

# Project SimpleRex

Grant Harmeyer – ITC 250  
Fall 2017 – December 14, 2017  
Prof. Paul I. Lin

## Topics of Discussion

- Report Summary
- Project Milestones and Deliverables
- Web System Design
- Implementation and Testing
- Summary and Conclusion

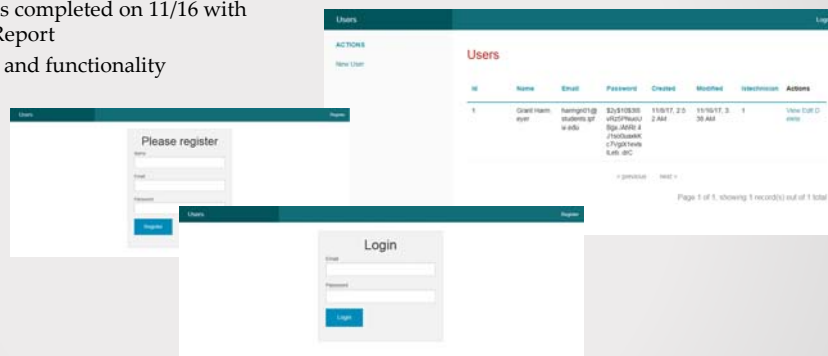
## Report Summary

- SimpleRex is a web-based application that provides management capabilities for IT service requests within an organization
- Users have the ability to log in and submit a ticket. Additionally, users can check the status of their tickets
- Technicians will be able to setup users, reset passwords and add comments to tickets when working to resolve the reported issues.
- Project was completed on time!

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## Project Milestones and Deliverables

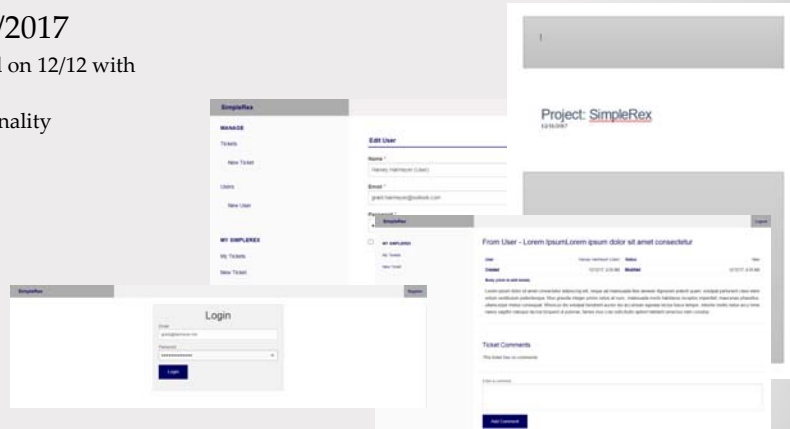
- Prototype – 11/16/2017
  - First prototype was completed on 11/16 with the first Progress Report
  - Minimal branding and functionality



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# Project Milestones and Deliverables

- Final Report – 12/12/2017
  - Final report was delivered on 12/12 with all features complete!
  - Full branding and functionality



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# Project Schedule Assessment

Task Name	Work (Actual)	Start	Finish
<b>SimpleRex</b>	<b>33.75 hrs</b>	<b>Fri 11/3/17</b>	<b>Fri 12/12/17</b>
Site scaffolding	2.5 hrs		Sun 11/5/17
Branding (Bootstrap)	0.75 hrs		Mon 11/13/17
Database Design	2.25 hr		Sat 11/11/17
Module Implementation	<b>22 hrs</b>		<b>Mon 11/30/17</b>
Email System	7 hrs		Mon 11/23/17
Authentication and User Management	5 hrs		Tue 11/23/17
Ticket Entry and Management	8.5 hrs		Mon 11/30/17
Minimally Viable Product	0 hrs		Mon 11/30/17
Testing	<b>7.75 hrs</b>		<b>Fri 12/12/17</b>
Authentication and User Management	2.25 hrs		Tue 11/14/17
Email system	4 hrs		Thu 11/30/17
Ticket Entry and Management	1.5 hrs		Fri 12/8/17
Testing Complete	0 hrs		Fri 12/11/17
Final Delivery	0 hrs		Fri 12/12/17

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# Web System Design

- System requirements

- Software

- PHP
    - MySQL
    - Cake PHP



- Functional Narrative

- “To leverage these technologies to provide a light-weight IT ticket management system”

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# Web System Design

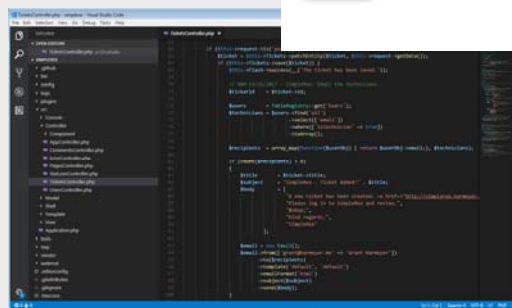
- Functional Description:

- Leverage rapid development tools to create a repository for IT tickets
  - Ensure that access to the system is secure, and requires authentication
  - Employ separation of duty or role (technician and general user)



- Software Development Tools

- XAMPP
  - MySQL
    - MySQL Workbench 6.3
  - Visual Studio Code



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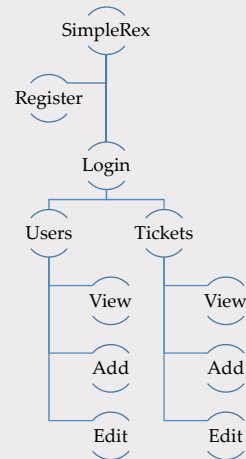
# Web System Design

- Web System Diagram

- Leverages an MVC pattern
- Entities and views
- Login and Registration
- Two primary Entities
  - Users
    - Registration
    - Login
  - Tickets
    - Submission

- Major Components

- Login and Registration
- Email system

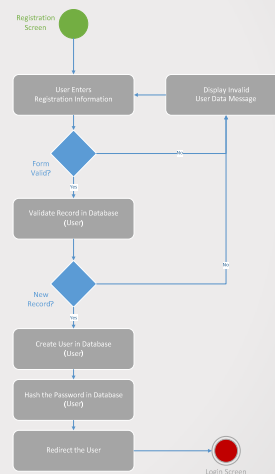


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# Web System Design

- User Activities – Registration

- Registrations are open to anyone
- Data must be verified prior to commit
- Email addresses must be unique
- Passwords are hashed for security

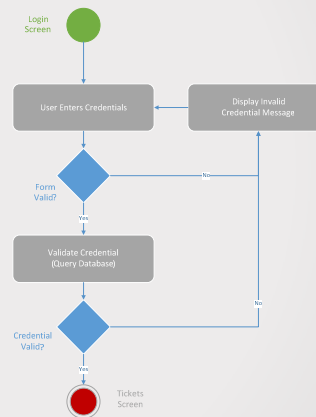


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# Web System Design

## • User Activities – Login

- Data must be verified prior to commit
- Passwords are hashed, then compared with the hash for added security
- The Tickets screen is the landing page

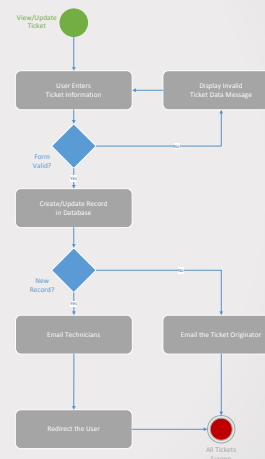


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# Web System Design

## • Ticket Activity – View/Update

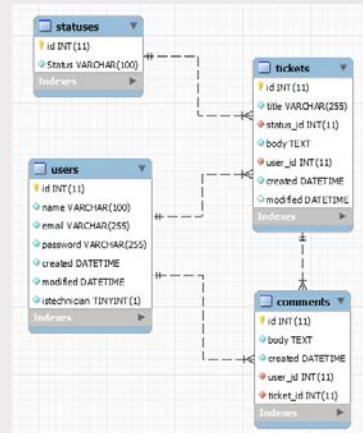
- Data must be verified prior to commit
- Emails are sent, depending on the type of change
  - New ticket emails go to technicians
  - Ticket updates (including comments) go to the original submitter



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# Web System Design

- Database Design
  - To support the application, a relational MySQL database was created with four tables
    - Users
    - Tickets
    - Comments
    - Statuses



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## Implementation and Testing: User

- A *user* logging into the system:

SimpleRex Register

### Login

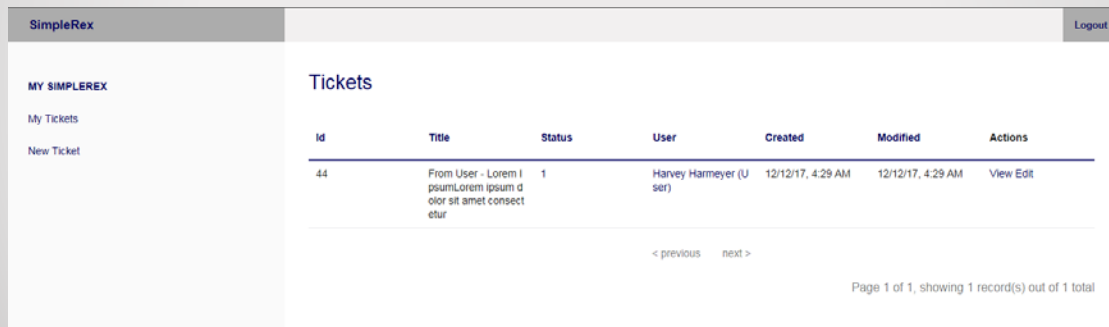
Email

Password

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## Implementation and Testing: User

- A *user* viewing their tickets in the system. Notice that they do not have the option to delete a ticket nor can they see tickets from other users:



Id	Title	Status	User	Created	Modified	Actions
44	From User - Lorem ipsum Lorem ipsum dolor sit amet consectetur	1	Harvey Harmeyer (User)	12/12/17, 4:29 AM	12/12/17, 4:29 AM	View Edit

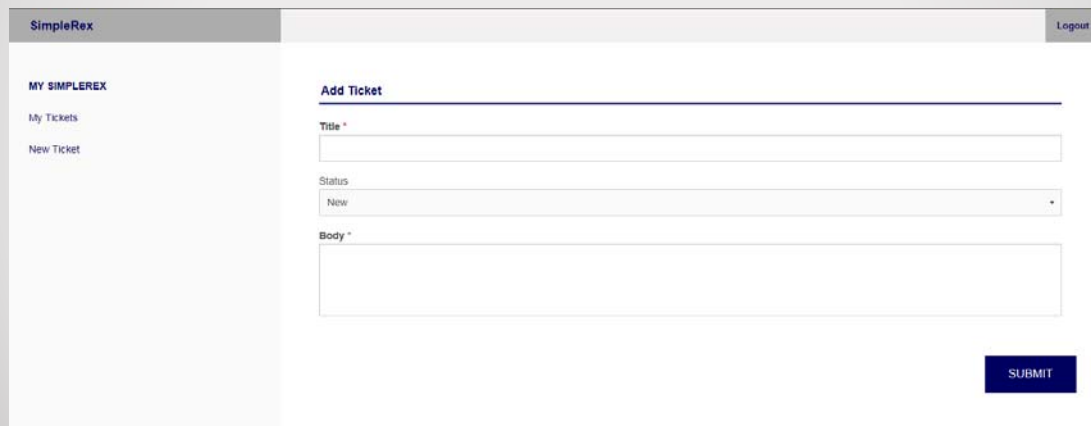
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Page 1 of 1, showing 1 record(s) out of 1 total

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## Implementation and Testing: User

- A *user* creating a ticket:



**Add Ticket**

Title \*

Status

New

Body \*

SUBMIT

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## Implementation and Testing: User

- A *user* viewing one of their tickets. Not that the comments box is available for feedback from the user or a technician:

The screenshot shows a web application interface for Simplex. On the left is a sidebar with 'MY SIMPLEX' and links for 'My Tickets' and 'New Ticket'. The main content area is titled 'From User - Lorem Ipsum. Lorem ipsum dolor sit amet consectetur'. It displays a ticket summary with fields for 'User' (Harvey Hammyer (User)), 'Status' (New), 'Created' (12/12/17, 4:29 AM), and 'Modified' (12/12/17, 4:29 AM). Below this is a 'Body (click to edit ticket)' section containing placeholder text. At the bottom, there is a 'Ticket Comments' section stating 'This ticket has no comments' and a form with a text input labeled 'Enter a comment' and an 'Add Comment' button.

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## Implementation and Testing: Tech

- A *technician* logging into the system:

The screenshot shows the login page of the Simplex application. It features a central 'Login' form with an 'Email' field containing 'grant@hammeyer.me' and a 'Password' field with masked characters. A blue 'Login' button is positioned below the password field. The page has a header with 'Simplex' on the left and 'Register' on the right.

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## Implementation and Testing: Tech

- A *technician* viewing the tickets. Notice that the technician can delete a ticket and has additional management features listed to the right. Also notice that the technician can see all tickets in the system.

SimpleRex

Logout

**MANAGE**

- Tickets
- New Ticket
- Users
- New User

**MY SIMPLEREX**

- My Tickets
- New Ticket

### Tickets

Id	Title	Status	User	Created	Modified	Actions
45	From Technician - Lorem ipsum dolor sit amet consectetur	1	Grant Harmeyer (Technician)	12/12/17, 4:30 AM	12/12/17, 4:30 AM	View Edit Delete
44	From User - Lorem ipsum dolor sit amet consectetur	1	Harvey Harmeyer (User)	12/12/17, 4:29 AM	12/12/17, 4:29 AM	View Edit Delete

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Page 1 of 1, showing 2 record(s) out of 2 total

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## Implementation and Testing: Tech

- A *technician* creating a new ticket. Notice that the technician can create a ticket on behalf of another user:

SimpleRex

Logout

**MANAGE**

- Tickets
- New Ticket
- Users
- New User

**MY SIMPLEREX**

- My Tickets
- New Ticket

### Add Ticket

Title \*

Status

New

Body \*

User

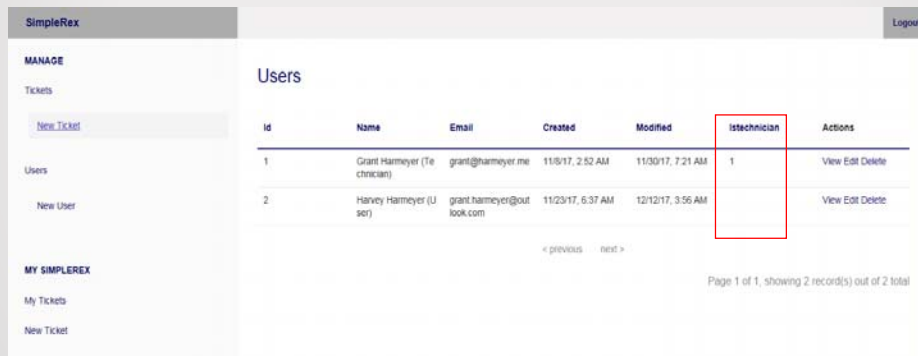
Grant Harmeyer (Technician)

SUBMIT

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## Implementation and Testing: Tech

- A *technician* can also view and manage the users in the system. Notice that only one user is a technician.



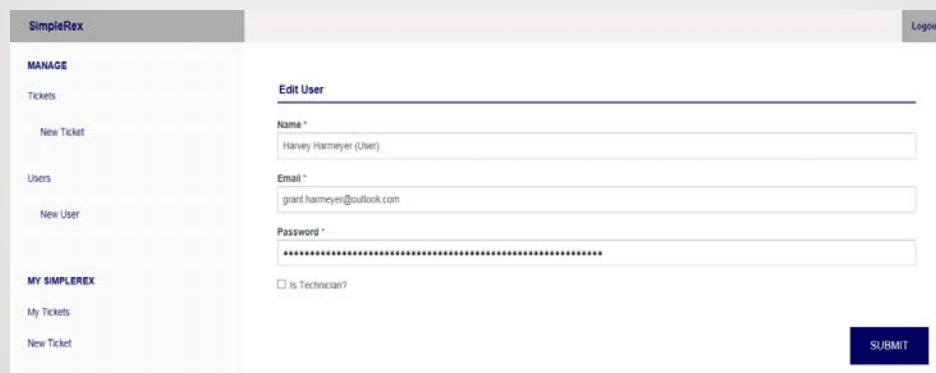
Id	Name	Email	Created	Modified	Istechician	Actions
1	Grant Harmeyer (Technician)	grant@harmeyer.me	11/9/17, 2:52 AM	11/30/17, 7:21 AM	1	View Edit Delete
2	Harvey Harmeyer (User)	grant.harmeyer@outlook.com	11/23/17, 6:37 AM	12/12/17, 3:56 AM		View Edit Delete

Page 1 of 1, showing 2 record(s) out of 2 total

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## Implementation and Testing: Tech

- A *technician* can also edit a user account, resetting the password or changing the role.



**Edit User**

Name \*

Harvey Harmeyer (User)

Email \*

grant.harmeyer@outlook.com

Password \*

\*\*\*\*\*

☐ Is Technician?

**SUBMIT**

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## Lessons Learned

- Understanding of HTTP, Request/Response and database design are foundational to any application development objective.
- Understanding of HTTP, Request/Response and database design are foundational to any application development objective.
- Create a Work Breakdown structure that is organized by features

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## Summary and Conclusion

- PHP is really good technology!
- MVC is a great pattern for separation of concerns and quickly scaffolding a project with CRUD operations
- Cake PHP and Laravel are just a few of the feature-rich code start platforms for PHP
- The PHP community is wide, so support is readily available.

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