ARI

An Innovative First-Person, Sci-Fi, Cybersecurity Escape Room Experience

SENDHELP STUDIOS

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ARI - The Game

- The story so far
  - You play as ARI, a utility droid on a space station that is tasked with saving your creators life
  - As the game unfolds, ARI has to repair station systems in order to expedite their creators return to the station
  - Whilst remaining on the station, the world is discovered and explained through supplemental information ARI comes across throughout the station

ARI - The Game

- Scalability was a key factor in the stories development
  - Currently at one level, the story can be expanded into a fully fledged universe in which other gameplay qualities / attributes can be added
    - These can include space exploration, an additional series of mini games for both mining and repairs within the Creator's vessel
    - Additionally, another group can be implemented to the games story which would function as another faction within the game that would be engaging the player and result in a randomized mini game to be completed during the encounter

ARI - The Game

- The characters are utilized to deliver the information to the consumer
  - The majority of the games story / learning experience will be primarily derived from the dialogue between ARI and the Station AI
  - The Station AI serves as both the narrator and guide for the player as they progress through the game
  - This approach within an educational game has not been implemented in this fashion before

ARI - The Game

- ARI takes a new approach to an educational experience
  - Fundamental concepts and practices are introduced incrementally throughout the game
  - Ludonarrative dissonance is the conflict between a video game's narrative told through the story and the narrative told through the gameplay. ARI would be a story of ludonarrative harmony in which the narrative matches the gameplay.
  - Featuring an immersive story line and a fully voiced cast, ARI plans to provide what other educational games lack.

ARI - The Game

- Where the ideas came from
  - ARI is inspired from a mash up of many different games and media that have been released since the 1990's
  - Some of these include but are not limited to Star Wars, Star Trek, Mass Effect, Fallout, Deus Ex Machina, Hardspace: Shipbreaker, etc.
  - With such a broad base of Sci-Fi media, we needed to use a tool that assisted us in catering our story to suit the needs of what we aimed to accomplish.

Octalysis

- Used Yu-kai Chao's Octalysis tool that measured different aspects of gamification and behavioral designs
  - Gamification: design process that places the most emphasis on creation with a focus on human development
  - Octalysis tool is an octagon which allows any user to input their own values based on how well they feel a game meets each category on a scale of 1-10

Octalysis

- Average scores calculated below after collecting data from all team members
- ARI received an average of at least 7.9 in all but 3 categories
    - Unpredictability, Social Influence, and Ownership

Epic Meaning	Empowerment	Social Influence	Unpredictability	Avoidance	Scarcity	Ownership	Accomplishment
8	8.6	6.8	7.2	8.4	7.9	3.1	8.2

Octalysis

- Unpredictability - 7.2
  - Scoring for this is described as not knowing what will happen next. This then results in your brain desiring to know what will happen next, leading to a better experience while playing
  - The lower score for this category is due to a lack of replayability at the moment, but this can be easily remedied by adding more random elements to the minigames

Octalysis

- Social Influence - 6.8
  - Scoring for this is described as anything that provides the ability to relate a portion of the game to the player. Encompasses all social elements that drive people, including competition
  - All members recognize that the game is built to teach cyber security practices, so the user can be given knowledge to somewhat satisfy this category
  - Lacking in this category due to the only form of competition being found in a leaderboard, which has only been effective for minigames

Octalysis

- Ownership - 3.1
  - Examples of ownership in game involve accruing currency, or being able to design your own character, either from the ground up or with unlockable cosmetics
  - Only place for ownership in the game currently is a badge/achievement system
  - ARI's story is mostly set in stone, so the player does not have the ability to completely create ARI's fate
  - Plans for adding customization options to ARI, such as skins or color changes, and this could boost this score in the future

ARI - The Experience

- Originally planned for three levels and a tutorial stage
  - Tutorial - Bad Practice
    - Plugging a random USB into a computer
  - Level 1 - Password Protection
    - Good password practice, ciphers and MFA
  - Level 2 - Internet Fraud
    - Phishing, social engineering and DDoS attacks
  - Level 3 - Network Security
    - Defense in depth, malware, worms and firewalls

ARI - The Experience

- Level 1 - Password Protection
  - Good password practices
    - Roll-A-Ball minigame
  - Cryptography
    - Caesar cipher minigame
  - Multi-factor authentication
    - Finding phone -> lock picking minigame

ARI - The Experience

- Level 2 - Internet Fraud
  - Email Phishing
    - Select the legitimate email
      - ➢ DDoS punishment if wrong email selected
  - Social Engineering
    - User is given word blocks and required to create a phishing email

ARI - The Experience

- Level 3 - Network Security
  - Defense in Depth
    - Frogger minigame
  - Firewalls
    - Temple Run/Subway Surfer style minigame
      - ➢ Firewall blacklisting punishment
  - Malware & Worms
    - Asteroids style minigame called “VM”

ARI - The Experience

- Some obstacles, but a success overall
  - Had some good concepts in the beginning but were difficult or awkward to implement
  - Deciding how topics were going to be implemented were challenging at first
  - One level and tutorial completed due to time constraints

Technology

- Unity and C# for Game Development
  - Unity Asset Store for some digital assets and art
- AWS for Datastore and Website Hosting
  - API Gateway, DynamoDB, S3
- GitHub for Code Storage
- Google Workspace for File Creation and Storage
- Discord for Communication

The Future

- Currently, ARI consists of one level with several mini-games.
- Design plans for two additional levels and their corresponding mini-games have been developed in detail.
- Provided resources and time, ARI would be developed further into a game with at least three levels in three tiers of difficulty - novice, proficient, and expert.

The Future

- Next year, we hope to enter the Mid Hudson Regional Business Competition, which would require the following:
  - Gathering a team
  - Perfecting our current gameplay
  - Further developing our business plan

The Future

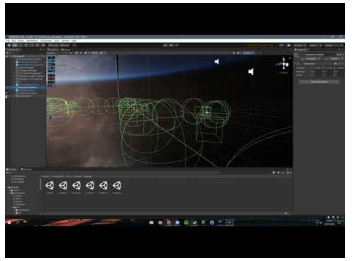
- We have a rough draft of our business plan executive summary, which outlines our product using the following subsections:
  - Overview - What ARI is
  - Problem - What current problem exists in the market
  - Solution - What ARI can do to fix this problem
  - Target Market - Who ARI is designed for
  - Business Model - An overview of what we've accomplished and what we'd like to do next.

Gameplay

- Core Game
  - Overworld - location of actual story. User navigates this space to explore and find the necessary clues to complete the minigames to reach the end of a level
  - Mini Games - terminals scattered around the world where user will be learn and perform cybersecurity tasks to progress through the level
  - Easter eggs and randomization are included to improve replayability

Gameplay

- Node Based Movement
  - Custom script created to facilitate this
    - Includes node creation, nearby nodes, moving camera and character
  - User is given limited but numerous locations to move to
  - Once in a node, the adjacent nodes become available for travel
    - Left mouse button allows for movement, right mouse button for freelook
  - Nodes can serve as triggers



Gameplay

- Dialogue Manager
  - Custom script created to allow this
    - Mix of user triggered and automatically ran dialogue
  - Certain nodes serve as triggers for story dialogue
    - When entering, popup occurs with text and related audio
  - Interacting with objects provides a prompt to begin other dialogue
    - Learning sheets are done through this process

Trailer

Demo

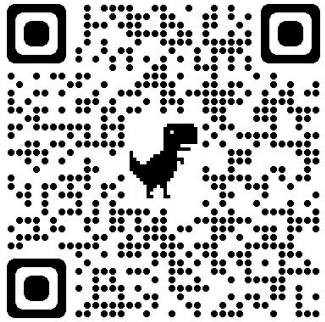
Gameplay

- For more information and to download, visit http://aricyberthink.com/

"We have to do a lot of cybersecurity training at work. This would be much more fun and enjoyable" - Open House Visitor #1

"I learned enough about passwords that it made me reconsider my current methods" - Beta Tester #15

"I thought it was real good for learning about cyber security!" - Beta Tester #8



THANK YOU!

ANY QUESTIONS, COMMENTS, OR CONCERNS?

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