

Farmer Noah*

A New Concept for Mobility therapy that combines recreation and physical and cognitive challenges. Most suitable for children with moderate to severe physical disability.

Presentation for: MD Dept. of Disabilities Assistive Technologies Program.

Presented by:

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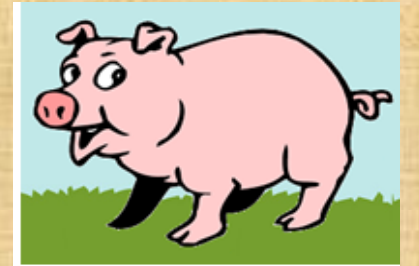
dxdt Engineering and Research, LLC

* and Bandmaster Stevie



Agenda

- What is Farmer Noah?
- Farmer Noah Screen Shots
- What Skills are we Working to Develop?
- Who Can Benefit from Farmer Noah?
- Farmer Noah Concept of Use
- What are the Potential Benefits of the Farmer Noah Approach?
- Where Does the Farmer Noah Concept fit in with Traditional Methods?
- Potential for Research Involving the Farmer Noah Concept
- Where are we now?
- Q&A
- Further Information on Farmer Noah.



What is Farmer Noah? (page 1 of 3)

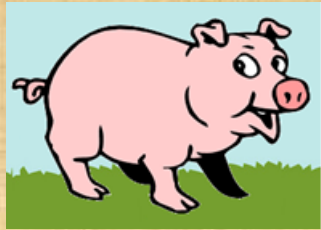
- Farmer Noah was developed as a system that implements principles of cognitive neuroscience to develop and enhance 3 skills that are critical to O&M skills for the blind.
- We recognize potential application of the system in support of the physically disabled community- Primarily youths.
- The Farmer Noah system is based on pairs of objects we call “animals”.



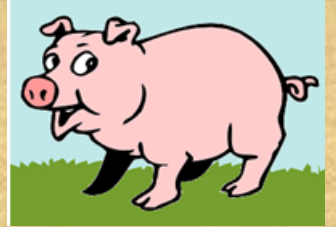
2 each, Cows, pigs, sheep. Turkeys.

These objects make the sound of their assigned animal and communicate their serial number to a controlling tablet computer when they are tapped.

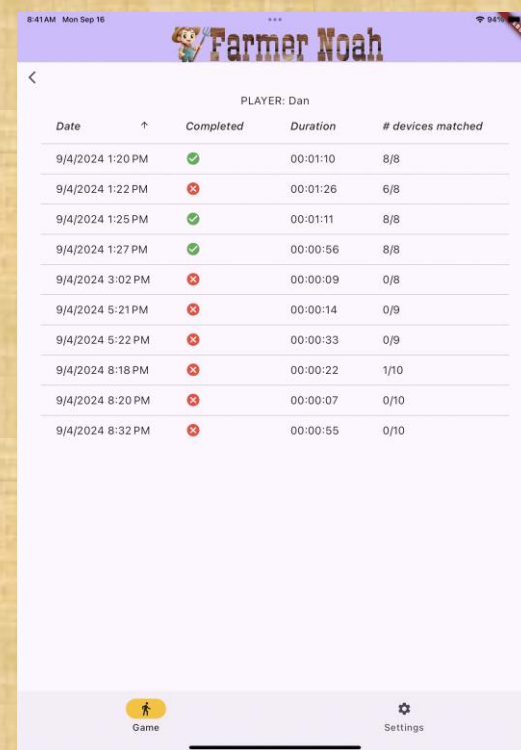
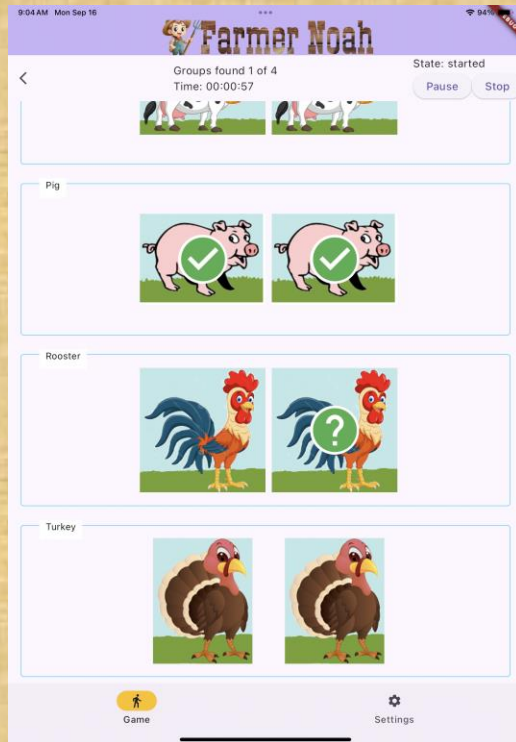
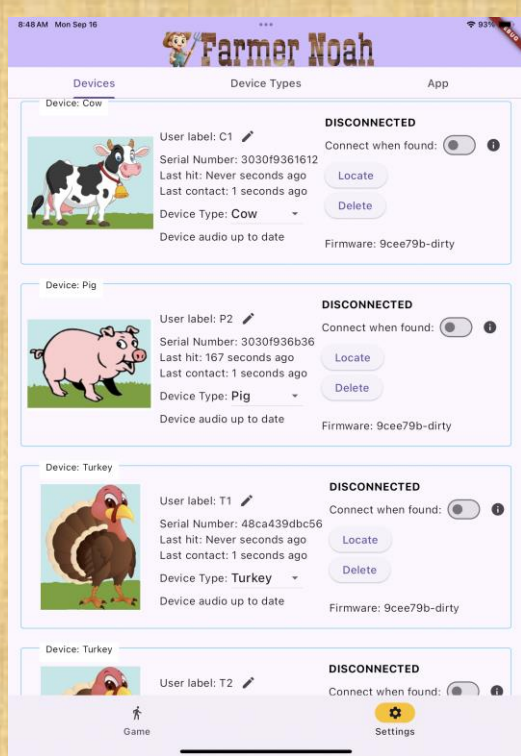
What is Farmer Noah? (page 2 of 3)



- The core Farmer Noah process is one of finding and matching pairs of objects, for example, farm animals.
- When arbitrarily distributed within an environment, the paths between the objects will constitute a de facto obstacle course- or perhaps more accurately a cross between the games of hide and seek and Concentration.
- The child is encouraged to find the pairs of animals. This will provide trainers the context with which to train mobility, OT and dexterity skills.
- The activity also engages cognitive skills as the child must remember where they last encountered each animal of a pair.
- The process is game-like and yet trains valuable skills and enhances confidence.
- It could be engaged by teams or individually.



Farmer Noah Screenshots



This is a screenshot of the system set-up screen. As devices are powered on they will show as being connected here on this screen. The system has a locator feature that will make the animals easy to collect after a session.

During play, animals that are found or are still at large are depicted here. In this case 2 pigs and one rooster have been found. If the next animal found is not the other rooster the question mark will vanish.

The system tracks a users performance over time. This data will indicate when the returns of using the system are starting to diminish- I.e., they are sufficiently trained in the key skill areas.

Farmer Noah Animal



The key component of the Farmer Noah animal is the “puck”. The puck is affixed to the animal bowl. It contains a microprocessor with a communication subsystem. It contains a tap detector, a speaker, status indicator and the on/off and charging subsystems.

The base of the Farmer Noah animal is a durable and lightweight, hollow bowl. The bowl shape allows multiple bowls to be nested for easy transportation and storage.

As an inverted bowl, the Farmer Noah animals can conceal a small prize to add to the joy of the trainees.

What Skills are we Working to Develop?

1. Physically handicapped children can often experience intimidation, fear or embarrassment when moving about their environment. It can be difficult for them to get past those negative feelings when they are otherwise being coached on how to improve their mobility and to best use their assistive devices. Farmer Noah can help them get past those feelings and better focus on training skills- and to associate training in mobility with something fun and positive.
2. Farmer Noah would improve mobility skills by facilitating practice. Developed skills would include mobility, the manipulation of doors, the moving of objects and navigation of stairs or use of grasping devices.
3. Farmer Noah would directly improve cognitive skills through the process for finding and re-finding and matching animals.
4. Coordination skills would be improved directly.



Improve key skills.

Improve Safety and Confidence in Mobility.

Enhance independence.

These skills would be transferrable to any environment.



Who Can Benefit from Farmer Noah?

- Children with physical disabilities: Children with physical disabilities can be expected to respond most positively to the Farmer Noah concept. The therapeutic activity can even be engaged in as a group or in a team concept. Non handicapped children could also play.
- Cognitively impaired and mentally handicapped children could potentially benefit from the activity as the patience, memory and skills of reasoning and focus are exercised.
- Children without disabilities: The game format can be enjoyed by any child.
- Handicapped Adults: We have developed an adult version of Farmer Noah that could be useful in support of adults with physical disabilities. We call the system ***Bandmaster Stevie***.
- ***Of course Farmer Noah was originally designed for the blind- a whole different therapy concept exists for that population. If you have an interest in learning about how Farmer Noah applies to the blind, please contact us.***

Farmer Noah Concept of Use

- **Private Mobility Instructors and OT Therapists:** Farmer Noah or Bandmaster Stevie can enhance the private instructors service selection, enhance client retention and help prepare students for follow-on training methods.
- **Institutional Mobility and OT Instructors:** Farmer Noah can be integrated into institutional mobility programs to enhance student skills and confidence as part of a comprehensive mobility and OT program.
- **Schools that Serve the Physically Disabled:** Public and private schools are often ill-equipped to engaged their physically handicapped students in activities that are fun, relevant and constructive for them.
- **Camps for Physically Disabled Children:** The Farmer Noah process is fun for children and would be an enjoyable and rewarding activity at camps for the blind and deaf blind.
- **Hospitals and clinics serving the Physically Disabled:** Hospitals and clinics treating the physically disabled can integrate Farmer Noah into their rehabilitation program.

What are the Potential Benefits of the Farmer Noah Approach?

- Gamifying training will reduce stress on behalf of trainees and encourage adherence to training regimen and appeal to children.
- Use in controlled spaces allows key skills to be enhanced while training in relative safety.
- The Farmer Noah system returns quantitative metrics in the form of the time required to complete the matching task.
- The Farmer Noah system can be engaged by the physically, mentally disabled and any child.
- The Farmer Noah system provides a context for training mobility skills; cognitive skills, reasoning and focus.
- Farmer Noah training is based on principles of cognitive neuroscience- that will stimulate the brain much like a puzzle- and building an enduring foundation for improved mobility, memory, reasoning and other skills that can be expected to improve the overall confidence and independence of the trainee.

Potential for Research Involving the Farmer Noah Concept (1)

- The Farmer Noah team recognizes the value of research and is very interested in supporting research efforts to the extent it can. The Farmer Noah concept is new and is a fertile area for research. Some research questions are listed below:

- 1.) Is use of the Farmer Noah system associated with better performance in traditional mobility training performance?

- 2.) Do children find the Farmer Noah process enjoyable?

- 3.) What number of Farmer Noah exercises appear to optimal – after which the rate of improvement slows?

- 4.) Is use of the Farmer Noah system associated with improved mobility or OT program retention?

- 5.) Is the Farmer Noah activity suitable as a recreational activity for the children with disabilities?

Potential for Research Involving the Farmer Noah Concept (2)

6.) What are the descriptive statistics associated with the length of time needed to complete the Farmer Noah process (by subject demographic)?

7.) How can the Farmer Noah system be applied to other novel games and approaches in order to benefit or engage blind/deaf-blind/ sighted students and individuals?

Q&A

- How much per system?
 - Systems include: imulti-charger, charging cables, Farmer Noah animals, carrying concept and documentation.
 - 2 animal system: \$1050.00
 - 4 animal system: \$1830.00
 - 6 animal system: \$2590.00
 - 8 animal system: \$3300.00

Further Information Available Here:

Visit www.FarmerNoah.com for:

- System description
- [Farmer Noah Introductory video](#)
- Current product brochure
- [Quick video of Mr. Juan Avila's interview with Christopher Hekimian at NFB 23.](#)
- [Chris Hekimian being interviewed by Jonathan Mosen of the the "Living Blindfully" podcast.](#) Interview starts at time mark 1:08:03. Transcript of the entire podcast is [here](#).
- [Non-visual cues demo video](#)

Thank you!

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