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UMass Lowell

COMP 4620 — GUI Programming II

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Project Goal

Sudoku Zen Garden is a web-based application that will allow users to play Sudoku while

creating unique visual and audio experiences. Users will be able to login to keep track of

different achievements and change themes while they are logged on.

Alpha Setup and Features

Website Flowchart

The core feature of Sudoku Zen Garden is for users to play Sudoku. The other fundamental

foundation for Sudoku Zen Garden's is to create a relaxing atmosphere as you play your

game. Figure 1 shows a full diagram of how users can navigate through our site.
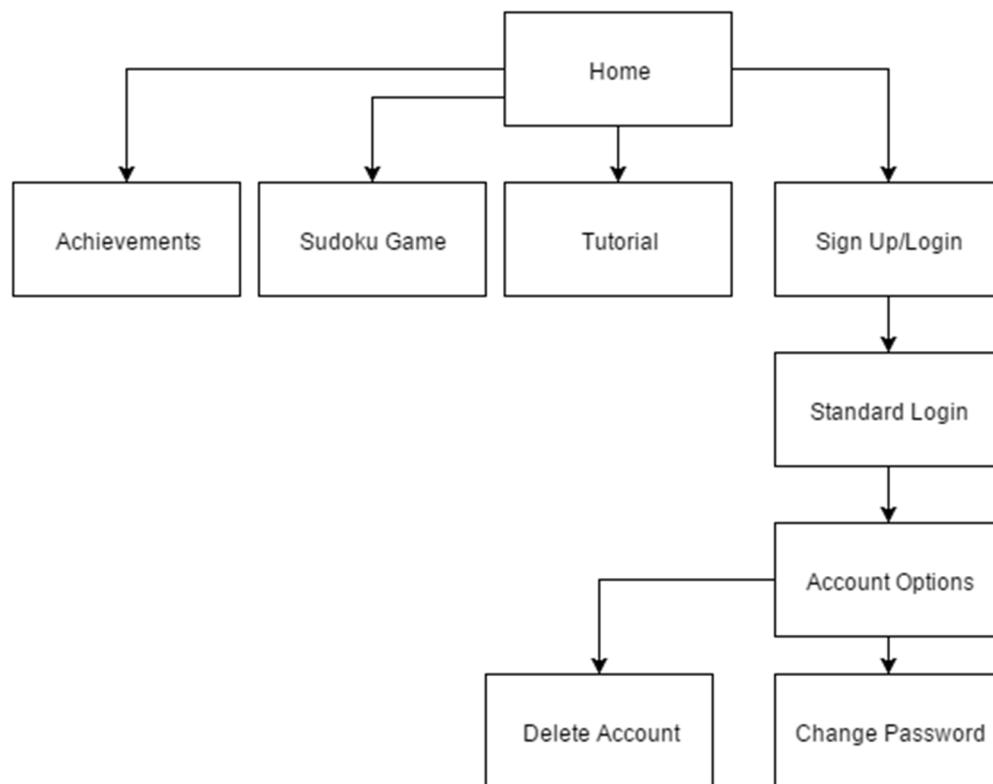

Figure 1: Site Workflow Diagram

Login Interface

Users will be able to create their own accounts by entering an email address, a username and password. The password will be asked to be re-enter an additional time to make sure the process is smooth. If users already have an account, they will be able to login from the same page. Once a user is logged in, they are directed to the homepage.

Figure 2. Sample Login/Sign-up screen

Home Page – Sudoku Game

On the homepage users can log out, play a game of Sudoku, view Achievements page or change to a unique Zen Theme. Themes will be selected from a drop down menu near the top of the screen as well as the difficulty, please see figure 3. Themes will be discussed later on.
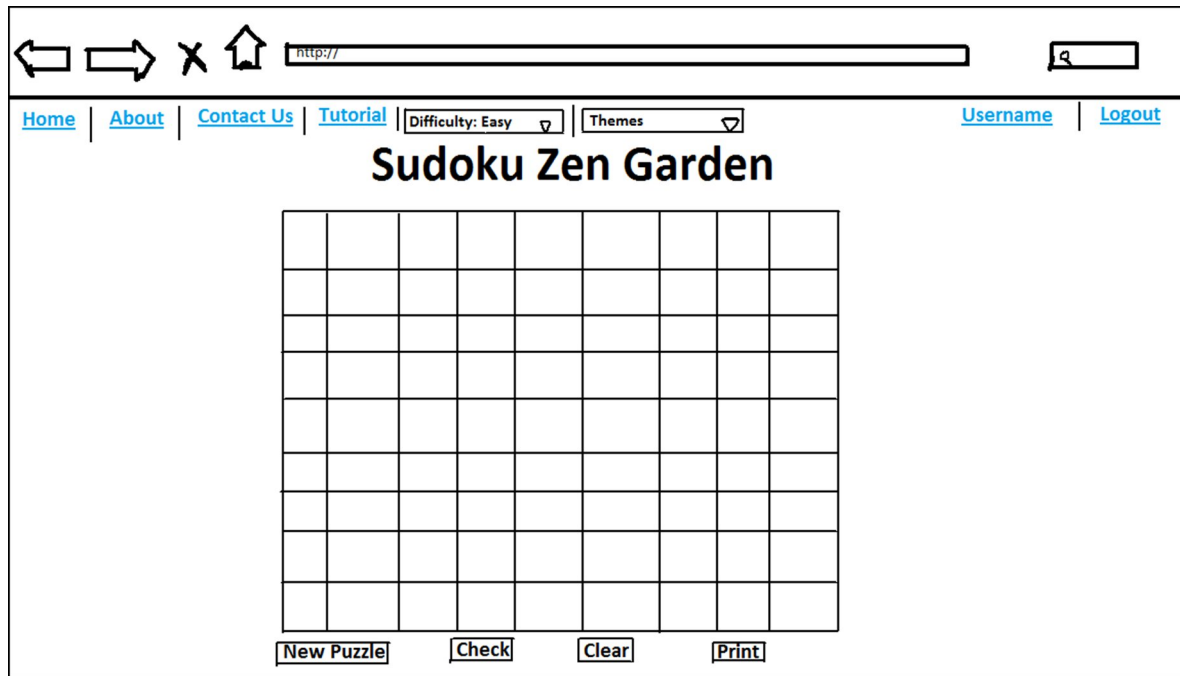
Figure 3. Home Page

Achievements

Achievements are a way to keep track of your

performance through the game, which includes

puzzles finished, best time completed, and total time

spent playing. See figure 4.

Total puzzles completed: 1,000	
Easy:	250
Perfect:	200
Best Time:	1:08
Medium:	500
Perfect:	250
Best Time:	4:45
Hard:	250
Prefect:	10
Best Time:	15:32

Figure 4. Achievements

Theme's, Audio and Visual - Basic

With audio will have the ability to turn on soothing music or off music as you play. There will also be one of three background options that will include Rainforest, Beach, and Metal (Alpha will only have one option). Figure 5 has concept designs.

Figure 5. Themes*

Tutorial Page

The tutorial page is for new users and people who have not played Sudoku before. This page has basic instructions on how to play and a sample game for them to try things out on. Figure 6 has a rough layout of what we are trying to go for.
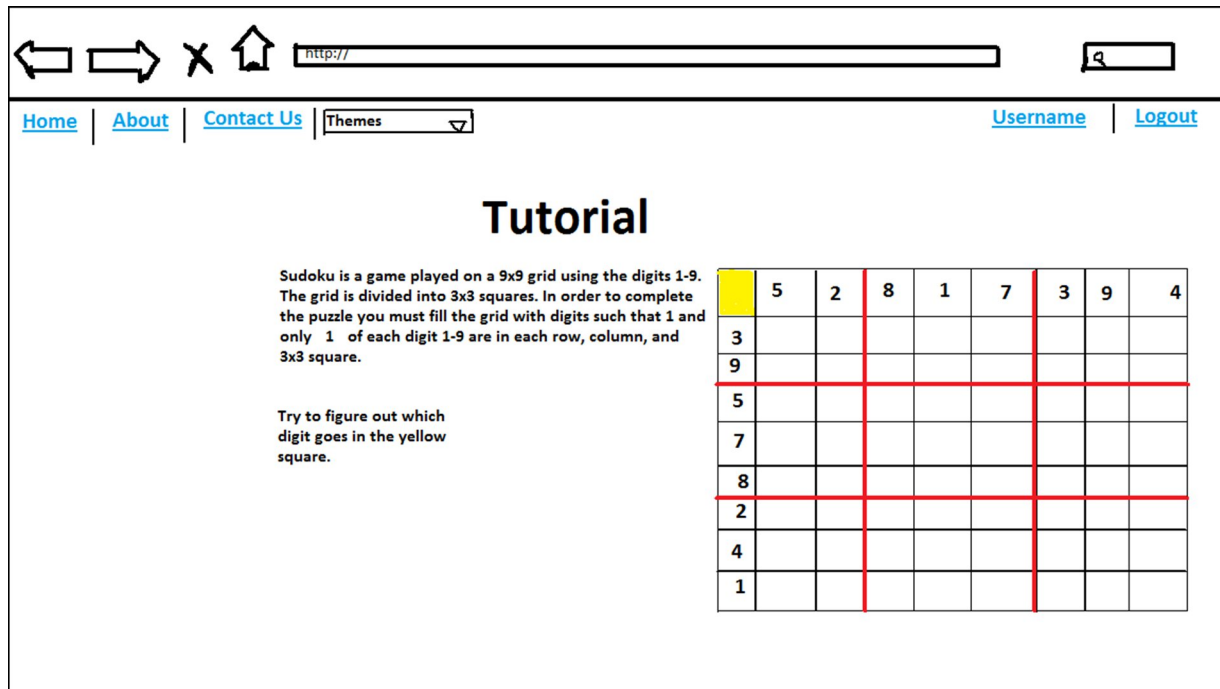
Figure 6. Tutorial Page

Account Details – IMAGE NEEDED

This page will contain information on the username and password of the user. It will also allow

them to change their password and provide a link to check their achievements.

Beta Features

Simple Visuals

One additional beta feature will be error recognition that would alert the user that they are

entering conflicting numbers in the puzzle. The alert will most likely be a coloring of the

conflicting squares.

Simple Audio

Another beta feature will be to play additional simple audio in the background. It will create a

soothing atmosphere and enhance the experience.

Additional themes

Creating additional themes will be a beta feature. It will be used to display different backgrounds and different tiles for the game. It is going to be customization for the user so that they can have a unique and relaxing experience.

Hopeful Features

For possible future features we would like to include Advanced Audio which would play different congratulatory sounds when a user completes a line correctly or finishes the puzzle.

Another possible stretch feature could be Advanced Visual where a visual show appears, something like fireworks, when a line is completed or the puzzle is finished successfully.

User Description

Sudoku puzzles are easy to learn, but hard to master. Sudoku Zen Garden has very minimal requirements, users should be able to count to 9 as well as be able to read (Incase they need to read how the game works). The user should also be able to navigate through a login screen as well as simple menus.

One type of expected user consists of those who enjoy solving Sudoku puzzles and have solved Sudoku puzzles before and may or may not do so on a regular basis.

Another type of expected user consists of those who have never solved a Sudoku puzzle before, but enjoy puzzles and would like to give it a try.

Acceptance Criteria

Our application should allow users to:

- Register and log into account to see total puzzles completed, best times and total time logged in.

- Make manual checks as you play.

- Solve easy, medium and hard Sudoku puzzle.

- Seamless interface that makes you aware of errors.

Project Schedule

Due Date	Type	Task	Martin	Dylan	Michael
Feb 13th, 2016	UI	Basic home page with proper links and basic CSS, on pushed to GIT.	●		
Feb 13th, 2016	Audio/ JavaScript	Background music with the ability to turn on/off.		●	
Feb 20th, 2016	UI/ MongoDB	User login/registration complete.			●
Feb 27th, 2016	UI/Node.js	Create a fully functional Sudoku game.	●	●	●
Mar 5th, 2016	JSON	Create easy, medium, and hard difficulties.	●		
Mar 5th, 2016	UI/ MongoDB	Create and save Achievements to users profile.		●	●
Mar 13th, 2016	UI	Tutorial - How to play the game.	●		
Mar 20th, 2016	UI/CSS	Different Zen themes – metal, ocean, rainforest	●	●	●
Mar 22th, 2016	Alpha	Alpha version committed and public.	●	●	●
Mar 26th, 2016	UI	Polish website	●		●
Apr 2th, 2016	Audio/ Javascript	Completing a row 1-9 and/or completed game, create pleasant audio.	●	●	
Apr 9th, 2016	Beta	Beta version committed and public	●	●	●
Apr 9th, 2016	Extra	Add any hopeful features.	●	●	●
Apr 16th, 2016	Testing	Final testing, bug catching,	●	●	●
Apr 21th, 2016	Final	Final version committed and public	●	●	●

1. Metal Image http://thumbs.dreamstime.com/x/gears-nuts-bolts-6829945.jpg
2. Rainforest http://thumbs.dreamstime.com/x/gears-nuts-bolts-6829945.jpg
3. Beach http://bigbackground.com/wp-content/uploads/2013/04/tropical-beach-wallpaper.jpg