Sonokids Ballyland®educational technology - new developments
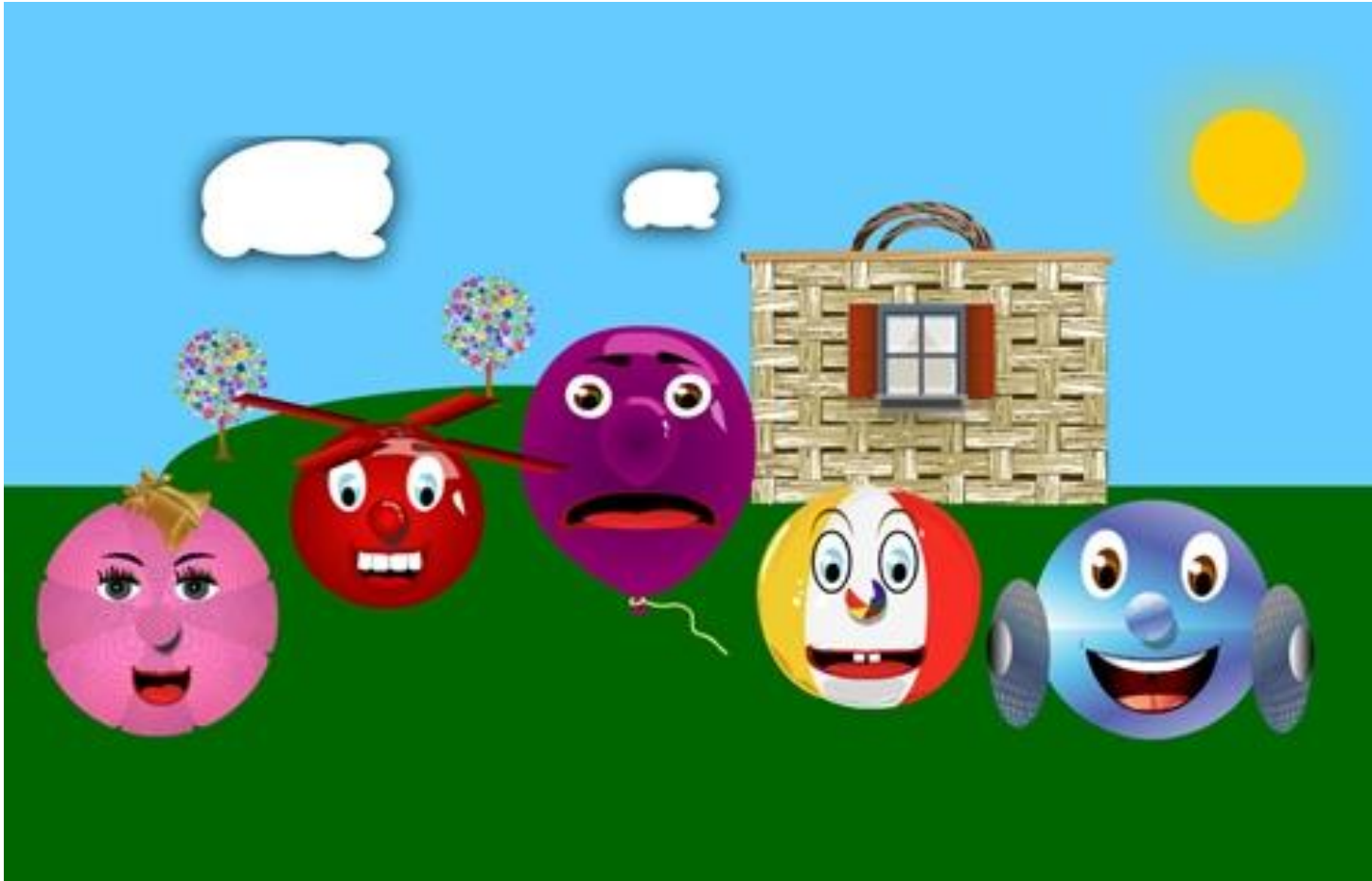# Phia Damsma

Created by

Sonokids

- Not-for-profit
- Development of fun, educational computer technology programs,
- For young children with disability, in particular those with vision impairment,
- Enabling them to acquire information technology skills together with their peers
- Gold Coast, Queensland

Early Access to Technology

- In general, children have access to technology from a very young age (picture showing baby interacting with iPad fixed on a pram)

- For children who are blind or have low vision, having proper technology and keyboarding skills (for use with Assistive Technology) is essential

- Early introduction is important

- But: they do not have many opportunities for incidental, playful learning

Welcome to Ballyland

Screenshot showing the five Ballylanders and their basket in a sunny Ballyland

What is Ballyland

- 'World' with sounds, images, music, stories, songs and games
- No visual clues for gameplay: audio based, but still visually attractive – fun images and animations
- Storylines close to home, meaningful sounds and situations and association with real life play objects (balls)
- No wrong or right, no set pathway, no time limit, supportive feedback
- Inclusive play
- A Head Start to Digital Literacy

Explorative and educational play

- **Any Key Goes** actively encourages a child to engage with the keyboard. Cause – Effect
- **Key-games** narrow down on the use of one particular key. Based on navigation in a formal computer environment.

Easy transition between both types of play

Any Key Goes

- All keys only produce a sound, story or song

- Safe, nothing else will happen

- Keys are organised around functionality, represented by categories of sounds

- For example: F1-F12 are musical instruments, and the number keys are stories

Ballylanders

- Five important keys have been prioritised for early introduction. They have been given the sounds of the five Ballylanders:
- Ballicopter = Space bar
- Babballoony = Esacpe key
- Tinkleball = Enter key
- Wheelie = right arrow key
- Squeaky = left arrow key
- In locating the Ballylanders, the child has already learned five essential keys

Key Games

- Game using one key only, with all other keys disabled
- Use the keys that have the Ballylanders' signatures sounds
- Keys are used in a game, based on the function and way they would be used in a formal computer navigation setting
- Learning through play

Accessibility Features

- Self-voicing, Real voices
- Supportive spoken feedback
- Spoken descriptions
- Audio based gameplay
- Zoom
- Adjustable colours and contrast
- Adjustable response time
- No literacy skills required
- Control panel accessible for users who are blind
- Single switch accessible Key Games

Examples of use of Ballyland

- A video was shown of a young boy who is blind carefully 'mapping' the keyboard one key at a time
- Ballyland is used to teach ESL to students who are blind at the Dept of ELT Typhlomethodology, John Paul II Catholic University of Lublin, Poland
- For speech therapy, learning about volume, with children with intellectual and learning disabilities as well as vision impairment

Tie in with tangible experiences

Ballyland is designed to fit in with children's familiar environment and experiences. Possible activities are:

- Build a tower with blocks
- Play with kitchen utensils
- Play with real balls
- Read a braille book about themes of Ballyland

Learning outcomes

- Free exploration, play + interaction with computer
- Foundation keyboarding and 'mapping'
- Cause & Effect
- Listening skills and sound interpretation
- Early literacy and numeracy skills
- Speech development
- Memory
- Understanding the world
- Social Interaction and Inclusion
- Empowerment

AMP Future Fund

In 2014 Phia Damsma was awarded an AMP Future Fund grant for the design and development of:

- Ballyland eBook
- Ballyland App

Logo AMP

Interactive, accessible, audio eBook

Screenshot of Cover of the eBook, showing Squeaky and his mother

Interactive, accessible audio eBook

- Very funny story
- Carried by sounds and narration and song
- Complemented with bright visuals
- Hidden messages, such as keeping safe, listen to the adults, be good, clean up after your mess!
- No vision needed!
- Available from the Apple iBooks Store

Accessibility Features

- Real voices, no Voice-Over or TalkBack.
- Narration starts automatically
- Easy navigation, Safe Gesture support
- Audio story, but Inclusive Design
- Images: clear lines, bright colours, no background clutter. iPad Zoom
- Squeaky and his mum clearly distinguishable
- No literacy skills required
- No time limit for reaction

Inclusion and Socialisation

The Inclusive Design ensures that Squeaky's accessible, interactive audio eBook is great for children who are blind or have low vision to play with together with their sighted siblings, friends and classmates: all children enjoy interacting with the story of Squeaky.
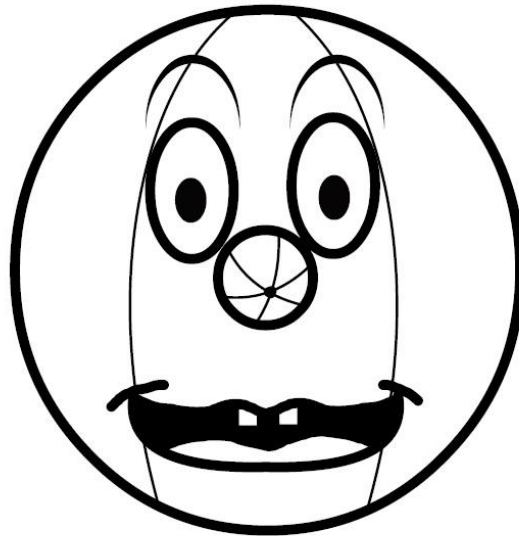
Learning outcomes

- Introduction to iPad, one gesture at a time
- Introduction to Android tablet
- Cause and Effect
- Memory
- Social and personal skills
- Anticipation- recurrent line, child to deliver
- Listening ("Now" makes the child slow down and listen)
- Development of independence
- Empowerment

Tie in with tangible experiences

- Sensory story (have some real props to recreate Squeaky's messy face)

- Make ice cream

- Drama (students could act up as part of safety awareness activities)

- Feed the ducks, splash in the bath...

Squeaky tactile colouring page

To print a tactile (raised line) or regular colouring page of Squeaky, a free file can be downloaded from www.ballyland.com

Squeaky's smiling face

Expanding Ballyland

- Ballyland software for Windows and Mac
- Ballyland eBook "Stay Still, Squeaky" for iPad and Android tablet
- Squeaky colouring picture (raised lines)
- Ballyland Songs (YouTube)
- Ballyland Letters (future development)
- 3D printing (future development)
- Ballyland App (under development)

Feedback, observations, ideas, support

Information, and to get all Ballyland programs:

- www.ballyland.com

- support@ballyland.com
- phia@sonokids.com
- www.sonokids.org

facebook.com/ballyland

Please like Us on Facebook