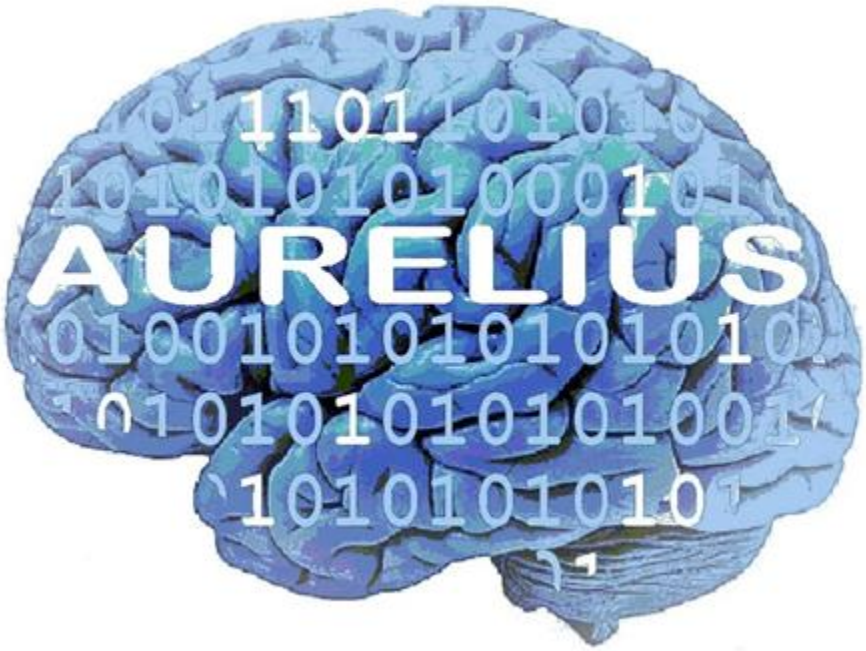



MET CS 633 | Fall 2018

Josh Bond
Oliver Ellison
Amir Djavaherian
Edward Mei
Joe Thayakaran

# Table of Contents

## Contents

# Product Overview

## Vision

Aurelius Game Changing Diagnostics is a suite of gamified diagnostic software to quantify cognitive challenges. The card matching game will be the first one in this suite; aimed at helping users enhance and track their progress as they recover their loss of cognitive abilities, such as memory.

## Needs

The product is the first in a suite of applications that fulfills the needs of people who are suffering from cognitive impairment. The card matching game will focus on memory abilities and retention. Those who do not have such an issue and are interested in testing and providing quality baseline data are also welcome to play.

## Values

Aurelius provides a comprehensive suite of gaming environments users which serve measure and understand numerous types of cognitive limitations which are currently unaddressed.

## Customers

Users of this product are primarily those who are seeking to improve their cognitive impairment. This includes veterans who were injured in the line of duty, patients of psychiatrist care, and others who have suffered any type of brain injury. Secondary users will include caretakers and medical professionals of these patients.

## Product

The card matching game will be hosted in the “gamification” section of aigrid.org. As a pilot, it will allow users to enter information as a profile to track their learning progress. Simple customization options will allow users to tailor their experience according to their progress and needs.

## Competitors & Alternatives

While there are games and applications available to test and enhance memory, Aurelius will take that a step further by using data to understand cognitive recovery patterns to continue to develop different game for various types of cognitive impairments. Similar products include Neuralink by Elon Musk.

# Team Members

## Edward Mei

Project Manager & Scrum Master

**Background**

Edward recently completed the Information Technology Leadership Program at Lockheed Martin and is now an IT Business Analyst and acting Scrum Master for his time as one of the first teams in his line of business to adopt the agile methodology. Currently he's working on delivering a new customer portal that integrates multiple legacy backend systems into a modern web application to provide better customer care and user experience.

**Responsibilities**

- Organize, facilitate, and guide team in weekly meetings
- Owns team deliverables including drafting weekly team deliverables and submitting to Blackboard and compiling final version of term paper and submitting to Blackboard
- Provide structure and support to the team throughout development
- Assist in writing user stories in Pivotal Tracker and managing develop tasks
- Ensure all documents and artifacts are accurate using Google Drive repository
- Participate in peer reviews of diagrams

## Oliver Ellison

Strategic Product Owner

**Background**

During Oliver's sixth year as a combat medic in the US Army during his second tour in Iraq (OIF), a mortar blast injured Oliver's brain which affected his cognition in ways that he is yet unable to quantify.

After six years of rehabilitative therapies, Oliver's ability to learn has improved enough to go back to school. Oliver is currently a graduate student at Boston University earning his Masters of Science in Software Development (MSSD). Oliver says he feels lucky to be a graduate student at Boston University as he is surrounded by renowned scientists offering some of the world's leading research in artificial intelligence, software development and neurological sciences.

**Responsibilities**

- Participates in product backlog grooming and specifies acceptance criteria
- Creates and approves user stories and document use cases
- Reviews development with accordance to requirements and provide feedback during sprint review
- Communicates product roadmap to stakeholders.

## Josh Bond

Technical Architect, Support & Quality Lead

**Background**

Josh currently works as a Python developer. He's previously worked as a web developer using PHP, MySQL, and JavaScript; a technical writer; and an ad hoc quality assurance tester. As a hobby, Josh is a technology "generalist", enjoying experimentation with machine learning, retro game development in Java, healthcare informatics, and cyber security.

**Responsibilities**

- Assist technical lead with development
- Create test cases and document test results and provide final status at sprint review
- Collaborate with product owner to test the product and provide feedback to the team
- Maintain proper code management by the technical lead
- Develop UML diagrams, component interaction diagrams & state transition diagrams
- Create technical documentations and record technical specifications

## Amir Djavaherian

Technical Architect, Lead

**Background**

Currently a web architect at Major League Baseball, Amir also has extensive web development experience as a web developer at Apple, Autodesk and Zillow. As our lead developer and software architect, Amir will provide the technical experience needed for accurate estimation to fulfill contracts for user stories and features.

**Responsibilities**

- Lead developer of the product; owns all technical aspects
- Provide technical direction for product development
- Manage code through Github

## Joe Thayakaran

Technical Support, Analyst

**Background**

Joe currently manages NESN Engineering in the design, deployment and installation of all technology systems. Acts as Engineer In Charge for all Boston Red Sox and Boston Bruins live productions. Manages all engineers for NESN and provide world-class solutions and support to all business units.

**Responsibilities**

- Assists with project documents, artifacts, and any other administrative or technical item as needed
- Assist with resolution of bugs and defects
- Provide technical support and infrastructures solutions

# User Personas & RASCI

## Sara Lopez

**Age**: 8
**Work**: School
**Character**: Child User

**Background:**
I suffered a brain injury in a car accident that ended fatally for my parents. I live in an orphanage pending adoption. I began exhibiting cognitive issues such as recognition and memory after the traumatic experience.

**Goals:**

- Prepare for challenges I will face in school.
- Quantify and track my cognitive abilities
- Play age appropriate versions of games

**Ideal Features**

- Age based features. For example, if the user is 10 or younger, the memory card game would use half of the cards to make the game easier.

## Bob Jackson

**Age**: 38
**Work**: Project Manager
**Past Work:** (Retired Military)
**Character**: Brain Damaged User

**Background:**
I suffered a brain injury in Iraq and still get confused easily, forgetting names other information daily. Previous cognitive tests couldn't quantify the extent of my limitations.

**Goals:**

- See if game practice improves my cognitive abilities
- Quantify and track my cognitive abilities
- Compare my scores with other brain injured and non-brain injured users.

**Ideal Features**

- Short term memory measurement
- Ability to use daily
- Provide doctors and teachers with national percentile scores for short term memory functions.

## Jim Owens

**Age**: 31
**Work**: Business Analyst
**Character**: Non-Brain Injury User

**Background:**
I've never eever suffered a brain injury, but I want to help build data for non-injury users to compare against brain injury users. I'm technically savvy and enjoy playing video and puzzle games in my spare time. It's not often playing games can impact the life of someone else in a positive way!

**Goals:**

- Determine how my patient ranks against other brain injured and non-brain injured patients.
- See my patients' scores on games so I can discuss this with the patient.
- View a summary of all scores comparing one brain injury type against another.
- Reveal hidden, or non-obvious, connections or correlations in the data.

**Ideal Features**

- Display a report including an overall national percentile scores for each game, divided by brain injured and non-brain injured patients.
- Display a report showing a patient's' national percentile score for each game, divided by brain injured and non-brain injured patients.
- If known, document the hypothesized brain injury for each patient as diagnosed from an EEG, PET, MRI, and/or fMRI scan.

## Dr. Johnson

**Age**: 44
**Work**: Neurologist
**Character**: Physician

**Background:**
I've spent the better part of my life obtaining the advanced degrees necessary to diagnose and repair neurological issues. Various brain scans, such as EEG, PET, MRI, and fMRI, get us in the ballpark of a brain injury but the ultimate measure is a patient's cognitive performance.

**Goals:**

- Help build Aurelius data for non-injury users to compare against brain injury users.
- Play challenging puzzle games
- Succeed with mental challenges.

**Ideal Features**

- Mentally challenging puzzle games
- See how my scores compare against other non-injury users and injury users.
- Track my progress over time.

| **Task** | **System User** | **User Assistant (Caretaker)** | **System Admin** |
|---|---|---|---|
| Register for account | R | S | I |
| Enters personal information | R | S | I |
| Plays card matching game | R | S | I |
| Reviews game results | R | S | |
| View global game data | R | | S |

# Configuration Items

| ID | Item | Version | Date | Owner | Repository |
|---|---|---|---|---|---|
| 1 | Product Scope and Overview | 1.1 | 1/22/2018 | E. Mei | Google Drive |
| 2 | Project Deliverables | 4.2 | 2/24/2018 | E. Mei | Google Docs |
| 3 | Personas | 1.3 | 1/29/2018 | O. Ellison | Google Drive |
| 4 | RASCI | 1.3 | 2/14/2018 | E. Mei | Google Drive |
| 5 | Estimation Record | 1.1 | 2/2/2018 | E. Mei | Google Drive |
| 6 | Component Interaction Diagrams | 1 | 2/23/2018 | J. Bond, J. Thayakaran | Google Drive |
| 7 | Tool Connectivity Diagram | 1 | 2/23/2018 | J. Bond, E. Mei, | Google Drive |
| 8 | State Transition Diagrams | 1 | 2/24/2018 | J. Bond, E. Mei, | Google Drive |
| 9 | Use Cases | 1.3 | 2/10/2018 | J. Bond, | Google Drive |
| 10 | UML | 1.3 | 2/15/2018 | J. Bond, J. Thayakaran | Google Drive |
| 11 | Source Code | 3.6 | 2/24/2018 | A. Djavaherian, J. Bond | Github |
| 12 | Issues/Defects Log | 1.3 | 2/12/2018 | J. Bond | Google Drive |
| 13 | Wireframes | 1.2 | 2/9/2018 | E. Mei, J. Thayakaran | Google Drive |
| 14 | Test Cases | 1.2 | 2/20/2018 | J. Bond, E. Mei | Google Drive |

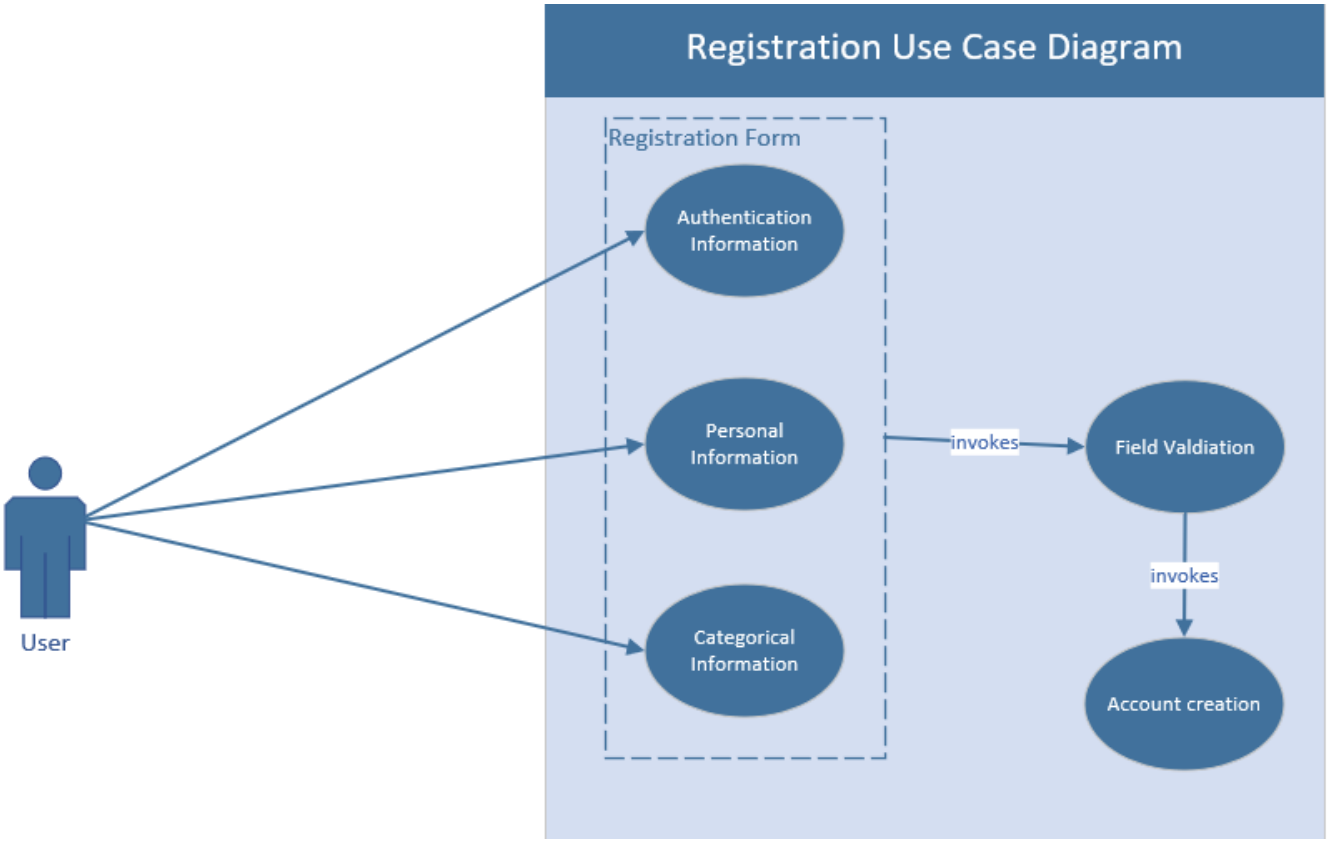
## Estimations

| | Task | Size Measure (# of) | Typical Effort per Size Measurement | Project Effort | Effort | Final Fibonacci |
|---|---|---|---|---|---|---|
| **Planning** | Create Scope/Overview document | Attributes | 1 | 1 | 1 | 2 |
| | Create project process outline | Processes | 0.25 | 1 | 0.25 | 1 |
| | Setup necessary tools and processes | Tools | 0.5 | 5 | 2.5 | 2 |
| **Requirements** | Personas | Personas | 0.5 | 3 | 1.5 | 2 |
| | RASCI | Tasks | 0.1 | 4 | 0.4 | 1 |
| | User Stories | Stories | 0.2 | 11 | 2.2 | 2 |
| | Use Cases | Cases | 0.5 | 4 | 2 | 2 |
| **Configuration Management** | CI List | CI Items | 0.1 | 14 | 1.4 | 1 |
| **Estimation** | Estimation Record | Records | 0.1 | 18 | 1.8 | 2 |
| **Design** | State Transition Diagram | Diagrams | 1 | 1 | 1 | 2 |
| | Wireframes | Wireframes | 0.3 | 4 | 1.2 | 2 |
| | UML | Diagrams | 0.5 | 4 | 2 | 2 |
| | Component Interaction Diagram | Diagrams | 1 | 1 | 1 | 2 |
| **Development** | Create Login page | Fields | 0.5 | 8 | 4 | 5 |
| | Create Card game | Cards | 0.5 | 12 | 6 | 8 |
| | Create Database & Logic | Elements | 0.5 | 7 | 3.5 | 3 |
| **Testing** | Test Cases | Test Cases | 0.5 | 5 | 2.5 | 2 |
| | AllPairs | Pair Cases | 0.2 | 10 | 2 | 2 |
| | Issues/Defects Log | Defects to Resolve | 1 | 7 | 7 | 5 |

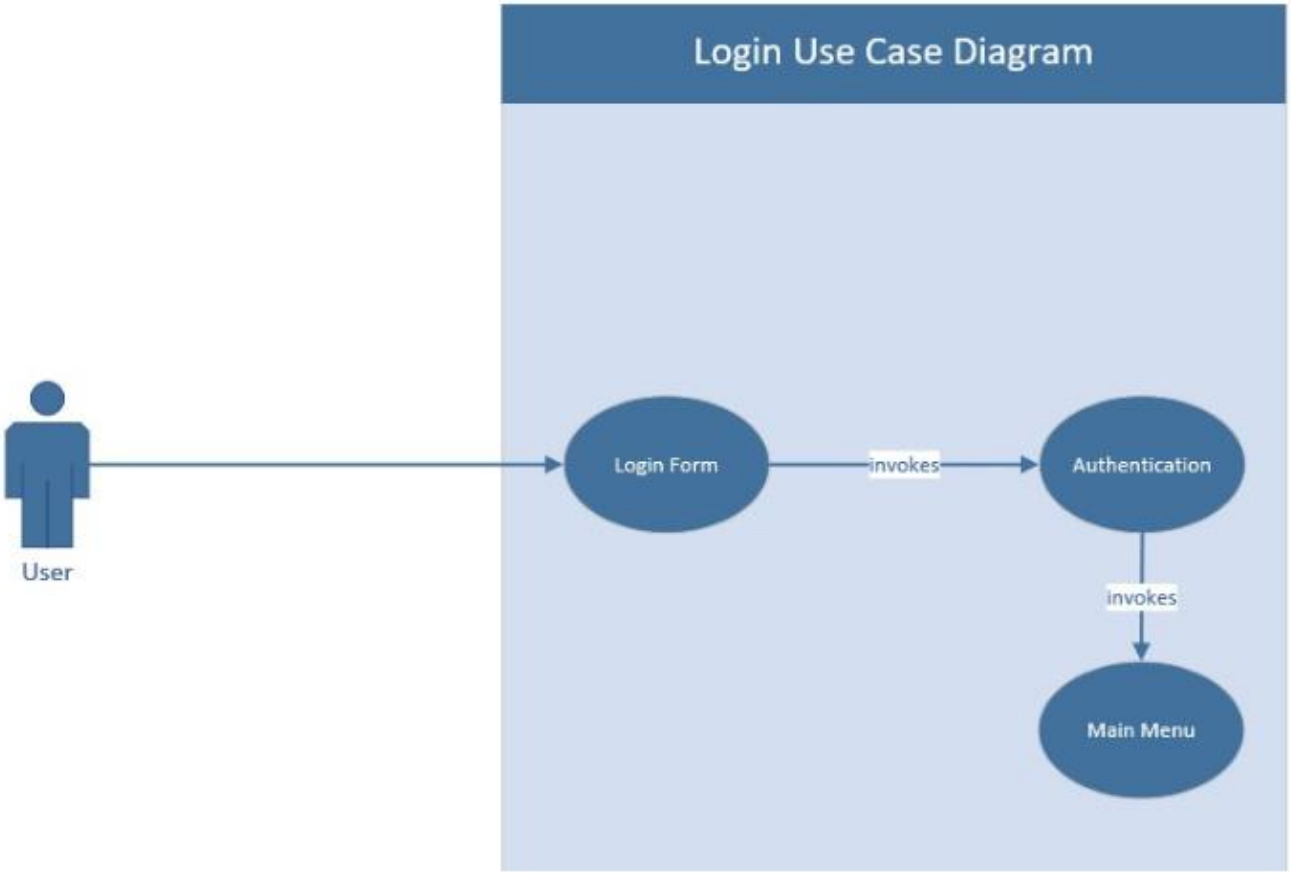
# Use Cases

| | | |
|---|---|---|
| Use Case Name | User Registration | |
| Use Case ID | AUR_01_UserRegistration | |
| Description | This use case describes the sequence of steps for the actors and the system responses for allowing the actor to register for an account and accessing the game | |
| Actor | A user is willing to register for an account. | |
| Preconditions | | |
| | | |
| Course of Action | **Actor Actions** | **System Responses** |
| | **Step 1**: The actor enters website in any web browser. | **Step 2**: The system presents the registration form |
| | **Step 3**: The actor enters his/her name in the name field. | **Step 4**: The system accepts entry of text in the name text field |
| | **Step 5**: The actor enters his/her email in the email field. | **Step 6:** The system accepts entry of text in the email field text field |
| | **Step 7**: The actor enters a username in the username field. | **Step 8:** The system accepts entry of text in the username field text field |
| | **Step 9**: The actor enters a password in the password field. | **Step 10:** The system accepts entry of any string into the password field and letters are hidden. |
| | **Step 11**: The actor enters age in the age field. | **Step 12.** The system accepts entry of a number in the age field |
| | **Step 13:** The actor selects the gender drop down | **Step 14:** The system displays 2 options for gender: male and female |
| | **Step 15:** The actor selects a gender | **Step 16:** The system accepts either option of gender |
| | **Step 17:** The actor selects the injured? drop down | **Step 18:** The system displays 2 options for injured: yes and no |
| | **Step 19:** The actor selects an option for injured | **Step 20:** The system accepts either option for injured |
| | **Step 21:** The actor selects the ethnicity drop down | **Step 22:** The system displays multiple options for ethnicity |

| | | |
|---|---|---|
| | **Step 23:** The actor selects an option for ethnicity | **Step 24:** The system accepts any option for ethnicity |
| | **Step 25:** The actor clicks on the sign up button | **Step 26:** The system generates account for the actor and brings the actor to the main page of the game |
| | | |
| Alternate Course | | |
| Assumptions | The related use cases, such as enrolling a user into the web site are handled by separate use cases and not in the scope of documentation deliverables of this term project. | |

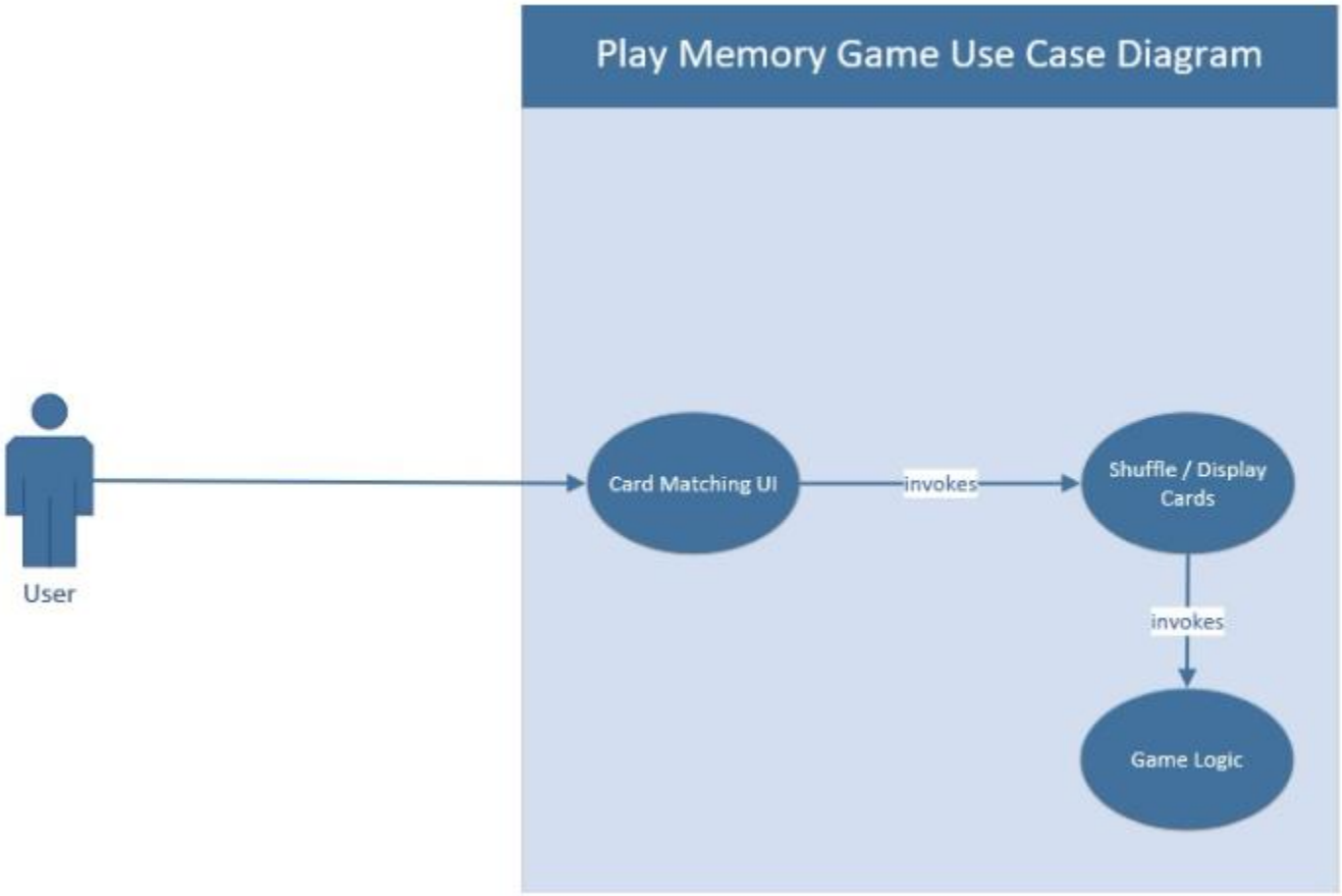


| | | |
|---|---|---|
| Use Case Name | Log Into Account | |
| Use Case ID | AUR_02_LogIntoAccount | |
| Description | This use case describes the sequence of steps for the actors and the system responses for signing into an account which has already been created | |
| Actor | An enrolled user (physician or researcher) who has already created an account and logged in. | |
| Preconditions | The actor has created an account. | |
| | | |
| Course of Action | **Actor Actions** | **System Responses** |
| | **Step 1**: The actor enters website in any web browser. | **Step 2**: The system presents the registration form |
| | **Step 3:** The actor clicks on Login | **Step 4:** The system displays the log in screen |
| | **Step 5**: The actor enters a username in the username field. | **Step 6:** The system accepts entry of text in the username field text field |
| | **Step 7**: The actor enters a password in the password field. | **Step 8:** The system accepts entry of any string into the password field and letters are hidden. |
| | **Step 9:** The actor clicks on the login button | **Step 10:** The system brings the actor to the main page of the game |
| | | |
| Alternate Course | | |
| Assumptions | The related use cases, such as enrolling a user into the web site are handled by separate use cases and not in the scope of documentation deliverables of this term project. | |

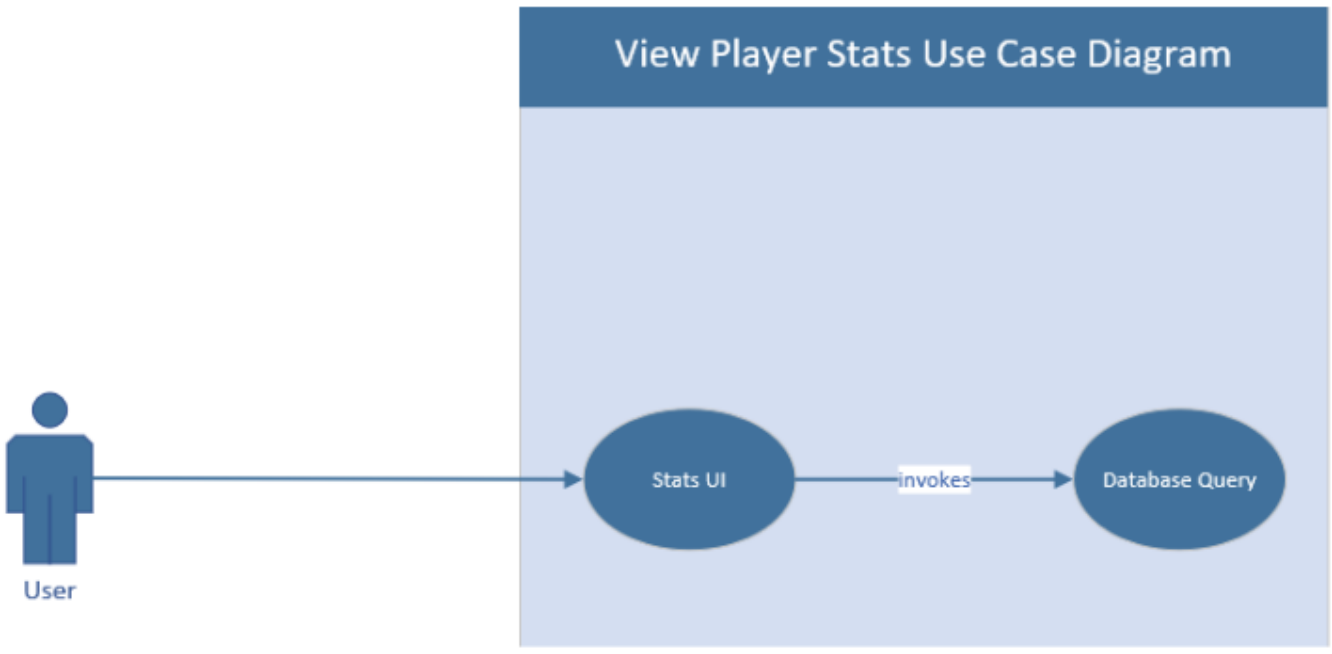

Login Use Case Diagram
User
Login Form
invokes
Authentication
invokes
Main Menu

| | | |
|---|---|---|
| Use Case Name | Play Memory Game | |
| Use Case ID | AUR_03_PlayMemoryGame | |
| Description | This use case describes the sequence of steps for the actors and the system responses for playing the memory game. | |
| Actor | An enrolled game player who has already created an account and logged in. | |
| Preconditions | The actor has created an account by entering their name, age, gender, and injury status.<br><br>The actor has logged on to the web site. | |
| | | |
| Course of Action | **Actor Actions** | **System Responses** |
| | **Step 1**: The actor selects a menu option for playing the Memory game | **Step 2**: The system presents 12 playing style cards face down and records the date and time of the game start. |
| | **Step 3**: The actor clicks a card. | **Step 4**: The system reveals the play side of the card and records the actor's click |
| | **Step 5**: The actor clicks another card. | **Step 6**: The system reveals the play side of the card and records the actor's click. If the two cards match, the system keeps showing the two cards and tracks the match. If the two cards do not match, the system turns the cards back over so the play side cannot be seen. |
| | **Step 7**: Steps 5-6 repeat until all of the cards have been matched. | **Step 8**: The system notifies the actor that the game is over. The total number of clicks for each match is recorded to the database. The system displays to the actor their stats from this session and asks if the actor wants to play again. |
| | **Step 9**: The actor chooses "Yes" to play again. | **Step 10**: If "Yes", the game restarts at Step 2. |
| | | |
| Alternate Course | **Step 9 Alternate:** The actor chooses "No" to not play again.<br><br>**Step 10 Alternate:** The screen remains the same, continuing to show the end of game items from the previous game. | |

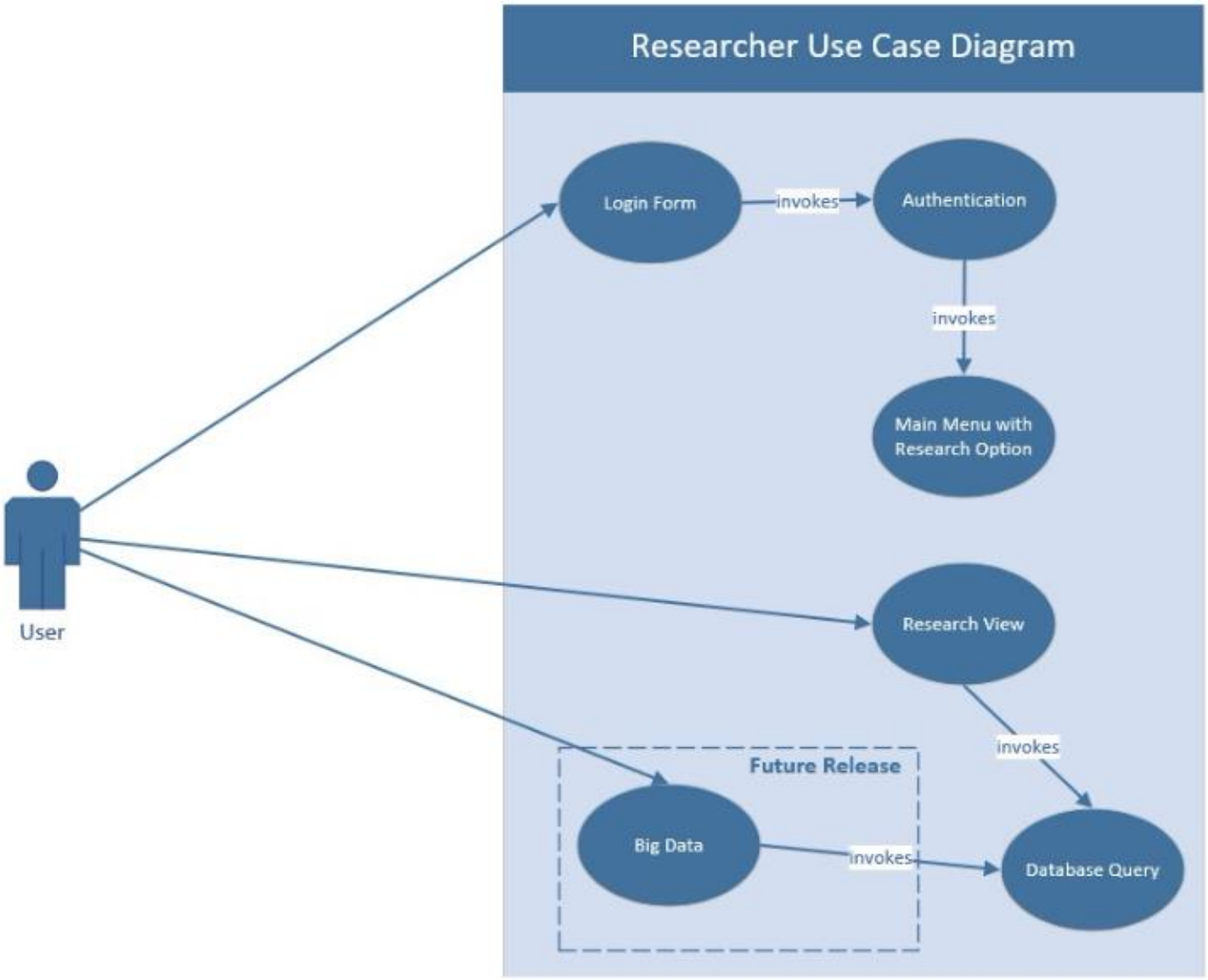
| | |
|---|---|
| Assumptions | The related use cases, such as enrolling a user into the web site are handled by separate use cases and not in the scope of documentation deliverables of this term project. |



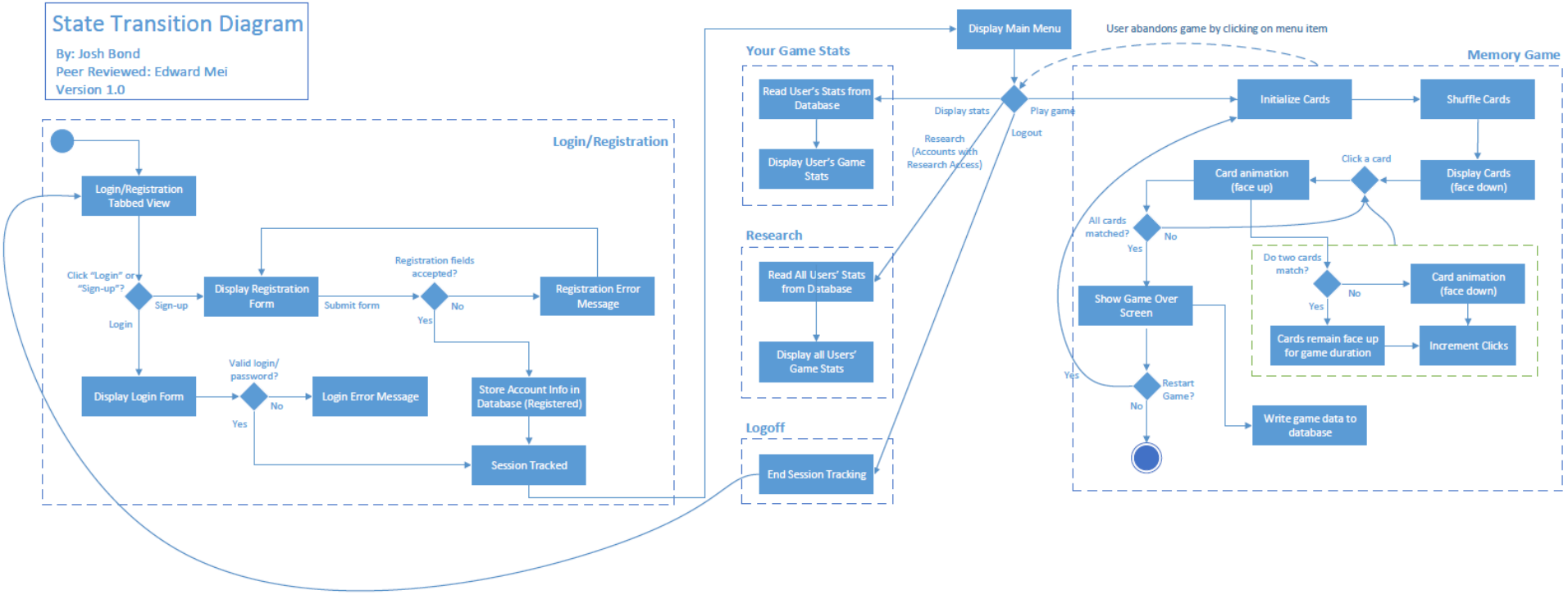
| | | |
|---|---|---|
| Use Case Name | View Player Stats | |
| Use Case ID | AUR_04_ViewPlayerStats | |
| Description | This use case describes the sequence of steps for the actors and the system responses for viewing the statistics of previously played memory games. | |
| Actor | An enrolled user (physician or researcher) who has already created an account and logged in. | |
| Preconditions | The actor has created an account.<br>The actor has logged on to the website | |
| | | |
| Course of Action | **Actor Actions** | **System Responses** |
| | **Step 1**: The actor selects a menu option for viewing player statistics. | **Step 2**: The system presents a list of statistics based on actor's previous play attempts |
| | | |
| Alternate Course | **Step 3:** Physician or researcher access all game data through a separate URL which displays global statistics for all players and all games played. | |
| Assumptions | The related use cases, such as enrolling a user into the web site are handled by separate use cases and not in the scope of documentation deliverables of this term project. | |



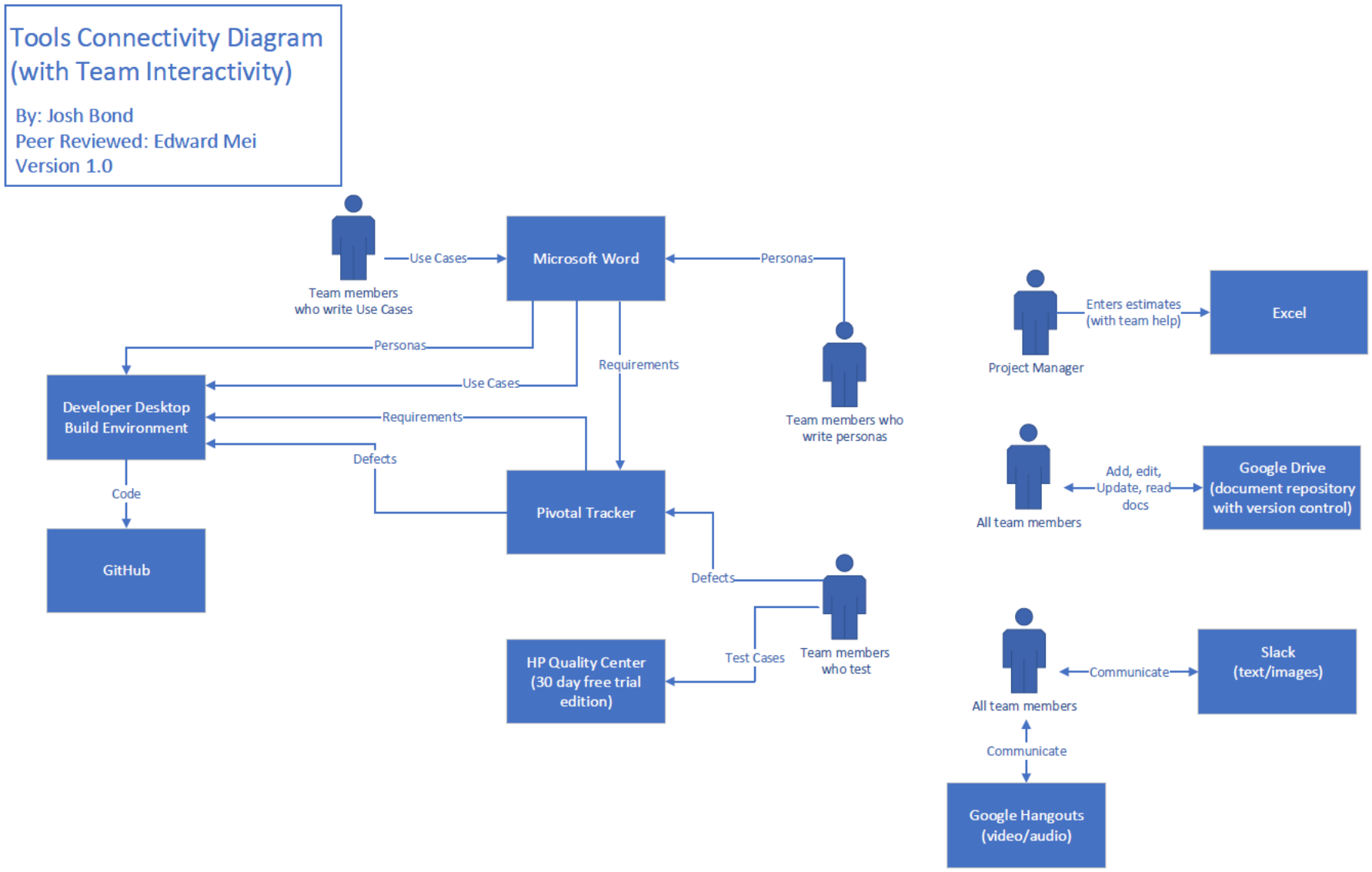
| | | |
|---|---|---|
| Use Case Name | Researcher Account | |
| Use Case ID | AUR_05_Researcer Account | |
| Description | This use case describes the sequence of steps for the actors and the system responses for a researcher role to access and view global game data. | |
| Actor | The user has researcher role account. | |
| Preconditions | The actor created an account and verified as a researcher | |
| | | |
| Course of Action | **Actor Actions** | **System Responses** |
| | **Step 1**: The actor enters website in any web browser. | **Step 2**: The system presents the registration form |
| | **Step 3:** The actor clicks on Login | **Step 4:** The system displays the log in screen |
| | **Step 5**: The actor enters a username in the username field. | **Step 6:** The system accepts entry of text in the username field text field |
| | **Step 7**: The actor enters a password in the password field. | **Step 8:** The system accepts entry of any string into the password field and letters are hidden. |
| | **Step 9:** The actor clicks on the login button | **Step 10:** The system brings the actor to the main page of the game |
| | **Step 11:** The actor selects tab on header menu to view global game data | **Step 11:** The system displays page with global game data. |
| | | |
| Alternate Course | | |
| Assumptions | The related use cases, such as enrolling a user into the web site are handled by separate use cases and not in the scope of documentation deliverables of this term project. | |


Researcher Use Case Diagram
Login Form
invokes
Authentication
invokes
Main Menu with Research Option
User
Research View
invokes
Future Release
Big Data
invokes
Database Query

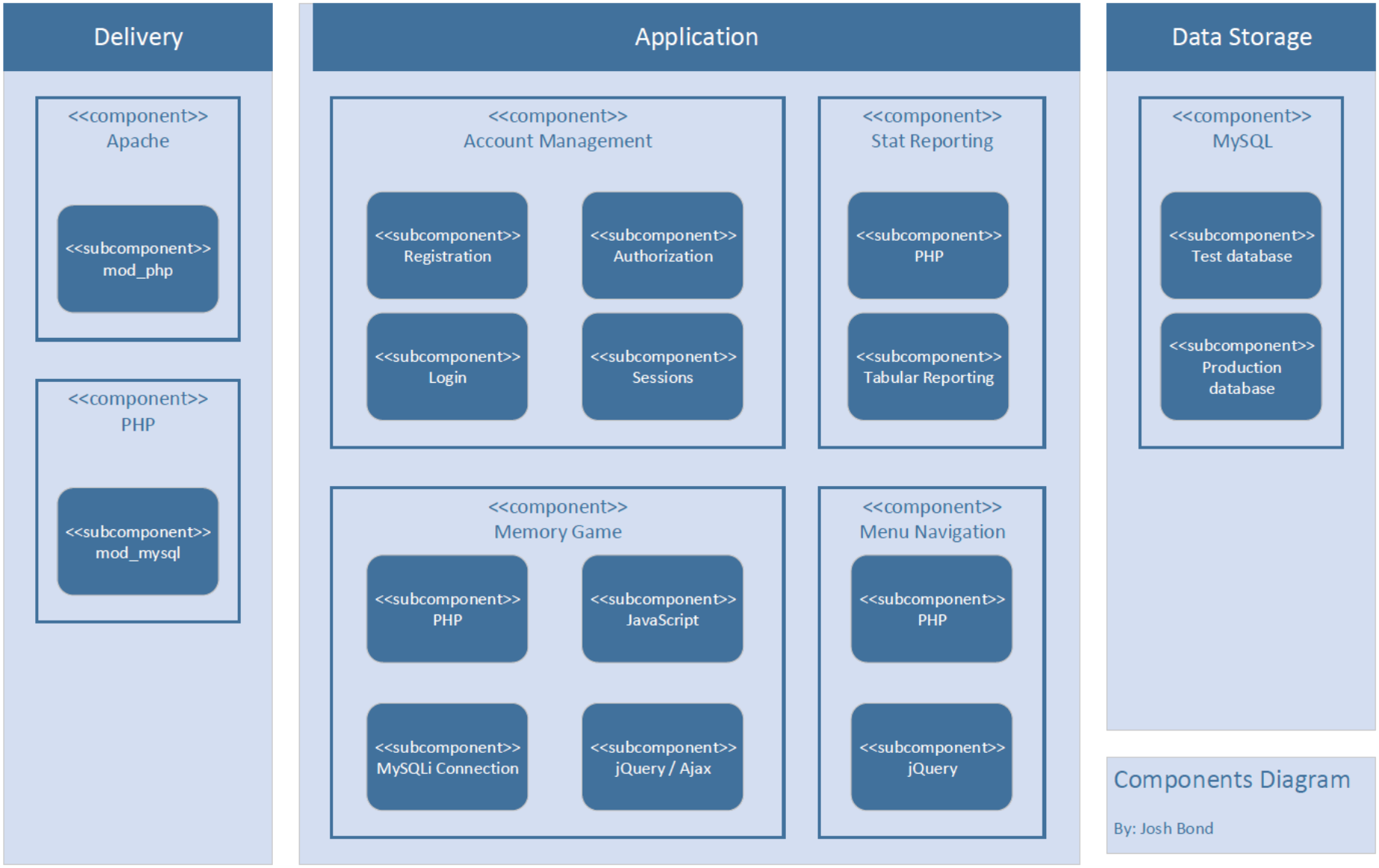
# State Transition Diagram



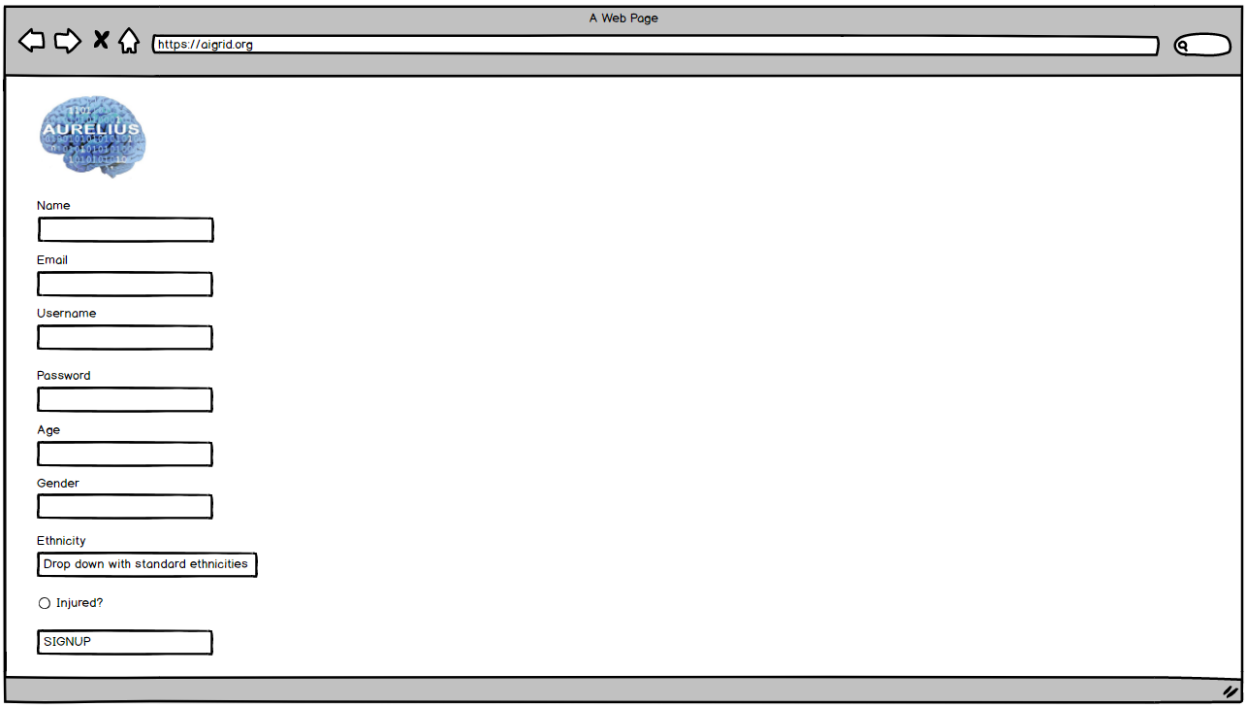
# Tools Connectivity Diagram

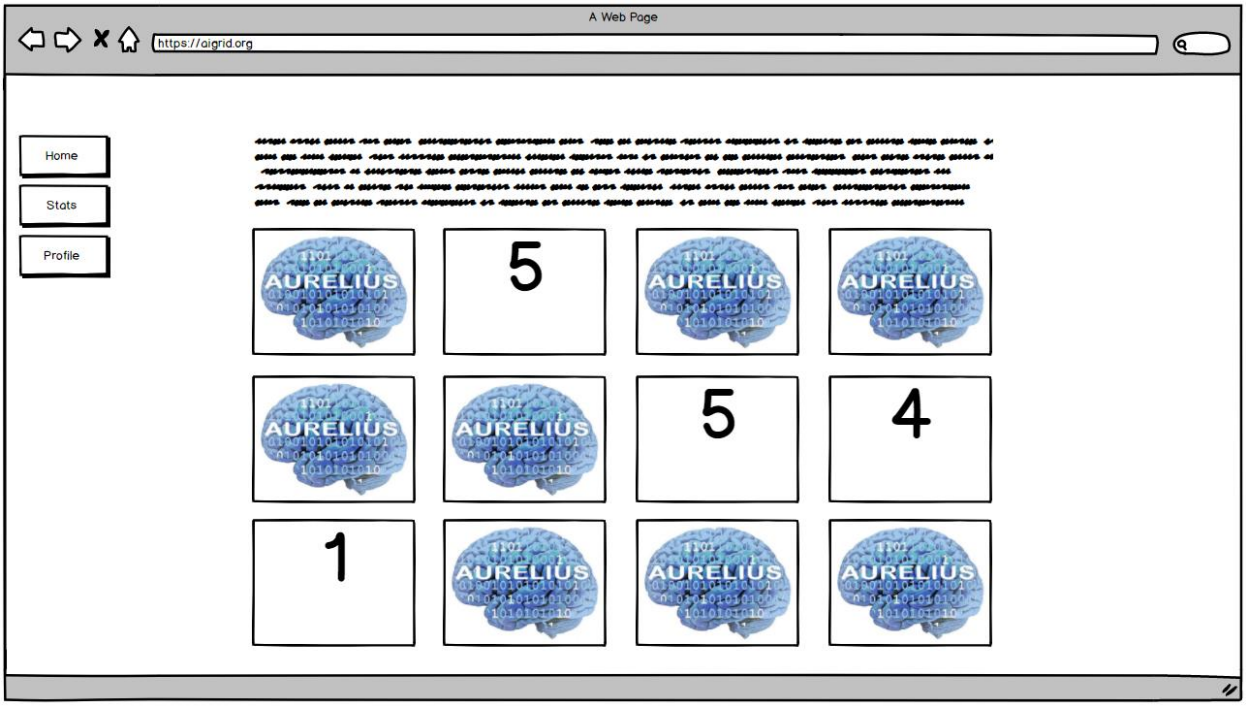


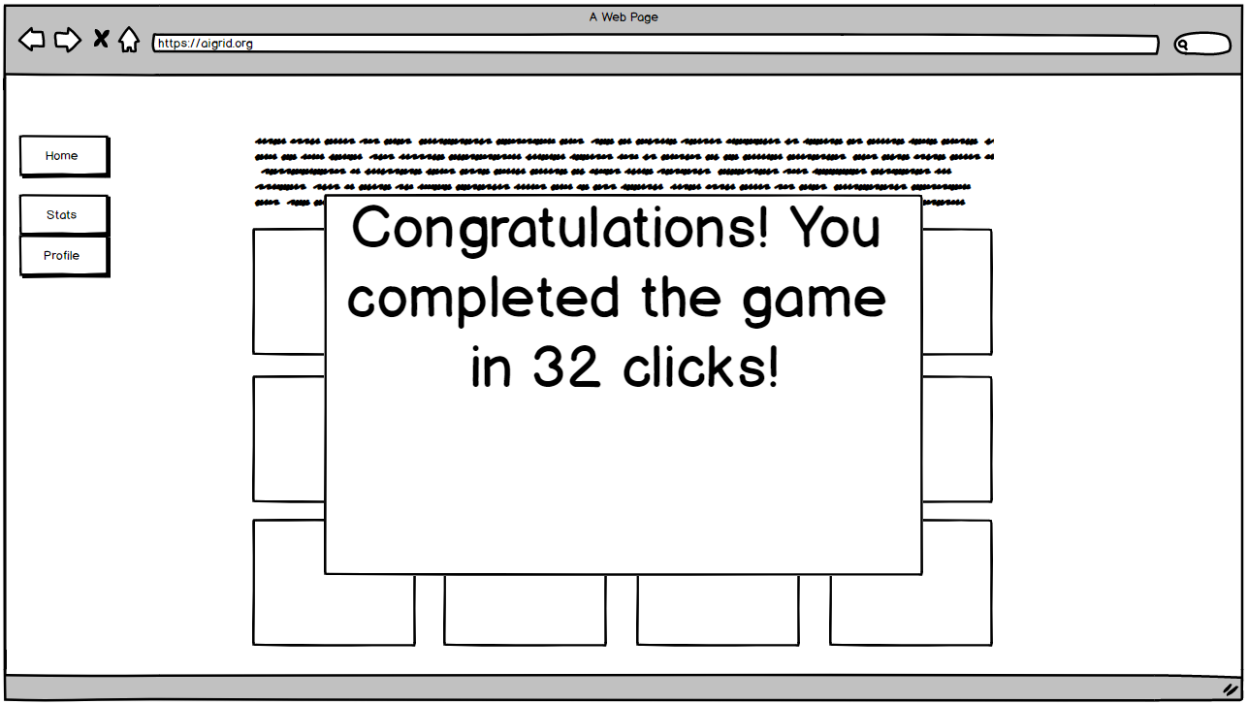
# Component Interaction Diagram

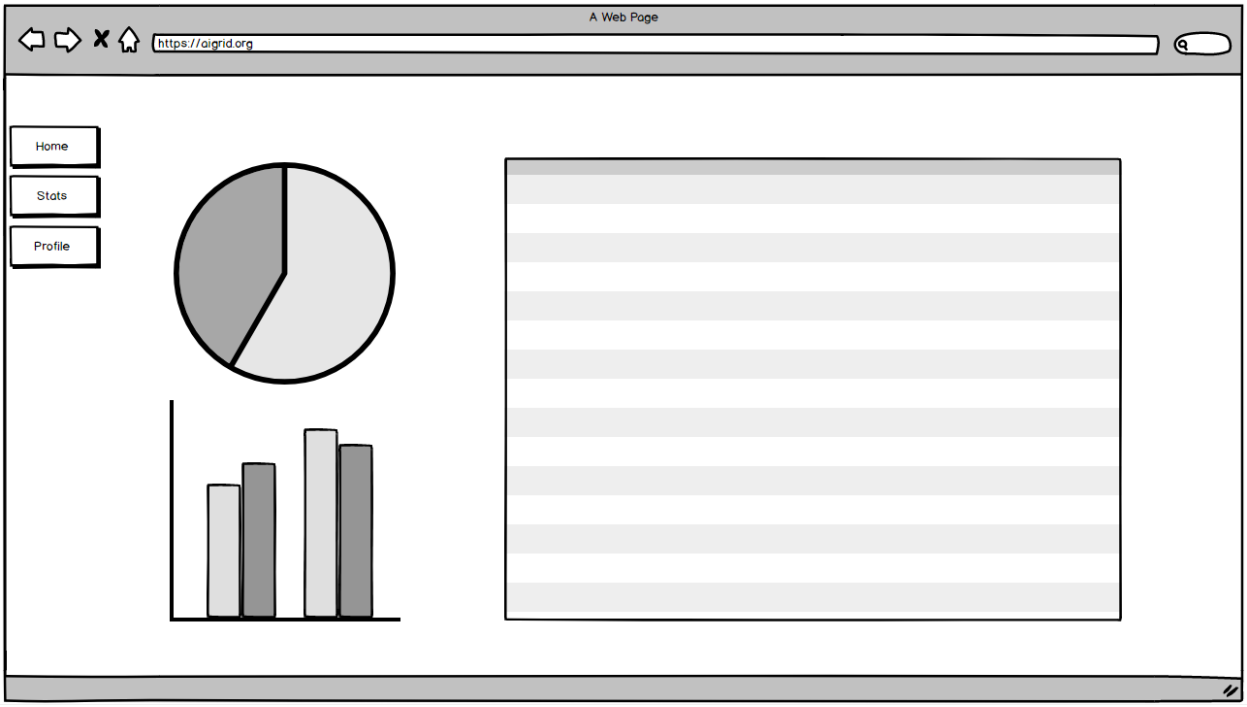


# Wireframes

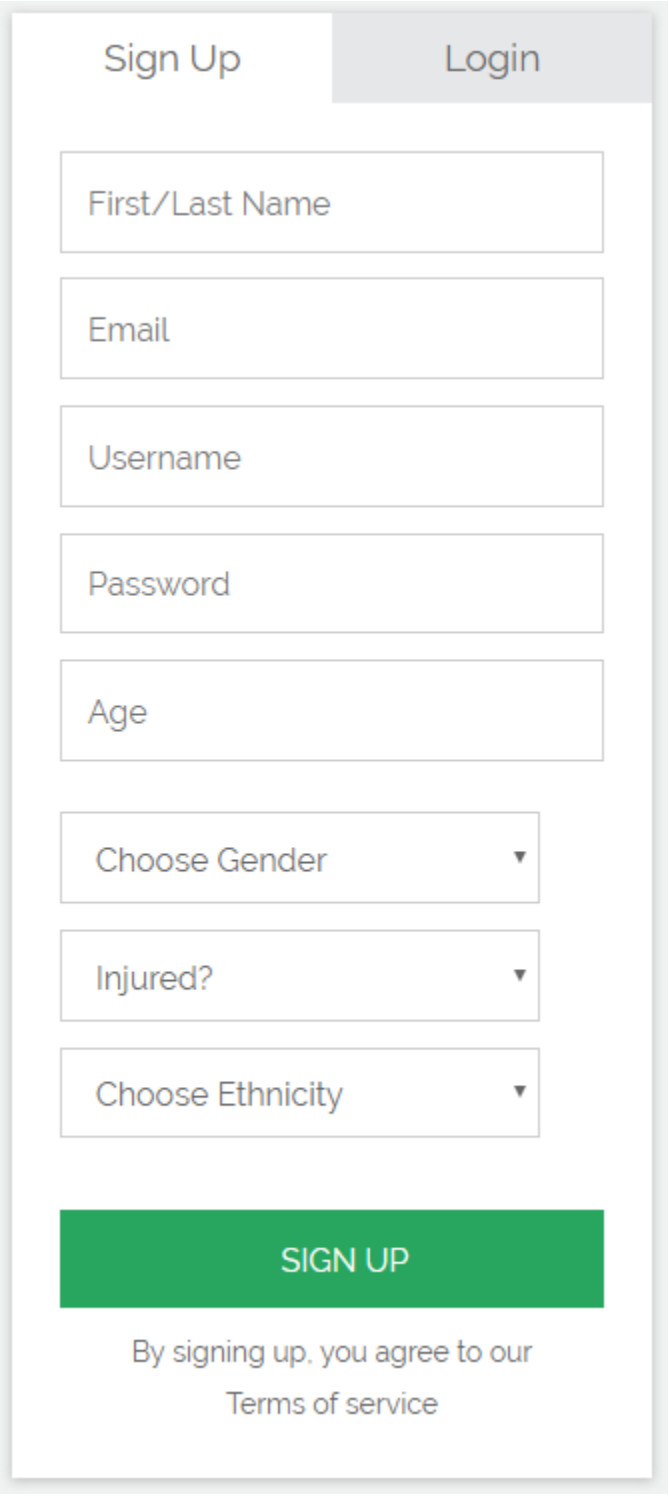

A Web Page
https://aigrid.org
AURELIUS
Name
Email
Username
Password
Age
Gender
Ethnicity
Drop down with standard ethnicities
Injured?
SIGNUP

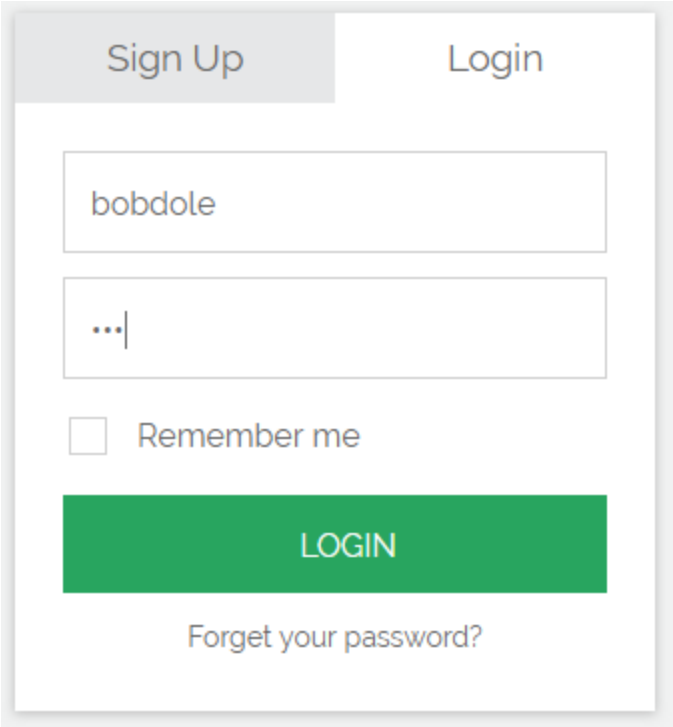

A Web Page
https://aigrid.org
Home
Stats
Profile
AURELIUS
5
5
4
1


A Web Page
https://aigrid.org
Home
Stats
Profile
Congratulations! You completed the game in 32 clicks!


A Web Page
https://aigrid.org
Home
Stats
Profile

## UI Screenshots

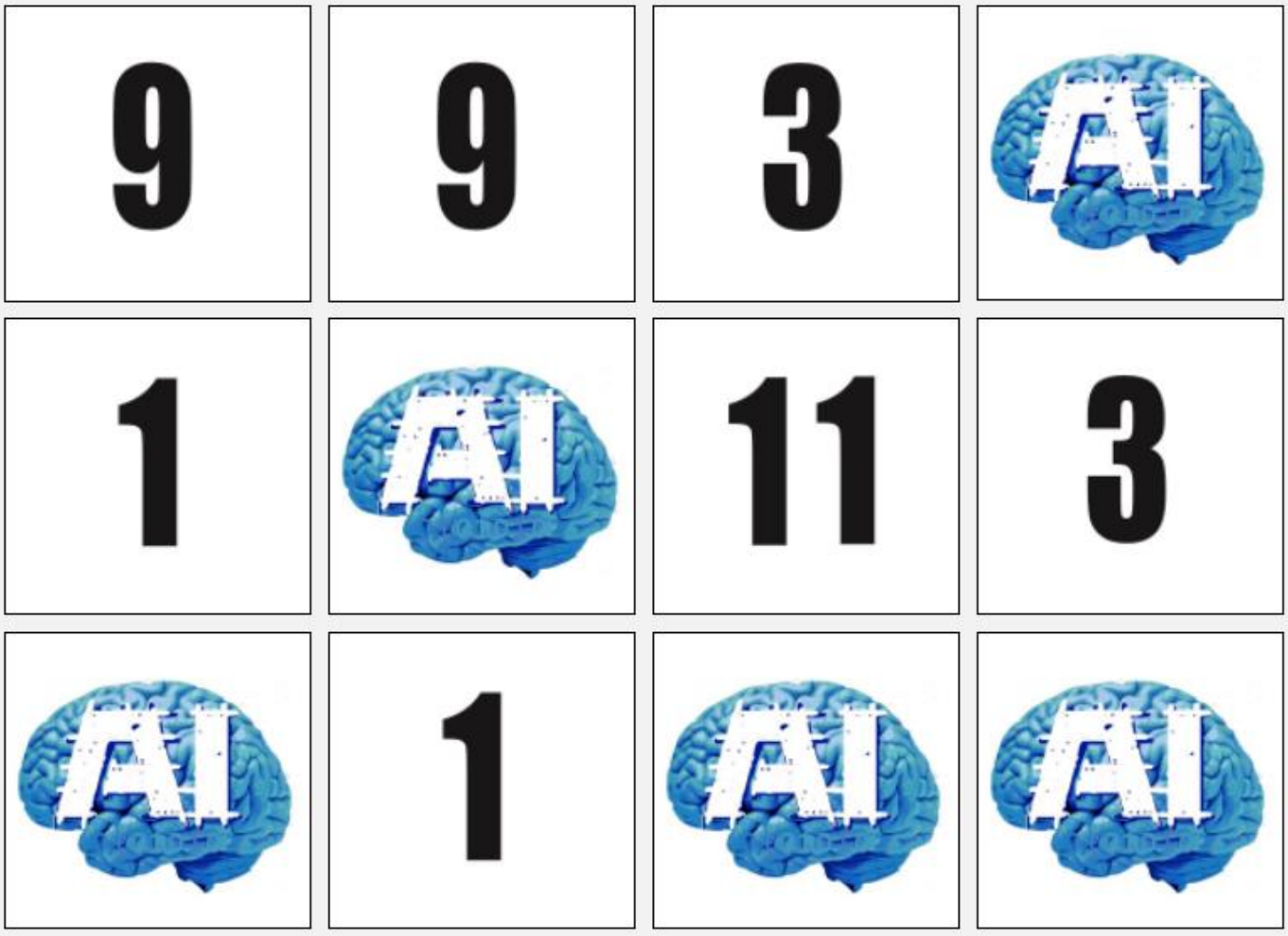


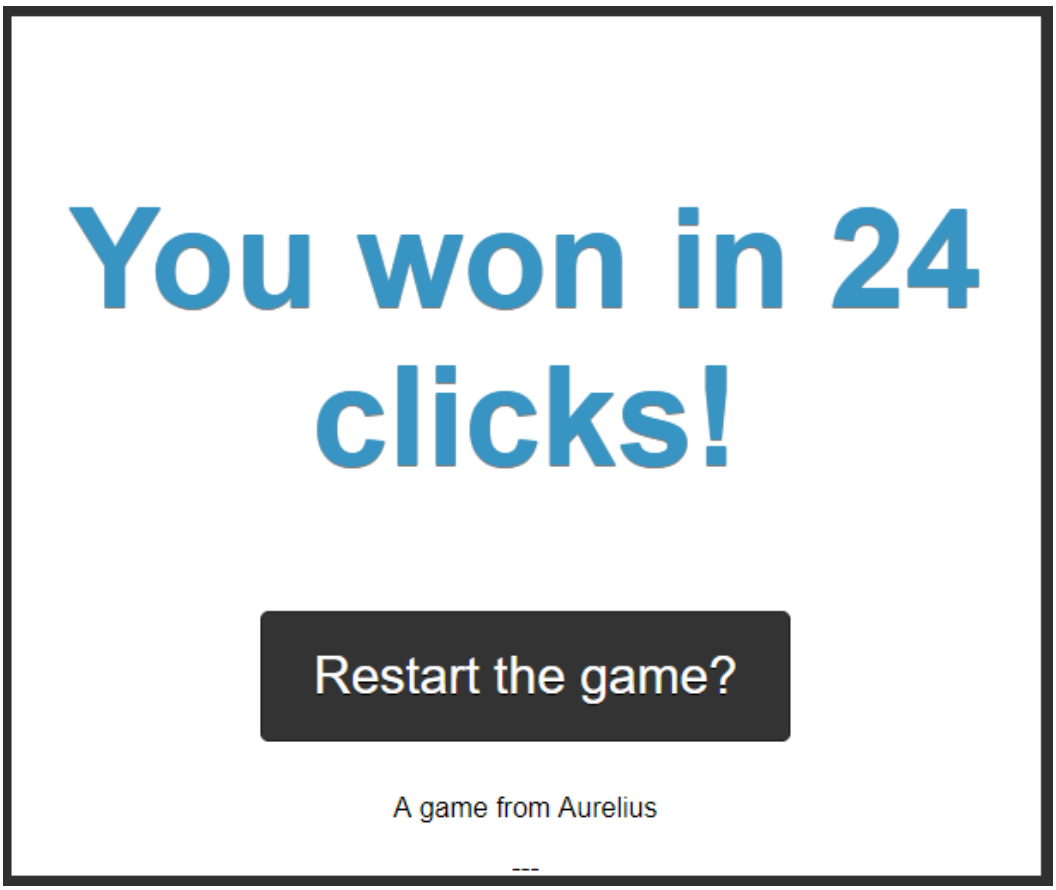



Home | Your Game Stats | Research | Other Games | Logout

# Memory Test Game

Click on the tiles below to flip a card and start the memory game. This is not a timed test, but the number of clicks is tracked and progress is automatically tracked to your account. When the game finishes, a popup displays showing the number of clicks.






| User Name | Date | IP Address | Seconds | Clicks |
|---|---|---|---|---|
| bobdole | 2018-02-27 04:34:53 | 24.61.187.168 | 19 | 24 |
| bobdole | 2018-02-26 17:57:14 | 107.198.78.165 | 19 | 22 |
| bobdole | 2018-02-26 17:56:42 | 107.198.78.165 | 33 | 39 |
| bobdole | 2018-02-26 16:17:37 | 107.198.78.165 | 26 | 32 |
| bobdole | 2018-02-26 16:16:20 | 107.198.78.165 | 21 | 26 |
| bobdole | 2018-02-26 16:15:26 | 107.198.78.165 | 26 | 32 |
| bobdole | 2018-02-26 16:13:12 | 107.198.78.165 | 28 | 26 |
| bobdole | 2018-02-26 16:04:45 | 107.198.78.165 | 22 | 24 |
| bobdole | 2018-02-25 02:51:31 | 24.61.187.168 | 18 | 18 |
| bobdole | 2018-02-25 02:38:17 | 107.198.78.165 | 35 | 40 |
| bobdole | 2018-02-25 01:38:58 | 107.198.78.165 | 31 | 34 |

# Test Cases

| | |
|---|---|
| Test Case Name | User Registration |
| Test Case ID | AURTEST_01_UserRegistration |
| Description | This test case tests that a user is able to register for a new account. |
| Preconditions | |
| Assumptions | |
| | |
| Test Steps | 1. Enter application in any web browser.<br>2. Enter name<br>3. Enter email<br>4. Enter user name<br>5. Enter password<br>6. Enter age<br>6. Select gender from drop down<br>7. Select injury option from drop down<br>8. Select ethnicity from drop down<br>9. Click on sign up button |
| Expected Results | User account is created and user is brought to the main page to play the game. |
| Actual Results | As Expected |
| Pass/Fail | Pass |
| Notes | Username: bobdole<br>Password: 123 |

| | |
|---|---|
| Test Case Name | Log Into Account |
| Test Case ID | AURTEST_02_LogIntoAccount |
| Description | This test case tests that a valid login and password are accepted and the user is granted access to the system. |
| Preconditions | User already registered for an account. |
| Assumptions | |
| | |
| Test Steps | 1. Enter application in any web browser.<br>2. Click on Login<br>3. Enter user name<br>4. Enter password<br>5. Click on Login button |
| Expected Results | User is able to log in and brought to the main page to play the game. |
| Actual Results | As Expected |
| Pass/Fail | Pass |
| Notes | |

| Test Case Name | Log Into Account Fail |
|---|---|
| Test Case ID | AURTEST_07_LogIntoAccountFail |
| Description | This test case tests that an invalid login/password combination will not result in logging into the game, |
| Preconditions | User already registered for an account. |
| Assumptions | |
| | |
| Test Steps | 1. Enter application in any web browser.<br>2. Click on Login<br>3. Enter random string into username field<br>4. Enter random string into password field<br>5. Click on Login button |
| Expected Results | System reports a failure message. User is not able to log in. |
| Actual Results | As Expected |
| Pass/Fail | Pass |
| Notes | |

| Test Case Name | User Registration Fail |
|---|---|
| Test Case ID | AURTEST_06_UserRegistrationFail |
| Description | This test case tests that an improper combination of account registration fields will not result in a new account being created. |
| Preconditions | |
| Assumptions | |
| | |
| Test Steps | 1. Enter application in any web browser.<br>2. Do not complete any field<br>3. Click on sign up button |
| Expected Results | The system reports a red failure message above each field notifying the user that each field is required. The account is *not* created. |
| Actual Results | As Expected |
| Pass/Fail | Pass |
| Notes | None |

| | |
|---|---|
| Test Case Name | Play Memory Game |
| Test Case ID | AURTEST_03_PlayMemoryGame |
| Description | This test case tests the actions a user would make while playing the memory game |
| Preconditions | User has registered for an account and has successfully logged in. |
| Assumptions | |
| | |
| Test Steps | 1. Click on cards with matching numbers<br>2. Click on cards without matching numbers<br>3. Complete the game by matching all the cards<br>4. When game completion pop up displays, click “Restart the game?” |
| Expected Results | When clicking on cards that match they are turned over with numbers showing. When clicking on cards that no match they turn back around. After completing the game a pop up displays the number of clicks it took to complete the game |
| Actual Results | As Expected |
| Pass/Fail | Pass |
| Notes | |

| | |
|---|---|
| Test Case Name | Researcher Account |
| Test Case ID | AURTEST_05_ResearcherAccount |
| Description | This test case tests the sequence of steps a researcher takes to access and view global game data. |
| Preconditions | User has a researcher role account, attained by an offline manual verification of the researcher’s credentials. |
| Assumptions | |
| | |
| Test Steps | 1. Enter application in any web browser.<br>2. Click on Login<br>3. Enter user name<br>4. Enter password<br>5. Click on Login button<br>6. Click on “Research” button on the header menu |
| Expected Results | Global game scores are displayed. |
| Actual Results | As Expected |
| Pass/Fail | Pass |
| Notes | Username: joshbond<br>Password: nonenone |

| | |
|---|---|
| Test Case Name | View Player Stats |
| Test Case ID | AURTEST_04_ViewPlayerStats |
| Description | This test case tests the actions a user would make to view their game scores. |
| Preconditions | User has completed the memory game at least once. |
| Assumptions | |
| | |
| Test Steps | 1. Click on “Your Game Stats” on the header menu |
| Expected Results | Only the current user’s game scores are correctly displayed. |
| Actual Results | As Expected |
| Pass/Fail | Pass |
| Notes | |

# AllPairs

| Case # | Transition from State 1 to State 2 | Unregistered | Logged out | Registered User (Non-Injured) | Registered User (Injured) | Researcher |
|---|---|---|---|---|---|---|
| 1 | from Unregistered to Registered | YES(1) | NO | NO | NO | NO |
| 2 | from Unregistered to Logged In | NO | NO | NO | NO | NO |
| 3 | from Unregistered to Play game | NO | NO | NO | NO | NO |
| 4 | from Unregistered to View Game Stats | NO | NO | NO | NO | NO |
| 5 | from Unregistered to Research View | NO | NO | NO | NO | NO |
| 6 | from Unregistered to Abandoned Game | NO | NO | NO | NO | NO |
| 7 | from Unregistered to Logout | NO | NO | NO | NO | NO |
| 8 | from Unregistered to Abanoned Game | NO | NO | NO | NO | NO |
| 9 | from Logout to Logged In | NO | YES(2) | YES | YES | YES |
| 10 | from Logout to Play Game | NO | NO | NO | NO | NO |
| 11 | from Logout to View Game Stats | NO | NO | NO | NO | NO |
| 12 | from Logout to Research View | NO | NO | NO | NO | NO |
| 13 | from Logout to Abandoned Game | NO | NO | NO | NO | NO |
| 14 | from Login to Play Game | NO | NO | YES | YES(3) | YES(4) |
| 15 | from Login to View Game Stats | NO | NO | YES(5) | YES | YES |
| 16 | from Login to Research View | NO | NO | NO | NO | YES(6) |
| 17 | from Login to Abandoned Game | NO | NO | NO | NO | NO |
| 18 | from Login to Logout | NO | NO | YES | YES(7) | YES(8) |
| 19 | from Play Game to Logged In | NO | NO | NO | NO | NO |
| 20 | from Play Game to View Game Stats | NO | NO | YES(9) | YES | YES(10) |
| 21 | from Play Game to Research View | NO | NO | NO | NO | YES(11) |
| 22 | from Play Game to Logged Out | NO | NO | YES | YES(12) | YES |
| 23 | from Play Game to Abandoned Game | NO | NO | YES(13) | YES | YES |
| 24 | from Play Game to Game Over | NO | NO | YES | YES(14) | YES |
| 25 | from Game Over to Play Game | NO | NO | YES(15) | YES | YES(16) |
| 26 | from Abandoned Game to Login | NO | NO | NO | NO | NO |
| 27 | from Abandoned Game to Play Game | NO | NO | YES | YES(17) | YES |
| 28 | from Abandoned Game to View Game Stats | NO | NO | YES(18) | YES | YES(19) |
| 29 | from Abandoned Game to Research View | NO | NO | NO | NO | YES(20) |
| 30 | from Abandoned Game to Logout | NO | NO | YES(21) | YES | YES |
| 31 | from View Game Stats to Login | NO | NO | NO | NO | NO |
| 32 | from View Game Stats to Play Game | NO | NO | YES | YES | YES(22) |
| 33 | from View Game Stats to Research View | NO | NO | NO | NO | YES(23) |
| 34 | from View Game Stats to Logout | NO | NO | YES(24) | YES | YES |
| 35 | from View Game Stats to Abandoned Game | NO | NO | NO | NO | NO |
| 36 | from Research View to Login | NO | NO | NO | NO | NO |
| 37 | from Research View to Play Game | NO | NO | NO | NO | YES(25) |
| 38 | from Research View to View Game Stats | NO | NO | NO | NO | YES(26) |
| 39 | from Research View to Logout | NO | NO | NO | NO | YES(27) |
| 40 | from Research View to Abandoned Game | NO | NO | NO | NO | NO |

| | |
|---|---|
| **Total Combinations** | 200 |
| **Prohibited Combinations (Red)** | 149 |
| **Dropped Combinations (Orange)** | 24 |
| **Selected for Exec. Combinatons (Green)** | 27 |

**States**

Unregistered
Registered
Login
Log Out
Play Game
Abandoned Game
View Game Stats
Research View

# Defect Management

| Defect ID | Defect Summary | Submitted By | Date Opened | Date Closed | Related Test Case |
|---|---|---|---|---|---|
| AUSDEF_01 | Game play clicks show up as double | E.Mei | 2/6/2018 | 2/9/2018 | AURTEST_03 |
| AUSDEF_02 | Game page not checking if user is logged in | J.Bond | 2/6/2018 | 2/10/2018 | AURTEST_01 |
| AUSDEF_03 | Field validation issue for gender, ethnicity, and injury status | J.Bond | 2/6/2018 | 2/10/2018 | AURTEST_01 |
| AUSDEF_04 | Reset button not functioning | E.Mei | 2/13/2018 | 2/22/2018 | AURTEST_03 |
| AUSDEF_05 | Logout does not destroy the session | E.Mei | 2/14/2018 | 2/23/2018 | AURTEST_02 |
| AUSDEF_06 | The "Research" view shows for non-research account types | E.Mei | 2/14/2018 | 2/24/2018 | AURTEST_05 |
| AUSDEF_07 | During a failed login, system says login failed and also that you have been logged out | J.Bond | 2/21/2018 | 2/24/2018 | AURTEST_02 |

# Appendices

# Appendix A – Links

Github Repositories

https://github.com/Bond699/aurelius-memory-game

https://github.com/adjavaherian/memory-test

Applications

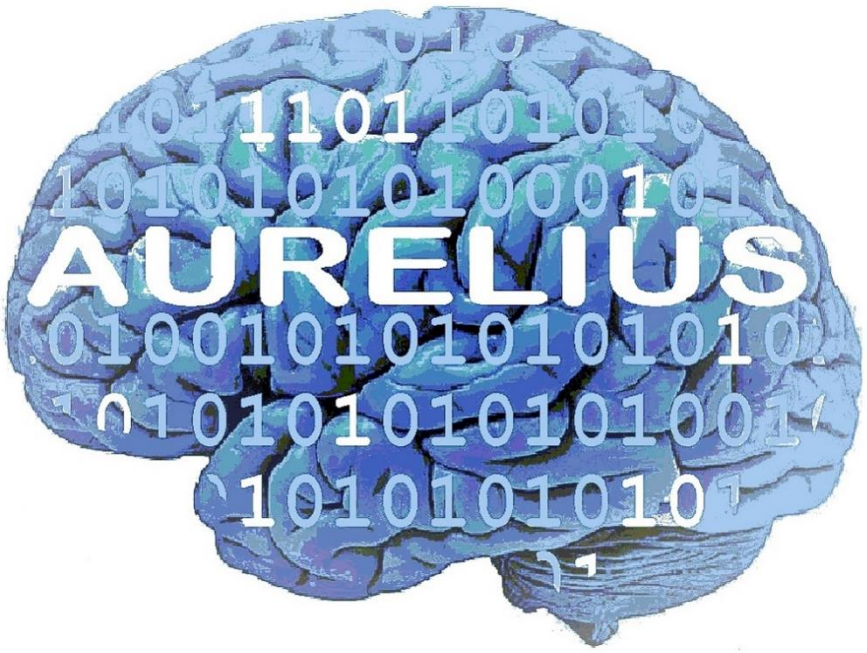
http://blockbusters.com/login.php

http://s3.amazonaws.com/aurelius-memory-test/index.html

Elastic Search DB

http://emsearch.io:9200/memory-test/doc/GHN1z2EBGHKbAe6UdwIz

- Replace the UID at the end of the URL with the one generated on your account to see your data


AURELIUS