Interactive Wheel of Fortune Game

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Overview

- Introduction
  - Client and Need for Project
  - Previous Work Done by Others
  - Current Patents

- Project Description
  - Objective
  - Methods

- Budget

- Conclusion
Adults at the ATCO sheltered workshop
- The adults have various disabilities, most common disabilities are cerebral palsy and mental retardation.
- These disabilities often limit the adult’s mobility and dexterity.

Project to also be used at the Passion Works Art Studio
Need for Project

- When the adults are not performing their jobs, they congregate in a central room where there are various activities.
- The staff at the workshop often need new ideas as to how to spend their time efficiently with the adults.
- It is requested that an interactive game be developed that will not be detrimental to the workers’ stimulation and sense of engagement.
- The game will be based on the television show “Wheel of Fortune” and will have a number of specific features to accommodate the various disabilities.
Previous Work Done by Others

- In 1997 students at Manhattan College developed “A Decorated Wheel-Mounted Wheel of Fortune for Nursing Home Residents”.
- AllinPlay have adapted an interactive Wheel of Fortune game on the computer so that blind children can play.
- The television game show “Wheel of Fortune” has certain shows in which all contestants must have some type of disability.
  - Rules are not changed for these contestants.
Current Patents

- 6,162,121- December 19, 2000- Value wheel game method and apparatus- Morro, et al
  - This patent describes a game in which the wheel is placed distantly from the game’s main frame due to the large diameter of the wheel.

  - This patent describes an electronic game apparatus for play of a poker card game using a wheel of fortune-like display. The wheel is used to display the random selection of cards.

- As seen in the patent results, there is no interactive wheel of fortune game for the disabled that has been patented
Objective

- The objective of this project is to design an Interactive Wheel of Fortune game in which adults at the ATCO sheltered workshop will be able to use.
- The disabilities of the adults make many of the functions of the game unique.
  - The game cannot require any reading; all questions and answers read by the staff.
  - Many different colors and lights will be integrated into the wheel to provide visual stimulation.
  - Auditory comments will be played when the player answers the question correctly.
  - Two different ways in which the player will spin the wheel.
  - The entire game will be lightweight so that portability is of ease.
  - No exposed wires to prevent tripping hazards.
Methods

- Overview of the many different parts that make up the Wheel of Fortune Game
  - The Wheel
    - Colors and Lights
  - Base of Game
  - Spinner
  - Two Different Methods of Spinning the Wheel
  - Audio Comments
  - Questions and Answers Book
Methods cont.

- **The Wheel**
  - Light-weight plastic material
    - Minimal friction
    - Easy to move around
  - Eight even sections with vibrant colors
  - 10 to 14 inches in diameter
  - ‘Lose a Turn”
    - Optional wheel attachment
      - In case the adults becoming upset and agitated
Methods cont.

- Base of the Game
  - Will be used as a support system
  - Made out of a durable, light-weight plastic material
  - Decorated with vibrant colors and large, bright words
Methods cont.

- Spinner
  - A digital converter (DC) motor unit is required to spin the wheel
    - 10 revolutions per minute
    - Voltage supplied by the push button or the sensor unit
Methods cont.

Methods of Spinning the Wheel

- Types
  - Button with a different texture, large
  - Motion sensor
Methods cont.

- Audio Comments
  - Meant to excite the players on a job well done
    - “Good Job!”
    - “You Got It!”
    - “applause”
  - Only the staff members will have access to these buttons on the box
Methods cont.

- Questions and Answers Book
  - The questions will be very elementary
    - Such as…”what color are red roses?”
  - Plastic sheets will enclose the questions
  - Extra sheets will also be provided so that questions can be added in later by the staff
# Budget

**$750 Project Limit**

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<tr>
<th>Material</th>
<th>Average Cost</th>
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<tr>
<td>Durable Plastic</td>
<td>$0.60 per pound</td>
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<tr>
<td>Sensor Unit</td>
<td>$35-$50</td>
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<tr>
<td>Motor Unit</td>
<td>$40</td>
</tr>
<tr>
<td>Speaker (10W)</td>
<td>$15-$20</td>
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<tr>
<td>Series Universal Indicator Light (8)</td>
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<td>Question and Answer Book</td>
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<td>Battery (2 packs of 9V)</td>
<td>$13.95 x 2 = $27.90</td>
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<td>Miscellaneous</td>
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Budget cont.

- Total Cost = $220.10 - $270.10
- Inexpensive
- No other products in market
Conclusion

- Meets the requirements of our client
  - Safe
  - Inexpensive
  - Durable and reliable

- Good Investment