# Requirement Specifications

## Priorities

Critical: Requirements that offer core functionality

Essential: Requirements that are integral to meet the overall project objectives.

Desirable: Requirements that provide non-essential functionality, but would enhance the experience.

Stretch: Requirements that provide non-essential functionality, but will only be considered should all other requirements be met.

Dropped: Requirements that were once considered, however have been excluded based on better meeting the project goals.

## Key

The requirement specifications have been coded as follows:

General: GA1-GEN#
Sorting: GA1-SOR#
Data Structures: GA1-DAS#
Puzzles and Games: GA1-PNG#
School of Imlementations: GA1-SCH#
Non-Functional Requirements: GA1-NFR#
Stretch Goals: GA1-STG#

| Requirement #: GA1-GEN1 | Requirement Type: Functional |
|---|---|
| **Description:** Menu driven GUI | |
| **Rationale:** The application should be navigable via a menu driven GUI | |
| **Fit Criterion:** All program features and accessories should be easily identifiable and accessible via a GUI | |
| **Dependencies:** N/A | **Rank of Importance:** Critical |

| Requirement #: GA1-GEN2 | Requirement Type: Functional |
|---|---|
| **Description:** Language agnostic demonstrations | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** The algorithms are explained and demonstrated with language agnostic pseudo code | |
| **Dependencies:** N/A | **Rank of Importance:** Critical |

| Requirement #: GA1-GEN3 | Requirement Type: Functional |
|---|---|
| **Description:** That each demonstration has graphics and animations that are relevant and engaging | |
| **Rationale:** Ingegral the overall project objective | |
| **Fit Criterion:** Graphics and animations present | |
| **Dependencies:** N/A | **Rank of Importance:** Essential |

| Requirement #: GA1-GEN4 | Requirement Type: Functional |
|---|---|
| **Description:** Interactivity | |
| **Rationale:** An interactive approach to the learning process is integral to the overall project objective | |
| **Fit Criterion:** That a game, or interactive demonstration is present for each of the algorithms or data structures present in the application. | |
| **Dependencies:** N/A | **Rank of Importance:** Desirable |

| Requirement #: GA1-SOR1 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on the quick sort algorithm | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a lesson on the quick sort algorithm | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Critical |

| Requirement #: GA1-SOR2 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the quick sort algorithm in context | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully intergrate an explanation of the quick sort algorithm into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Critical |

| Requirement #: GA1-SOR3 | Requirement Type: Functional |
|---|---|
| **Description:** Show pseudocode for the quick sort algorithm | |
| **Rationale:** Ingegral to the overall project objective | |
| **Fit Criterion:** Successfully show pseudo code for the quick sort algorithm alongside a demonstration | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-SOR4 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate quick sort | |
| **Rationale:** Integral to the overall project obective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate the quick sort algorithm in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-SOR5 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on the bubble sort algorithm | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a lesson on the bubble sort algorithm | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Critical |

| Requirement #: GA1-SOR6 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the bubble sort algorithm in context | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully intergrate an explanation of the bubble sort algorithm into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Critical |

| Requirement #: GA1-SOR7 | Requirement Type: Functional |
|---|---|
| **Description:** Show pseudocode for the bubble sort algorithm | |
| **Rationale:** Ingegral to the overall project objective | |
| **Fit Criterion:** Successfully show pseudo code for the bubble sort algorithm alongside a demonstration | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-SOR8 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate bubble sort | |
| **Rationale:** Integral to the overall project obective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate the bubble sort algorithm in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-SOR9 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on the selection sort algorithm | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a lesson on the selection sort algorithm | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Critical |

| Requirement #: GA1-SOR10 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the selection sort algorithm in context | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully intergrate an explanation of the selection sort algorithm into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Critical |

| Requirement #: GA1-SOR11 | Requirement Type: Functional |
|---|---|
| **Description:** Show pseudocode for the selection sort algorithm | |
| **Rationale:** Ingegral to the overall project objective | |
| **Fit Criterion:** Successfully show pseudo code for the selection sort algorithm alongside a demonstration | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-SOR12 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate selection sort | |
| **Rationale:** Integral to the overall project obective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate the selection sort algorithm in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-PNG1 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on game states via the farmer and the goat game | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate the history/development of the farmer and the goat problem into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Critical |

| Requirement #: GA1-PNG2 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the farmer and the goat problem | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows the farmer and the goat problem in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Critical |

| Requirement #: GA1-PNG3 | Requirement Type: Functional |
|---|---|
| **Description:** Represent the farmer and the goat problem in terms of states | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully show the winning and losing states alongside a demonstration of the farmer and the goat problem | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-PNG4 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate the farmer and the goat | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate the farmer and the goat problem | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-PNG5 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on game states via the water buckets game | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate the history/development of the water bucket game | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-PNG6 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the water bucket game | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows the water bucket problem in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-PNG7 | Requirement Type: Functional |
|---|---|
| **Description:** Represent the water bucket problem in terms of states | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully show the winning and losing states alongside a demonstration of the water bucket problem | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-PNG8 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate the water and bucket game | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate the water bucket | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-PNG9 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on game states via the Tower of Hanoi game | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate the history/development of the tower of Hanoi | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-PNG10 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the Tower of Hanoi game | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows the tower of Hanoi problem in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-PNG11 | Requirement Type: Functional |
|---|---|
| **Description:** Represent the Tower of Hanoi problem in terms of states | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully show the winning and losing states alongside a demonstration of the water bucket problem | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-PNG12 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate the tower of Hanoi | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate the tower of Hanoi | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-PNG13 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the rules of Conway's Game of Life | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully show how game of life works | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-PNG14 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate Conway's game of life in action | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows Conway's Game of Life in action | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-DAS1 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on the history of the heap structure | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate the history of Heap structure's into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-DAS2 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the Heap structure in context | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows the heap structure in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-DAS3 | Requirement Type: Functional |
|---|---|
| **Description:** Show pseudo code for the heap structure | |
| **Rationale:** Ingegral to the overall project objective | |
| **Fit Criterion:** Successfully show pseudo code for heap structure's alongside an algorithm demonstration | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-DAS4 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate heap structures | |
| **Rationale:** Integral to the overall project obective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate Heap structure's in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-DAS5 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on the history of the heap structure | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate the history of Heap structure's into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-DAS6 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the heap structure in context | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows the heap structure in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-DAS7 | Requirement Type: Functional |
|---|---|
| **Description:** Show pseudo code for the heap structure | |
| **Rationale:** Ingegral to the overall project objective | |
| **Fit Criterion:** Successfully show pseudo code for heap structure's alongside an algorithm demonstration | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-DAS8 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate heap structures | |
| **Rationale:** Integral to the overall project obective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate heap structure's in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-DAS9 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on the history of the queue structure | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate the history of queue structures into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-DAS10 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the queue structure in context | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows the queue structure in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-DAS11 | Requirement Type: Functional |
|---|---|
| **Description:** Show pseudo code for the queue structure | |
| **Rationale:** Ingegral to the overall project objective | |
| **Fit Criterion:** Successfully show pseudo code for queue structures alongside an algorithm demonstration | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-DAS12 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate queue structures | |
| **Rationale:** Integral to the overall project obective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate queue structures in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-DAS13 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on the history of the tree structure | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate the history of tree structures into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-DAS14 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the tree structure in context | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows the tree structure in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-DAS15 | Requirement Type: Functional |
|---|---|
| **Description:** Show pseudo code for the tree structure | |
| **Rationale:** Ingegral to the overall project objective | |
| **Fit Criterion:** Successfully show pseudo code for tree structures alongside an algorithm demonstration | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-DAS16 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate tree structures | |
| **Rationale:** Integral to the overall project obective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate tree structures in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-STG1 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on the history of bogo sort | |
| **Rationale:** Suited to the overall project objective | |
| **Fit Criterion:** Successfully integrate the history of bogo sort into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-STG2 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the bogo sort structure in context | |
| **Rationale:** Suited to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows bogo sort in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-STG3 | Requirement Type: Functional |
|---|---|
| **Description:** Show pseudo code for bogo sort | |
| **Rationale:** Suited to the overall project objective | |
| **Fit Criterion:** Successfully show pseudo code for bogo sort alongside an algorithm demonstration | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-STG4 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate bogo sort | |
| **Rationale:** Suited to the overall project obective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate bogo sort in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-STG5 | Requirement Type: Functional |
|---|---|
| **Description:** Educate user on the history of radix sort | |
| **Rationale:** Suited to the overall project objective | |
| **Fit Criterion:** Successfully integrate the history of radix sort into the application | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-STG6 | Requirement Type: Functional |
|---|---|
| **Description:** Demonstrate the radix sort structure in context | |
| **Rationale:** Suited to the overall project objective | |
| **Fit Criterion:** Successfully integrate a demonstration that shows radix sort in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-STG7 | Requirement Type: Functional |
|---|---|
| **Description:** Show pseudo code for radix sort | |
| **Rationale:** Suited to the overall project objective | |
| **Fit Criterion:** Successfully show pseudo code for radix sort alongside an algorithm demonstration | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-STG8 | Requirement Type: Functional |
|---|---|
| **Description:** Interactive game or activity to demonstrate radix sort | |
| **Rationale:** Suited to the overall project obective | |
| **Fit Criterion:** The application will integrate an activity or game to demonstrate radix sort in context | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-NFR1 | Requirement Type: Look and Feel |
|---|---|
| **Description:** Distinct and varied visual design for each realm | |
| **Rationale:** Provide interest and clarity to the application structure for users | |
| **Fit Criterion:** Design different visual elements for each realm | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Dropped |

| Requirement #: GA1-NFR2 | Requirement Type: Look and Feel |
|---|---|
| **Description:** Sound effects for menu navigation | |
| **Rationale:** Assists in useability and users perception of responsiveness | |
| **Fit Criterion:** The application will play appropriate and consistent sounds during menu navigation that reinforce the functionality | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-NFR3 | Requirement Type: Look and Feel |
|---|---|
| **Description:** Music / ambient audio | |
| **Rationale:** Adds to the feel of the user experience | |
| **Fit Criterion:** The application will play realm-specific background music/sounds that complement the visual design | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-NFR4 | Requirement Type: Useability |
|---|---|
| **Description:** The application must be accessible | |
| **Rationale:** We must provide a level of accessibility appropriate to our intended users | |
| **Fit Criterion:** The product shall be easy for secondary/tertiary students to use with no assumed prior knowledge | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-NFR5 | Requirement Type: Useability |
|---|---|
| **Description:** Ensure GUI is intuitive and easy to navigate | |
| **Rationale:** Ready access to the content will make the application more engaging | |
| **Fit Criterion:** The product shall be easy for secondary/tertiary students to use with no assumed prior knowledge | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-NFR6 | Requirement Type: Useability |
|---|---|
| **Description:** The application is fun and engaging | |
| **Rationale:** A game-like approach to learning makes the process more entertaining | |
| **Fit Criterion:** The application will be interactive and feature colourful imagery and sounds | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-NFR7 | Requirement Type: General |
|---|---|
| **Description:** The application will be educational | |
| **Rationale:** Integral to the overall project objective | |
| **Fit Criterion:** The application will impart knowledge through a combination of text, diagrams and interactive features | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-NFR8 | Requirement Type: Performance |
|---|---|
| **Description:** Responsive interface | |
| **Rationale:** Unresponsive interfaces detract from the user experience and should be avoided | |
| **Fit Criterion:** User interactions will result in immediate visual and/or aural feedback | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-NFR9 | Requirement Type: Performance |
|---|---|
| **Description:** Scale content appropriately for different resolutions | |
| **Rationale:** Scalability ensures a high quality image for a wide range of users | |
| **Fit Criterion:** The imagery and typefaces used in the product must be scalable to accommodate a range of screen resolutions | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Desirable |

| Requirement #: GA1-NFR10 | Requirement Type: Performance |
|---|---|
| **Description:** Algorithm performance | |
| **Rationale:** Visual elements will add computational overheads so algorithms need to be efficient | |
| **Fit Criterion:** Ensure all algorithms execute efficiently in terms of number of operations | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-NFR11 | Requirement Type: Operational |
|---|---|
| **Description:** Provide support for popular desktop operating systems | |
| **Rationale:** Important to ensure the environment required to use our product is available | |
| **Fit Criterion:** Create binaries for Windows and OSX | |
| **Dependencies:** N/A | **Rank of Importance:** Desirable |

| Requirement #: GA1-NFR12 | Requirement Type: Operational |
|---|---|
| **Description:** Support suitable input devices for the user | |
| **Rationale:** Commonly available hardware allows for a wider userbase | |
| **Fit Criterion:** Design the application to use keyboard and mouse | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |

| Requirement #: GA1-NFR13 | Requirement Type: Legal |
|---|---|
| **Description:** Product should be G rated | |
| **Rationale:** Application is to be used by secondary students | |
| **Fit Criterion:** Keep all content within the bounds of the G classification as set out by the Australian Classification Board | |
| **Dependencies:** GA1-GEN1 – GEN4 | **Rank of Importance:** Essential |