Tools and Technology Overview



Jasmine



REDMINE

flexible project management



Apache

maven



JUnit



PostgreSQL

HIBERNATE





# GUI Evolution

- UI evolved from our prototypes
  - Feedback as well as suggestions from customers

The screenshot shows the Trillium Grant Manager web application. At the top, there is a navigation bar with the Trillium Health logo and the text "Trillium Grant Manager (C)". Below this is a menu with options: Home, Grants In Research, Grants In Progress, Admin, and Logout. The main content area is divided into two sections. The top section is titled "Next tasks due (active grants)" and contains a table with columns for Grant, Snapshot, Next Task(s), Status, and Due. The bottom section is titled "Funder/Title" and contains a table with columns for Task Description, Assigned To, and Due. The interface is clean and professional, with a clear hierarchy of information.

Grant	Snapshot	Next Task(s)	Status	Due
G Ryan White Part C	Submit Preliminary RSR(AJ Blythe)	Completed	C	10/1/2014
	Create workplan for missing items (AJ Blythe)	Not Started	N	10/15/2014
	Execute data entry based on workplan (Lucia Colindres)	Waiting	P	10/15/2014
Y BCBS LGBT	Respond to CFA	Not Started	N	11/1/2014
	subtask: Prepare data export <a href="#">count of patients served</a>	Completed	C	11/1/2014
	subtask: Assemble policy and procedures for review committee	Not Started	N	12/1/2014
Y Harm Reduction	Reapplication for new funding	In Progress	I	12/1/2014

Funder/Title	Task Description	Assigned To	Due
United Way	Have lunch with CEO discuss opportunities	Karen Elam	11/1/2014
United Way	Follow up email	MegRussell	11/5/2014
Catholic Charities	Send ARRR brochure with hand written note	Jay Rudman	11/10/2014
B. Author Foundation	Host a charity golf tournament	Mary Jo Weegar	12/10/2014
(sub task)	Invited at least 50 key personal	Mary Jo Weegar	12/10/2014
(sub task)	Solicit matching donations	Mary Jo Weegar	12/10/2014

The screenshot shows a dashboard and task details view. The dashboard on the left displays a tree view of tasks: "Potato Grant" (1 task), "Prepare Banana Document" (11 days left), "Au Gratin" (1 day left), and "Secret of the Lamp" (0 tasks). The task details view on the right shows the "Prepare Banana Document" task assigned to "Buzz" with a deadline of "Sep 15th, 2014 (11 days left)". Below this, there is a "Dropbox" section showing a task "Banana Prep" assigned to "Buzz" with a deadline of "Sep 13th, 2014" and a status of "Bananas are tasty!".

**Dashboard**

- ▶ Potato Grant (1 ✓ 1 ▶ 0 ✖)
- Prepare Banana Document (11 days ▶)
- Au Gratin (a day ✓)
- ▼ Secret of the Lamp (0 ✓ 0 ▶ 1 ✖)

**Grant: Potato Grant**

**Owner**  
Woody

**Next Due Task**  
Prepare Banana Document

Task	Assignee	Deadline	Status
Prepare Banana Document	Buzz	Sep 15th, 2014 (11 days left)	▶
Au Gratin	Woody	Sep 25th, 2014 (a day left)	✓

**Task: Prepare Banana Document**

**Assignee**  
Buzz

**Due**  
Sep 15th, 2014 (11 days left)

**Dropbox**

Banana Prep Buzz Sep 13th, 2014 Bananas are tasty!

# GUI Evolution

Trillium Grant Management

[Home](#) [Active Grants](#) [Potential Grants](#)

### Active Grants

Name	Status
<a href="#">Yami Yugi</a> → <a href="#">Information</a>	▶
Contacts	
Workflows	
Documents	
Submissions	
Tasks	
Seto Kaiba	
Jack Atlas	▶

### Yami Yugi

<b>Owner</b> 👤 Yuma Tsukumo ✉ <a href="mailto:yuma@heartlandcity.net">yuma@heartlandcity.net</a>	<b>Description</b> 📄 Genesis
<b>Award</b> 💰 \$ 5,000	<b>Links</b> 🔗 <a href="#">[HARDCODED] EXTERNAL LINK #1</a> 🔗 <a href="#">[HARDCODED] EXTERNAL LINK #2</a>

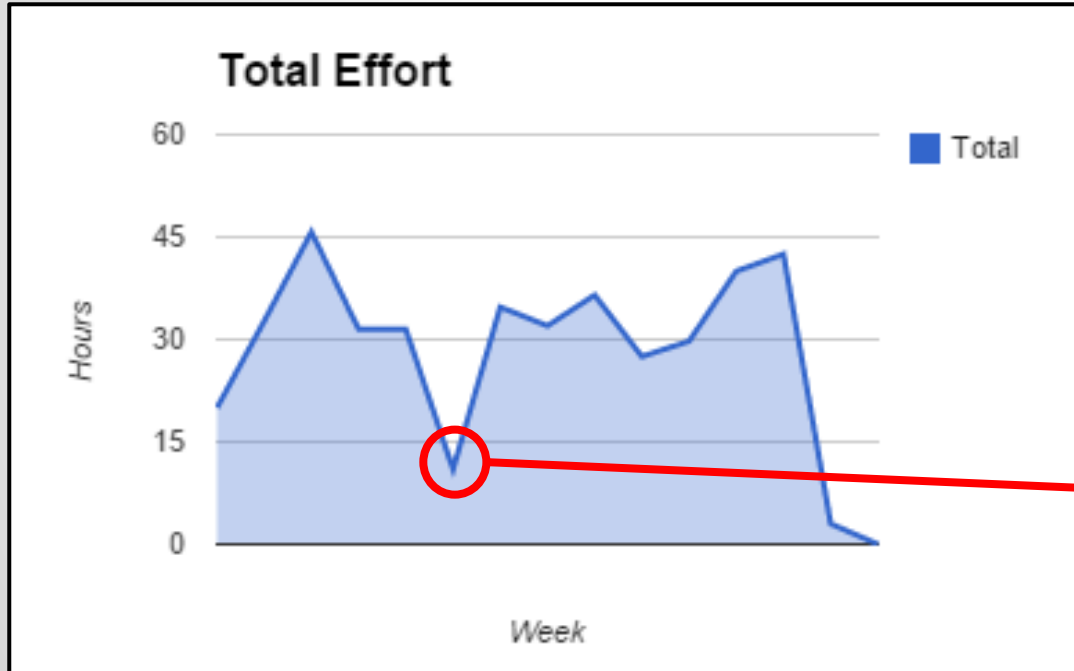
**DEV NOTE** Not sure how active/potential works, so I'm assuming stopped is potential and active/in-prog is active.

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# Metrics

- Our Metrics
  - Time cards
  - Number of tasks completed each phase
  - Number of bugs per KLOC
  - Code Metrics

# Time Cards



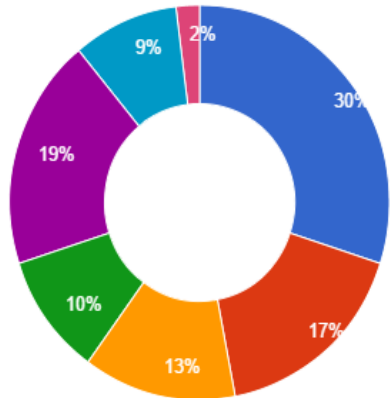
Total Hours: 418.45  
Average Per Week: 31.9

Career Fair Week

\* As of 11/23/14

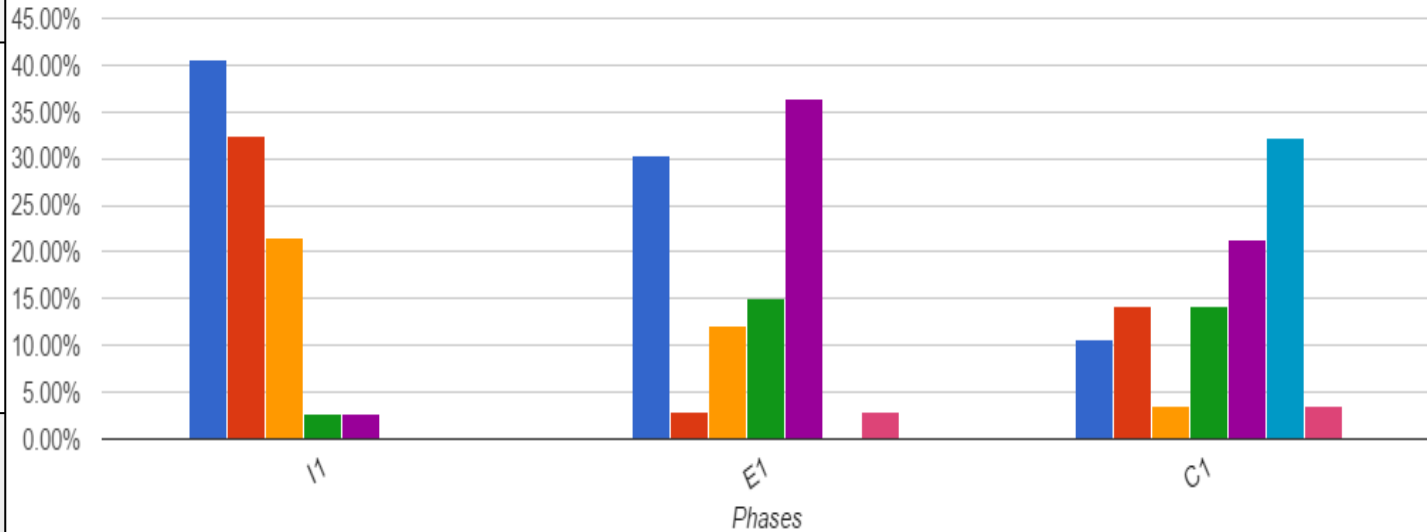
# What have we spent the most time on?

Total



Percent of Tasks Completed

Tasks Completed by phase



Research Project Management Requirements Environment Analysis and Design Implementation Test

\* As of 11/23/14

# Time per Task

	<b>Time (hours)</b>	<b>Tasks</b>	<b>Time per Task</b>
Inception	161.45	37	4.363513514
Elaboration	141.75	33	4.295454545
Construction	112.25	28	4.008928571

\* As of 11/23/14

# Number of Bugs per KLOC

- 1 backend bug
- 2 front end bugs
  
- 958 backend LOC

# Coding Metrics

- Non Commenting Source Statements (NCSS).
- CCN - Cyclomatic Complexity Number

Package	Classes	Methods	NCSS	Javadocs	Javadoc lines	Single lines comment	Multi lines comment
org.trilliumhealth.tgm.models	12	155	537	157	614	4	3
org.trilliumhealth.tgm.config	3	16	96	0	0	0	0
org.trilliumhealth.tgm.service.impl	3	17	82	3	13	10	31
org.trilliumhealth.tgm.controllers	3	9	70	5	41	26	3
org.trilliumhealth.tgm.dao.impl	3	15	68	3	14	6	59
org.trilliumhealth.tgm.config.development	1	4	46	0	0	0	0
org.trilliumhealth.tgm.service	4	17	32	1	4	0	3
org.trilliumhealth.tgm.dao	3	15	27	3	19	0	6
Program NCSS		NCSS average		CCN average		Javadocs average	
958.00		2.27		1.09		0.64	

\* As of 11/23/14



# Risk

- How did we account for risk?
- What Risks happened?
- What Risks didn't happen?

# Testing

## Strategy

- Front/Back-End Unit Testing
- Usability Testing
- Acceptance Testing

## Challenges

- Prod/Dev Technologies
- Only behavioral tests automatable, not static

# Current State

- Completing C1 this week
  - Completed about 21% of the total coding requirements so far

# What Went Well

- Able to meet almost everyday
- Good feedback and communication with Sponsor
  - Always available via email
  - Let us choose our technologies
- Brian's Bagel Mondays!!!



# What Went Poorly

- Email meetings for the team
- Environment setup
- Setup on Trillium's server took longer than expected

# Looking Ahead...

What will we do differently?

## **#13: Wishful thinking**

- hoping things would go quicker than they did
- have meetings in person is the best way to get things done

## **#15: Insufficient risk management**

- Made the risk doc and assigned risk weeks, but then kind of dropped the document

	Spring	Team Activities and Deliverables
C2	Week 1	Analysis and Design
C2	Week 2	Implementation
C2	Week 3	Implementation
C2	Week 4	Testing and Release
R2	Week 5	Risk Buffer
C3	Week 6	Analysis and Design
C3	Week 7	Implementation
C3	Week 8	Implementation
C3	Week 9	Testing and Release
R3	Week 10	Risk Buffer - CODE FREEZE
T1	Week 11	Training on/for: System Administration, Upkeep, Installation/Re-installation, Backup, End-user
T1	Week 12	Training on/for: System Administration, Upkeep, Installation/Re-installation, Backup, End-user
T1	Week 13	Poster presentation during Software Engineering Project Day; Technical Report
T1	Week 14	Give final presentation this week

Questions?

*That's all Folks!*

Thanks!