Lab 2 – ReasonED.io Requirements and Specifications (Sections 1 and 2)

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1. Introduction

1.1. Purpose

This document covers the ReasonED.io product prototype and is intended for its developers and their instructor.

1.2. Scope

The purpose of ReasonED.io is to teach its audience logical reasoning in an informative and entertaining manner. The system shall consist of three games, where each game shall be written for a distinct audience, ranging from elementary schoolers to high schoolers. ReasonED.io shall also cater to educators who wish to supplement their curriculums with critical thinking skills, as well as members of the public who wish to learn more about logical thinking.

1.3. Definitions, Acronyms, and Abbreviations

Confirmation Bias – A cognitive bias that involves seeking, interpreting, and remembering information that confirms one's preconceptions (American Psychological Association n.d.).

Critical Thinking – The ability to think clearly and rationally, understanding the logical connection between ideas and the ability to make reasoned judgements (American Psychological Association n.d.).

Fact-Checking – The process of verifying the accuracy of claims made in public discourse and journalism (Cambridge English Dictionary n.d.).

False Dilemma – A fallacy that presents a limited set of options as the only possible choices when there may be other alternatives (Excelsior OWL n.d.).

Logical Fallacy – An error in reasoning or a flawed argument that can make an argument appear valid when it is not (Nikolopoulou, 2023).

Misinformation – False or inaccurate information shared, often unintentionally, without the intent to deceive (Dictionary.com n.d.).

Disinformation – False information deliberately spread to deceive or mislead others (Dictionary.com n.d.).

Slippery Slope – A fallacy that suggests one small step will inevitably lead to a chain of related events, often with exaggerated consequences (Excelsior OWL n.d.).

Straw Man Argument – A fallacy that involves misrepresenting an opponent's argument to make it easier to attack and refute (Excelsior OWL n.d.).

1.4. References

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1.5. Overview

The remainder of this document goes into detail about what ReasonED.io is, what functions it has, and the characteristics of its intended users. Section 2 is split into the following subsections:

2.1. Product Perspective – A description of the system being built.

2.2. Product Functions – The functionality that the system shall offer.

2.3. User Characteristics – Roles for the intended users of the system.

2.4. Constraints – Currently left blank.

2.5. Assumptions and Dependencies – Currently left blank.

2. Overall Description

2.1. Product Perspective

The system shall be a web platform consisting of three games: Straw Manny, Hasty Harry, and Slope Sadie. Straw Manny shall teach high schoolers the strawman fallacy, Hasty Harry shall teach elementary schoolers the hasty generalization fallacy, and Slope Sadie shall teach middle schoolers the slippery slope fallacy. Each game shall have an in-game tutorial as well as readings on the logical fallacies each one teaches. Each game shall also be free and require no registration to play, but the system shall require registration to save scores.

2.2. Product Functions

The system shall offer the three games mentioned in Section 2.1, with additional games added in the future. Each game shall be accessible on both desktop and tablet environments and shall offer a complete experience, having animations, sound effects, and music.

The system shall additionally include printable resources and progress tracking on student accounts for educators.

2.3. User Characteristics

The following functionality shall be available for all users, including those without an account:

- Reading resources on logical fallacies
- Playing available games
    - Viewing in-game tutorials
    - Utilizing text-to-speech for accessibility
    - Accessing all in-game mechanics
    - Generating, but not saving, scores after gameplay
    - Viewing in-game leaderboards
- Creating an account
    - Inputting an email address, username, and password
    - Receiving an email with a validation link
    - Finalizing account creation by clicking on the validation link

All users with an account shall have the following functionality:

- Saving scores to game leaderboards

Educators with an account shall have the following functionality:

- Printing resources
- Progress tracking on student accounts

Administrators shall have the following functionality:

- Managing accounts
    - Editing account names
    - Banning account holders that behave inappropriately

2.4. Constraints

N/A

2.5. Assumptions and Dependencies

N/A