* Midterm exam 10/19 - Tuesday
  + questions
    - short
    - design
    - methods
    - code reviews
  + cheat sheet
    - single page
    - handed in
    - personal

CODE REVIEWS

Text

Description automatically generated with medium confidence

|  |  |
| --- | --- |
| line 13 | should be comparison not assignment |

Graphical user interface, text, application

Description automatically generated

|  |  |
| --- | --- |
| redundancy | extra check that slows down the program |
|  | if the user is logged in you don't have to check again |
|  | if user.isAuthenticated |

Text

Description automatically generated

|  |  |
| --- | --- |
| index | loop should start at 0 and not 1. |
|  | the index value in Java starts at 0 |
|  | this loops will skip the first value |

Graphical user interface, application

Description automatically generated

|  |  |
| --- | --- |
| styling inconsistency | bad practice |

Graphical user interface, application

Description automatically generated

* redundancy

Text, application

Description automatically generated

* string functions which are dependent on the string being null terminated

|  |  |
| --- | --- |
| problem | data can be sent by a string that is not null terminated |
|  | assumes that there is a null terminated printer |
|  | it will continue printing and dump all this memory |
|  | called buffer overflow   * + not checking length   + common c++ issues |
| hard bleed bug |  |

Graphical user interface, application, Word

Description automatically generated

|  |  |
| --- | --- |
| most serious security problems in web applications | * + - SQL Injection       * read data and change data     - **Cross Site Scripting (above example 4)**       * enables attackers to inject client-side scripts into web pages       * famous bug in MySpace (sammy worm)         + updated his profile so that anyone who visited would become his friend     - cross site request forgery       * a.k.a. one-click attack or session riding       * malicious exploit of a website where unauthorized commands are submitted from a user that the web application trusts |

* sanitize code

PROOFREADING

Text

Description automatically generated with low confidence

* before submitting code to to main branch, pull request or code review is done to make sure the code is good quality

CODE REVIEW WORKFLOW

* Author >> writes code >> review request
* Reviewer >> accepts request >> reviews code >> comments
* Author >> edits code based on comments >> submits a new version of the code
* Reviewer >> may provide more comments >> cycle repeats until code approval
* Diagram

  Description automatically generated
* goal is to make sure that the code has no bugs

A picture containing graphical user interface

Description automatically generated

* introduced by Michael Fagan in 1965
* Fagan Inspection
  + Print code on paper
  + Team Member meeting
    - each has printed copy
    - reads them together
  + time consuming synchronous meeting
  + really improves software quality
  + two or three people are thinking about the code
  + project will be higher quality, take longer, more reources

Diagram

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A screenshot of a computer

Description automatically generated with medium confidence

* Do we need synchronous meeting?
* Because of online, Fagan method changed

Text

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Graphical user interface, application

Description automatically generated

* subject contains 'keyword: patch' and this email is asking for a review
* Graphical user interface, text, application, email

  Description automatically generated
* @@ means from line 370 delete next 6 lines
* and then insert this lines

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application

Description automatically generated

* if there are multiple changes, it becomes difficult
* integrating changing is not automated, it is manual
* people may not reply to emails

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text

Description automatically generated with medium confidence

* Code reviewers typically spedn 6 hours / week
* Text

  Description automatically generated with low confidence