Detailed Design

By

Phoenix Tech

JAVANET

WELCOME

Dr. Darren Lim
Assistant Professor
Department of Computer Science
Siena College

Mrs. Pauline White
Visiting Instructor
Department of Computer Science
Siena College

AGENDA

- ***Introductions***
- Problem Overview
- Testing
- Database Design
- Prototype Screens
- Waterfall Model
- Semester Timeline
- What’s Next
- Summary

TEAM MEMBERS

- Jessica Edmonds……….Team Leader
- Marc Iuliano……………..Testing Manager
- Anthony Torres…………Chief Programmer
- Erica Weisgerber……….Assistant Programmer

AGENDA

- **Introductions**
- *Problem Overview*
- Testing
- Database Design
- Prototype Screens
- Waterfall Model
- Semester Timeline
- What’s Next
- Summary

PROBLEM OVERVIEW

- Dynamic and interactive way to learn
- Easy access to many questions
- Instant feedback for Students
- Grade tracking for Instructors

AGENDA

- **Introductions**
- Problem Overview
- *Testing*
- Database Design
- Prototype Screens
- Waterfall Model
- Semester Timeline
- What’s Next
- Summary

TESTING

- 4 Stages of Testing
  1. System Testing
     a. Validating functional and non-functional requirements
  2. Unit Testing
     a. Testing each individual unit
  3. Integration Testing
     a. Testing functionality of the units together
  4. Regression Testing
     a. Testing for “bugs”

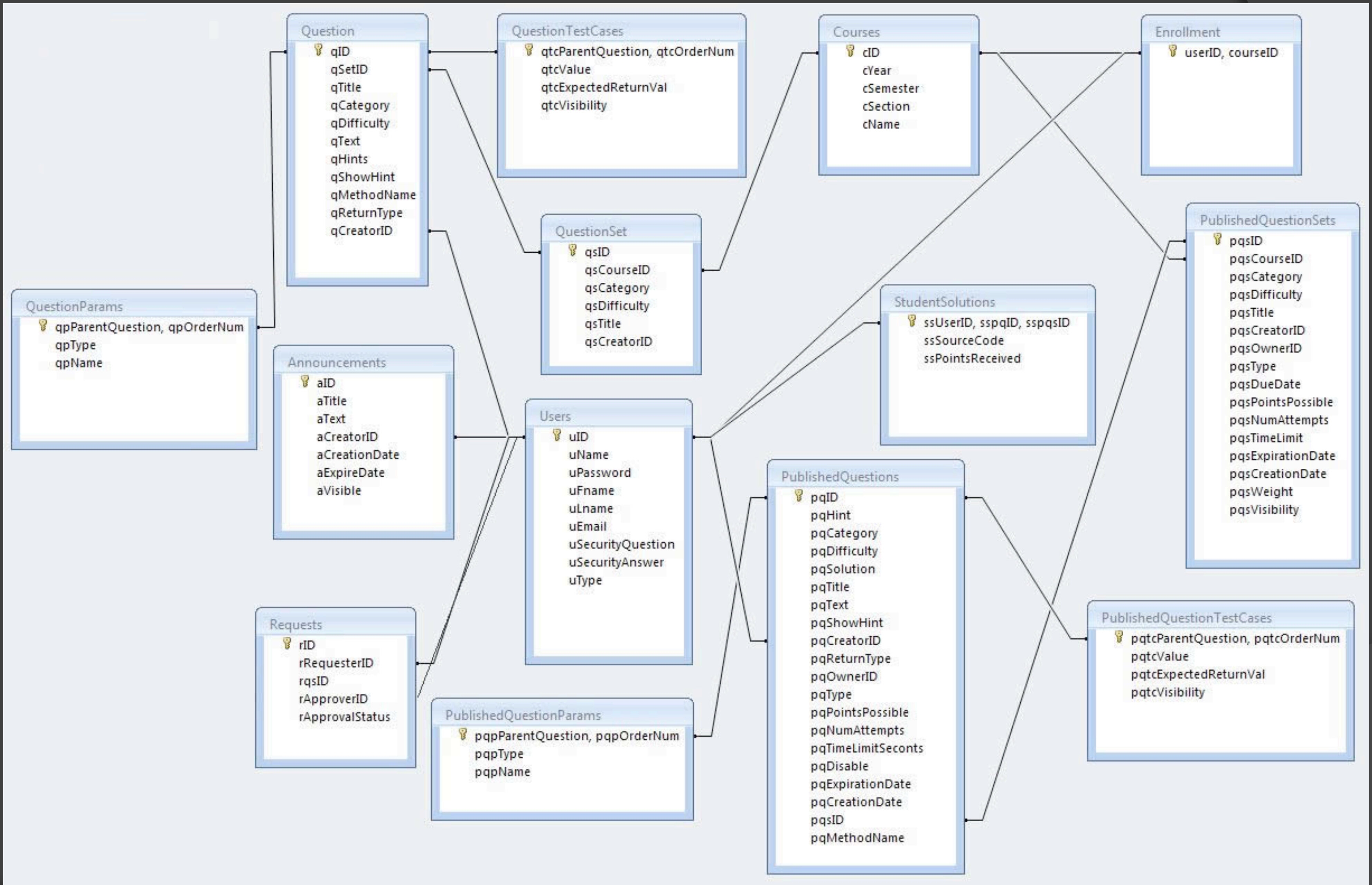
SAMPLE UNIT TEST

1. Javanet Welcome						
ID	**P/F**	**Description**	**Action**	**Expected Result**	**Observed Result**	**Comments**
1.0		Login attempt invalid	Click login button but text field(s) left blank	Notification: “Please enter username and password”		
1.1		Login attempt invalid	Click login button; Username but no/incorrect password input	Notification: “Please enter correct username and password”		
1.2		Login attempt invalid	Click login button; Password but no/incorrect username input	Notification: “Please enter correct username and password”		
1.3		Login attempt accepted	Click login button; Correct combination of username and password submitted	Redirect user to corresponding Welcome Screen		
1.4		Go to Register page	Click “Register” link	Redirect to Registration screen		
1.5		Forgotten Password	Click “Forgot Password?” link	Verify Security Question		

AGENDA

- **Introductions**
- Problem Overview
- Testing
- *Database Design*
- Prototype Screens
- Waterfall Model
- Semester Timeline
- What’s Next
- Summary

RELATIONSHIPS DIAGRAM



Question
qID
qSetID
qTitle
qCategory
qDifficulty
qText
qHints
qShowHint
qMethodName
qReturnType
qCreatorID

QuestionTestCases
qtcParentQuestion, qtcOrderNum
qtcValue
qtcExpectedReturnVal
qtcVisibility

Courses
cID
cYear
cSemester
cSection
cName

Enrollment
userID, courseID

QuestionSet
qsID
qsCourseID
qsCategory
qsDifficulty
qsTitle
qsCreatorID

PublishedQuestionSets
pqsID
pqsCourseID
pqsCategory
pqsDifficulty
pqsTitle
pqsCreatorID
pqsOwnerID
pqsType
pqsDueDate
pqsPointsPossible
pqsNumAttempts
pqsTimeLimit
pqsExpirationDate
pqsCreationDate
pqsWeight
pqsVisibility

QuestionParams
qpParentQuestion, qpOrderNum
qpType
qpName

StudentSolutions
ssUserID, sspqID, sspqsID
ssSourceCode
ssPointsReceived

Announcements
aID
aTitle
aText
aCreatorID
aCreationDate
aExpireDate
aVisible

Users
uID
uName
uPassword
uFname
uLname
uEmail
uSecurityQuestion
uSecurityAnswer
uType

PublishedQuestions
pqID
pqHint
pqCategory
pqDifficulty
pqSolution
pqTitle
pqText
pqShowHint
pqCreatorID
pqReturnType
pqOwnerID
pqType
pqPointsPossible
pqNumAttempts
pqTimeLimitSeconts
pqDisable
pqExpirationDate
pqCreationDate
pqsID
pqMethodName

PublishedQuestionTestCases
pqtcParentQuestion, pqtcOrderNum
pqtcValue
pqtcExpectedReturnVal
pqtcVisibility

Requests
rID
rRequesterID
rqsID
rApproverID
rApprovalStatus

PublishedQuestionParams
pqpParentQuestion, pqpOrderNum
pqpType
pqpName

LOGICAL DATA STORES: USERS

Table	Name	Type	Restrictions	Description
Users	uID	int	PK	unique id number of the user - auto-generated
Users	uName	varchar(32)	NN, U	the user's username
Users	uPassword	varchar(44)	NN	the user's password - encrypted
Users	uFname	varchar(32)	NN	the user's first name
Users	uLname	varchar(32)	NN	the user's last name
Users	uEmail	varchar(64)	NN, U	a user's email address
Users	uSecurityQuestion	varchar(128)	NN	question to be answered by the user before resetting a password
Users	uSecurityAnswer	varchar(128)	NN	user answer to the security question for identity validation
Users	uType	tinyint	NN	type of the user - 1 for Admin, 2 for Course Coordinator, 3 for Instructor, 4 for Student

LOGICAL DATA STORES: QUESTIONS

Table	Name	Type	Restrictions	Description
Questions	qID	int	PK	unique id number for the question
Questions	qTitle	varchar(128)	NN	title of the question
Questions	qCategory	varchar(32)	NN	category of the question, eg. Arrays, Loops, Recursion
Questions	qDifficulty	varchar(16)	NN	name of the method, used to generate the method signature
Questions	qText	text	NN	description of the problem for the student to solve
Questions	qHints	text		any hints, including urls, that the instructor has given
Questions	qShowHint	bool		determines if the hints will be displayed to the student, the default will be false
Questions	qReturnType	varchar(32)	NN	the expected data type passed back by the function
Questions	qCreatorID	int	NN	user id of the user who created the question
Questions	qMethodName	varchar(64)	NN	name of the method, used to generate the method signature
Questions	qSetID	int		id of the question set that the question belongs to

LOGICAL DATA STORES: PUBLISHED QUESTIONS

Table	Name	Type	Restrictions	Description
PublishedQuestions	pqID	int	PK	unique id number for the published question
PublishedQuestions	pqTitle	varchar(128)		title of the published question, eg. HW1, Test2
PublishedQuestions	pqCategory	varchar(32)	NN	category of the published question, eg. Arrays, Loops, Recursion
PublishedQuestions	pqDifficulty	varchar(16)	NN	difficulty of the published question, eg. Easy, Medium, Hard
PublishedQuestions	pqText	text	NN	description of the published question for the student to solve
PublishedQuestions	pqHint	text		any hints, including urls, that the instructor has given for the published question
PublishedQuestions	pqShowHint	bool		determines if the hints will be displayed to the student for the published question, the default will be false
PublishedQuestions	pqReturnType	varchar(32)	NN	the expected data type passed back by the function of the published question
PublishedQuestions	pqCreatorID	int	NN	user id of the user who created the published question
PublishedQuestions	pqMethodName	varchar(64)	NN	name of the method, used to generate the method signature for the published question
PublishedQuestions	***pqPointsPossible***	***int***		***the maximum number of points possible for the published question***
PublishedQuestions	***pqNumAttempts***	***int***		***the maximum number of attempts allowed for the published question***

LOGICAL DATA STORES: PUBLISHED QUESTIONS CON'T

Table	Name	Type	Restrictions	Description
PublishedQuestions	***pqTimeLimitSeconds***	***int***		***the maximum number of seconds allowed for the published question***
PublishedQuestions	***pqDisable***	***bool***		***determines if the published question is visible and able to be used for a question set, the default will be false***
PublishedQuestions	pqsID	int	NN	id of the question set that the published question belongs to
PublishedQuestions	***pqSolution***	***text***		***the instructor solution to the published question, if provided by the instructor***
PublishedQuestions	***pqOwnerID***	***int***	***NN***	***user id of the user who owns the published question***
PublishedQuestions	***pqType***	***varchar(32)***	***NN***	***the type of the published question, eg. HW, Test, Quiz***
PublishedQuestions	***pqExpirationDate***	***date***		***the date that the published question will expire***
PublishedQuestions	***pqCreationDate***	***date***	***NN***	***the date that the published question was created***

AGENDA

- **Introductions**
- Problem Overview
- Testing
- Database Design
- *Prototype Screens*
- Waterfall Model
- Semester Timeline
- What’s Next
- Summary

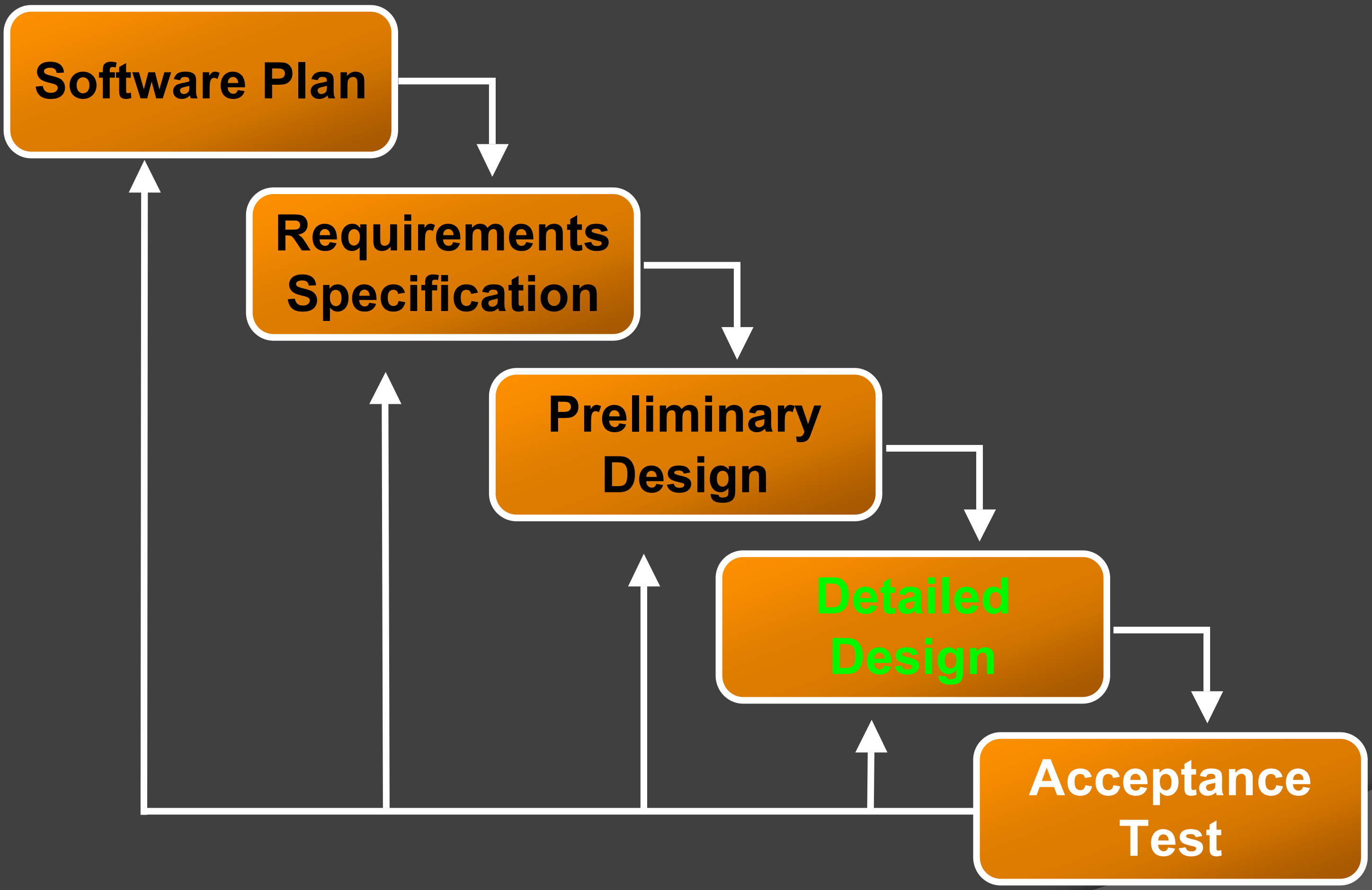
JAVANET SITE

http://oraserv.cs.siena.edu/~perm_phoenix/web2/index.php

AGENDA

- **Introductions**
- Problem Overview
- Testing
- Database Design
- Prototype Screens
- *Waterfall Model*
- Semester Timeline
- What’s Next
- Summary

WATERFALL MODEL



Software Plan

Requirements Specification

Preliminary Design

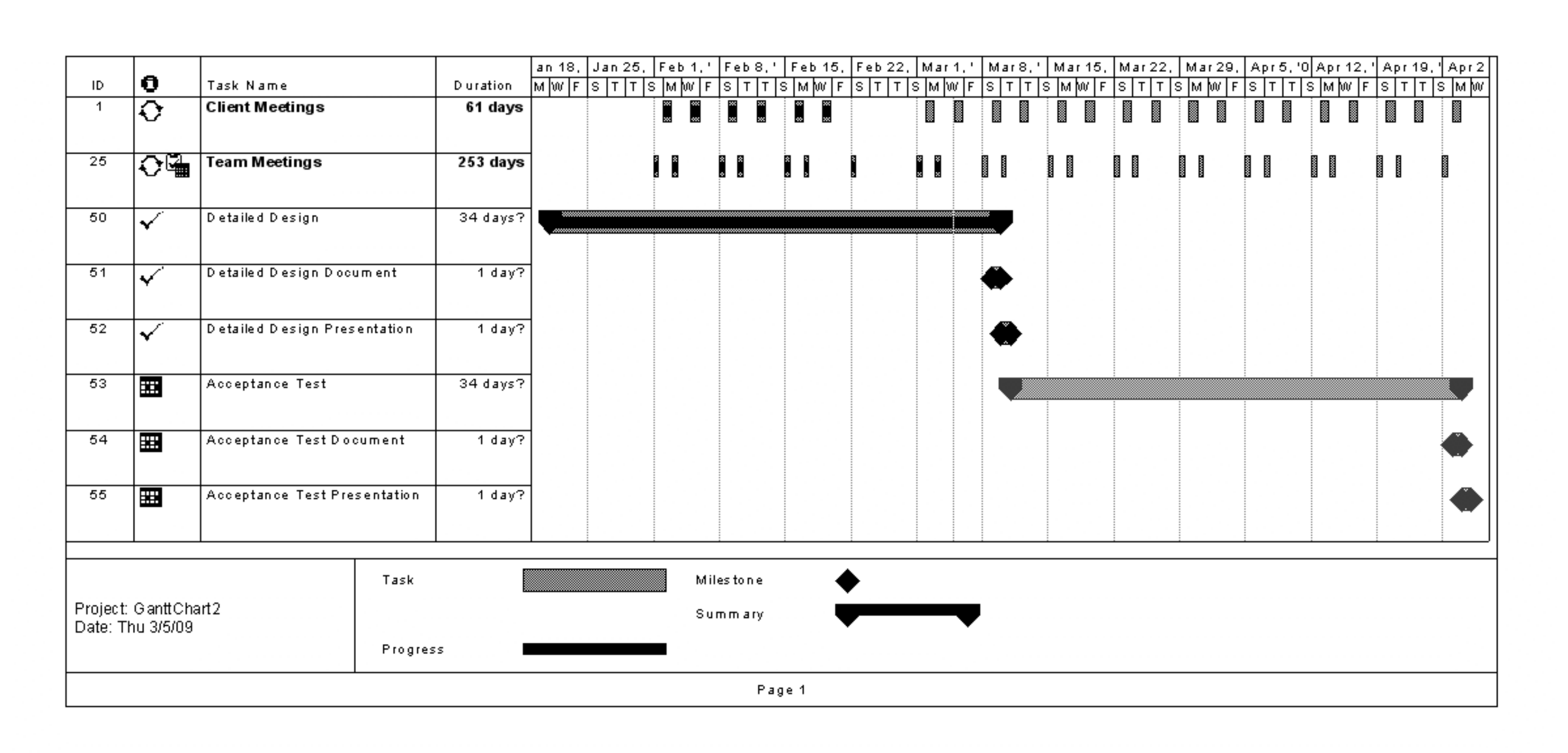
Detailed Design

Acceptance Test

AGENDA

- **Introductions**
- Problem Overview
- Testing
- Database Design
- Prototype Screens
- Waterfall Model
- *Semester Timeline*
- What’s Next
- Summary

SEMESTER TIMELINE



ID	ⓘ	Task Name	Duration
1		**Client Meetings**	**61 days**
25		**Team Meetings**	**253 days**
50	✓	Detailed Design	34 days?
51	✓	Detailed Design Document	1 day?
52	✓	Detailed Design Presentation	1 day?
53		Acceptance Test	34 days?
54		Acceptance Test Document	1 day?
55		Acceptance Test Presentation	1 day?

Project: GanttChart2
Date: Thu 3/5/09

Task	▨	Milestone	◆
		Summary	▬
Progress	▬		

Page 1

AGENDA

- **Introductions**
- Problem Overview
- Testing
- Database Design
- Prototype Screens
- Waterfall Model
- Semester Timeline
- *What’s Next*
- Summary

WHAT'S NEXT

Acceptance Test - Spring 2009

- Monday, April 27 : Documents due
- Tuesday, April 28 : Presentation
- Friday, May 1 : Academic Celebration

AGENDA

- **Introductions**
- Problem Overview
- Testing
- Database Design
- Prototype Screens
- Waterfall Model
- Semester Timeline
- What’s Next
- *Summary*

SUMMARY

Any Questions?

☺ THANK YOU! ☺

We look forward to working with you on this project!