



# Zabeta

# Team Zabeta

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- ❖ Kyoko Makino





- ❖ Define educational objectives.
- ❖ Monitor student's progress and achievement of outcomes.
- ❖ Improving a degree program.
- ❖ Standardize degree programs across universities.



# The Problem

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*No easy way to manage and keep track of materials and deadlines for ABET Accreditation process.*

- ❖ Management of critical ABET data and tasks over a six-year period.
- ❖ People lose track of what to do and when to do it.
- ❖ Process must be kept on track.
- ❖ No system currently exists!



# Solution

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*Automated web-based documentation and schedule management system.*

- ❖ Flexible and extensible.
- ❖ Web 2.0 technologies.
- ❖ Will allow for collection of data and documentation.
- ❖ Will enhance internal management of tasks -> scheduling.



# The Clients

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Dr. Eck Doerry

Dept. of Computer Science  
Northern Arizona University



Dr. James Palmer

Dept. of Computer Science  
Northern Arizona University



# Acquiring Requirements

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- ❖ Not your everyday clients.
  - Highly skilled computer scientists.
  - Have been *dreaming* about this project for years.
- ❖ High Expectations
- ❖ Iterative Process
  - Requirements are constantly being refined.
  - Haven't yet finalized the requirements.

# Architecture Overview

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- ❖ Organizing
- ❖ Task List and Task Management
- ❖ Capturing Documents
- ❖ User Management
- ❖ Integrated Surveys and Rubrics
- ❖ Reports
- ❖ Scheduling
- ❖ Versioning
- ❖ Objectives
- ❖ Outcomes
- ❖ Measures



# The Platform

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- ❖ **Google App Engine**

- Easy to build, easy to maintain, easy to scale.

- ❖ **NoSQL**

- A RDBMS is not the right fit.

**N**ot  
**O**nly **SQL**



# Authentication

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- ❖ **OAuth**

- Open authorization protocol.

- ❖ **CAS**

- Enterprise single sign-on service.



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**CAS**



# Scheduling

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- ❖ Notifications and reminders
- ❖ Verifications
- ❖ Schedule, assign and manage tasks





# Data Model

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# Versioning

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CRUD

Create, read, update and delete



<b>Object</b>
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Name = "abc" Attribute = 1
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Object
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Name = "abc" Attribute = 1
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1



Object	Object
Name = "abc" Attribute = 1	Name = "xyz" Attribute = 1

1

2

Object	Object	Object	Object	Object
Name = "abc" Attribute = 1	Name = "xyz" Attribute = 1	Name = "xyz" Attribute = 2	Name = "xyz" Attribute = 3	Name = "def" Attribute = 1

1

2

3

4

5



Effective Range

Object	Object	Object	Object	Object
Name = "abc" Attribute = 1	Name = "xyz" Attribute = 1	Name = "xyz" Attribute = 2	Name = "xyz" Attribute = 3	Name = "def" Attribute = 1

1

2

3

4

5

# Front End

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- ❖ Backend API.
- ❖ Exchanges JSON data with server.
- ❖ Rendering is done by the browser.



BACKBONE.JS

handlebars





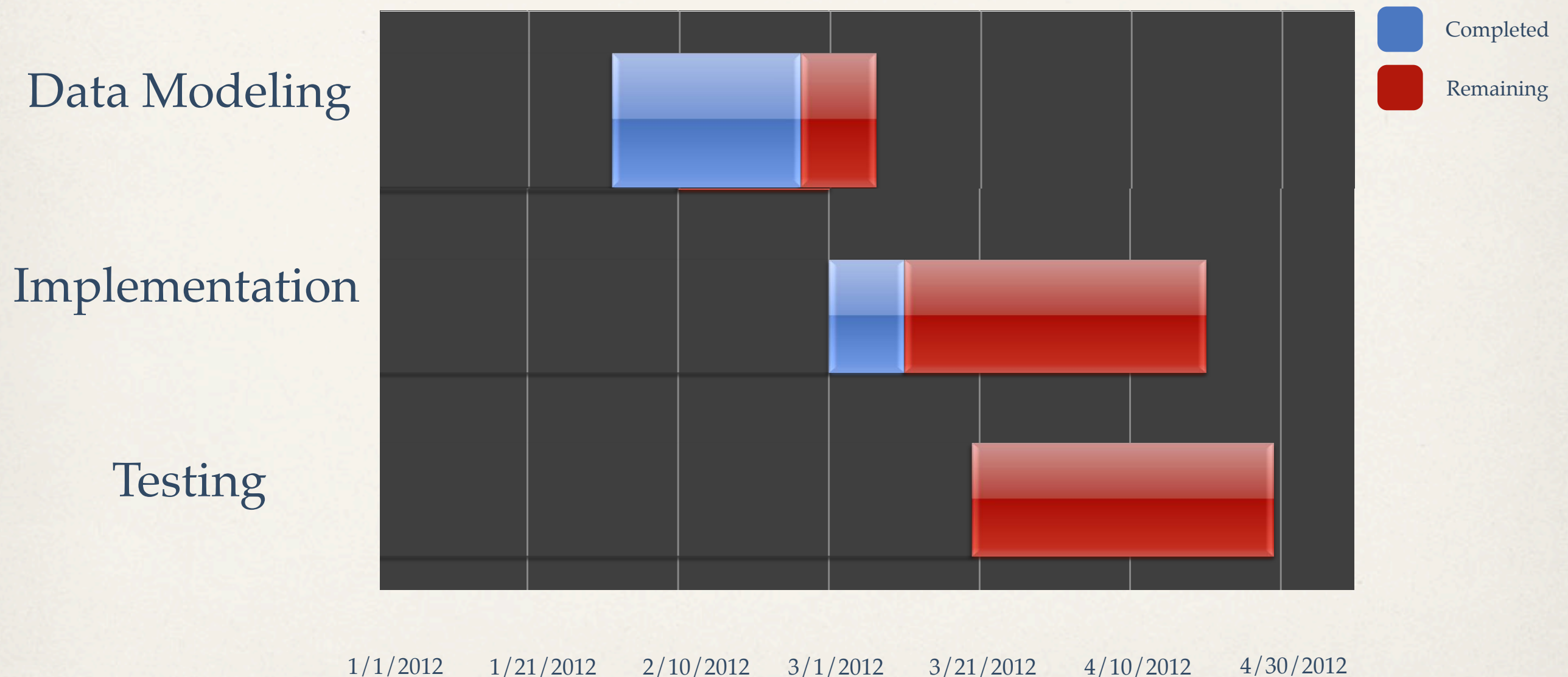
# Challenges and Risks

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- ❖ Unfamiliar with ABET.
- ❖ New platform for all of us.
- ❖ Scope is very large.
- ❖ No current system exist.

# Project Schedule

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# Conclusion

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- ❖ **Problem**

- Difficulty in monitoring documentations and schedules.

- ❖ **Solution**

- Web-based document and schedule tracking system