

eXtensible *Test Markup Language*
(XHTML)

Quiz Time

Online Quiz tool

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Goals:

- To create an XML schema that can be used to generate and manage quizzes.
- Allow professors to administer exams to students through XML generated from schema
- Generate flexible statistical information about quizzes, students, and professors.

Purpose:

- To reduce the cost of administering exams and quizzes at RIT
- To improve the accuracy of test-taking and grading

Assumptions:

- System cannot be used until necessary support software is developed including:
 - user management
 - validating user logins against RIT LDAP
 - storing login data in Quiz Time system
 - course management
 - Getting courses from existing RIT systems
 - Getting course information from existing RIT systems
 - generation of statistical information when:
 - a quiz is created
 - a quiz is modified
 - students answer questions on a quiz
 - creating necessary graphical data
- System is exclusively a model for the format of data storage and transmission
 - XML needs to be generated for actual use
- System will support only one exclusive user-lock for data modification/storage at a time
 - support software could hold exclusive right to modify XML instance
 - future potential to divide system so that each user has their own XML instance to modify

Audience (views):

The quiz time system supports two primary audiences: professors and students. From the perspective of the system, users are treated to any

combination of three views: professor, student, and administrator. This was decided on because some professors have the option to be a student in a class they don't teach. It also allows for a user that may simultaneously be a professor and/or student to also be an administrator of the quiz time system.

- **Professors**
 - create and manage quizzes
 - view student responses to quizzes
 - view statistical information about quizzes
- **Students**
 - take quizzes
 - view their grades and other quiz statistics
- **Administrators**
 - manage the quiz time system as a whole

Objectives:

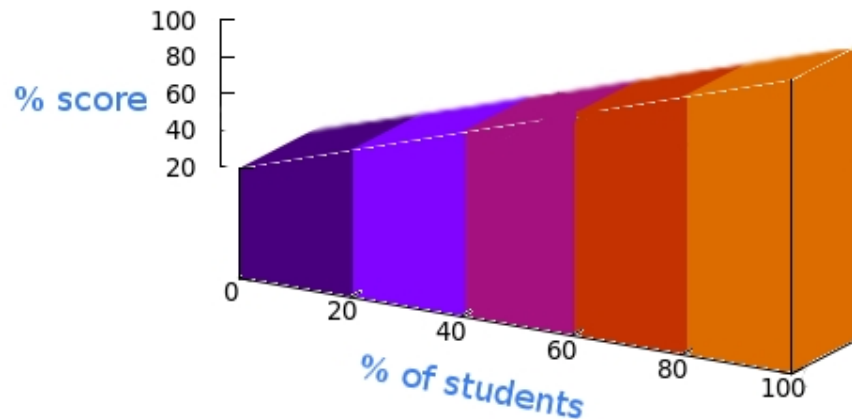
- Develop well-formed XML schema for quiz system
- Have schema support multiple views (professor, student, administrator)
- Have schema support a generic person entity that can be a student, professor, administrator, or any combination of the three.
- Have referential integrity enforced throughout the schema by use of keys and key references

System Objects:

- Courses
 - Allows for registering courses in the system
- Quizzes
 - Supports multiple quizzes
 - Supports multiple quiz formats
 - multiple choice
 - true/false
 - essay/short answer
 - Supports hyperlinks and images within questions and answer choices
 - Retains information for auditing
 - Supports start and end date/time values for quiz access
- Statistics
 - Supports displaying student responses
 - Data would support aggregation for question analysis purposes
 - Supports displaying images (for statistical graphs)

▪ e.g.

Quiz 1



Operating Process:

Student:

1. User is created in the system
2. User is applied student role
3. User has option to take available quizzes in system
4. User is added to a course by a professor
5. User has option to take available quizzes from courses they are in
6. User can view statistical information about their grades from quizzes

Professor:

1. User is created in the system
2. User is applied the professor role
3. User is assigned courses
4. User can view information about students in courses
5. User creates quizzes
6. User can view statistical information about student grades for quizzes

Administrator:

1. User exists in system
2. User can create other users in the system
3. User applies professor and student roles to other users in the system
4. User can add and remove courses in the system
5. User can add/remove courses to/from a professor's class list
6. User can add and remove quizzes in the system (created by any user)

Features:

- Statistical information about quizzes can be stored
- System allows for multiple professors to author one quiz
- Multiple choice questions can have as many choices as desired (allows for matching questions)
- Quizzes have auditing information about creation and modification
- Quizzes may or may not have start and end date/times that can be set by a professor