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| --- | --- | --- | --- | --- | --- |
|  | **Level 4** | **Level 3** | **Level 2** | **Level 1** | **R** |
| **Overall Functionality** | Program functions exactly as designed, with further enhancements. | Program functions exactly as designed. | Program functions as designed, with minor bugs. | Program functions as designed, with major bugs. | Program does nothing. |
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| **Panel** | Panel is used effectively to hold animation. | Panel is used effectively to hold animation. | Panel is used ineffectively to hold animation. | Panel is not used to hold animation. | No evidence of panels. |
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| **Buttons** | User can use buttons to select difficulty level between 1 and 10.  Start button initializes a new game.  Stop button stops and resets game. | User can use buttons to select difficulty level between 1 and 10 with most cases functioning properly.  Start button initializes a new game.  Stop button stops and resets game. | User can use buttons to select difficulty level between 1 and 10 with some cases functioning properly.  Start and stop buttons do not start and reset games properly. | User can use buttons to select difficulty level between 1 and 10 with few cases functioning properly.  Start and stop buttons do not start and reset games properly. | No evidence of buttons. |
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| **Hunter** | Hunter can be moved using “Move” buttons.  Arrows can be shot using “Shoot” buttons.  Movement and shots function as designed in every single case. | Hunter can be moved using “Move” buttons.  Arrows can be shot using “Shoot” buttons.  Movement and shots function as designed in most cases. | Hunter can be moved using “Move” buttons.  Arrows can be shot using “Shoot” buttons.  Movement and shots function as designed in some cases. | Hunter can be moved using “Move” buttons.  Arrows can be shot using “Shoot” buttons.  Movement and shots function as designed in few cases. | No evidence of hunter functionality. |
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| **Lions** | Lions are randomly placed.  Number of lions depends on difficulty level.  Lions move towards hunter in a reliable and logical fashion in every case. | Lions are randomly placed.  Number of lions depends on difficulty level.  Lions move towards hunter in a reliable and logical fashion in most cases. | Lions are randomly placed.  Number of lions depends on difficulty level.  Lions move towards hunter in a reliable and logical fashion in some cases. | Lions are randomly placed.  Number of lions depends on difficulty level.  Lions move towards hunter in a reliable and logical fashion in few cases. | No evidence of lions. |
|  | | | | | |
| **Counters** | Moves and Lions counters update reliably and accurately. Numbers are summarized in a message box at the end of the game. | Moves and Lions counters update accurately in most cases. Numbers are summarized in a message box at the end of the game. | Moves and Lions counters update accurately in some cases. Numbers are summarized in a message box at the end of the game. | Moves and Lions counters update accurately in few cases. Numbers are summarized in a message box at the end of the game. | No evidence of counters for lions or moves, or of summarizing message box. |
|  | | | | | |
| **Code** | Code is as efficient and organized as possible. | Code is efficient and occasionally disorganized. | Code is inefficient and occasionally disorganized. | Code is inefficient and disorganized. | No evidence of code. |
|  | | | | | |
| **Comments** | Code has thorough comments indicating the role of every component, making it easy for an outsider to read and understand. | Code has comments indicating the role of most of the components, making it easy for an outsider to read and understand. | Code has some comments indicating the role of a few of the components, making it easier for an outsider to read and understand. | Code has minor comments indicating the role of a few of the components. | No evidence of comments. |

**ICS4U – Project 5 – Lion Safari Name:**

**Overall Mark:**