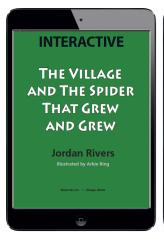# Interactive "Digital Book"

This is a placeholder name for the app.

Product Design Document

This document is a description of the design for an Interactive Digital Book*. It highlights the app's functionality, components, and construction. This document is intended to be used by production team members, business development team members, marketing team members, investor partners, and product sponsors.

Product Purpose:

To improve a child's reading skills. The digital book is an app on a phone or tablet. The child interacts with the digital book by reading aloud. Success is rewarding by animations of the story and other incentives. When needed, helpful instructions are given by the app, to help the child learn and succeed.

Project Plan:

Produce and develop a series of interactive Digital Book apps. These apps will be deployed on mobile devices. The Digital Book will be electronic version of a previously published traditional children's book. The app will promote the traditional publication.

The Digital Book App will also come with a "Report Card Companion App" that parents and/or teachers can download onto their mobile phones . They can use it to view the progress of the child's reading skills, progress statics, level and game achievements, prizes, and offers.

The app will also be used to promote partnering organizations and businesses. The app will generate revenue through in the following ways.

Revenue Model:

The App can generate revenue through the following different ways. A full business plan should predict the revenue that can be generated incorporating following sources.

1. App purchases
   - The app price could be $0.99, $1.99, $2.99
2. Freemium model
   - Freemium is a pricing strategy by which a product or service (typically a digital offering or a application such as software, media, games or web services) is provided free of charge, but money (premium) is charged for additional features, services, or virtual goods.
   - In-App Sales restricted to parents only
3. Corporate Sponsorships of App
   - Advertising in which companies pay to be associated with our product.
   - Can earn $0.50 or more per download.
   - https://techcrunch.com/2017/05/31/pokemon-go-sponsorship-price
4. Co-branding
   - Strategic alliance with other brands to create customer loyalty and merchandize additional revenue.
   - Organization would pay for development cost App
   - Organization would pay a per download royalty fee.
5. Celebrity Narrator Voice-over
   - Typical Celebrity has at least 5,000,000 social media followers.
   - Market to social media followers with a 7% conversion rate = 350,000 sales.
   - A-list and B-list Celebrities
   - YouTube Stars.
   - Revenue share with Celebrity
6. Online Affiliate Sales
   - Affiliate marketing involves sending traffic to an online retailer site to buy their products or services. For every sale initiated by the digital book , revenue is generated from a percentage--an affiliate sales commission
   - We earn a percentage of a suggested item sold on Amazon, Walmart, Target, etc .
7. Coupon Offer publishing
   - Daily Deals
   - Coupon Referral & Aggregation
   - Online Clipping Services
   - Ongoing Deals
   - Coupons from Target, Walmart, Groupon, etc.
8. Gift certificates.
   - Give a Digital books app to a young family member..

Product Design:

The child reads the book aloud. The app hears and checks word pronunciation. The app also records the audio of the child's reading. The child repeats this, mastering the material. Proper reading is rewarded by animations throughout the book app.

Reading Assistance:

- Word pronunciation assistance will be available for each word in the book. When the child does not know how to pronounce a word, the word can be pressed and held to hear an audio recording in the author's voice. Then the app will prompt the child to repeat the word. If the child repeats it correctly, a reward of an animation with sound effects will play.

- Word definition assistance will be given on demand. By swiping down on any particular word, an audio definition will be read to the child in the author's voice. The child will be asked if he or she understands. If, yes the child can continue on reading. If not, a different definition will be given, with an example of how the word can be used in another context.

Report Card of the Child's Progress:

- A "Report Card Companion App" for parents and teachers will be available. It will analyze the data collected from the child's readings and create reports, allowing the monitoring of progress. The audio of the child's readings can be replayed.

- It will measure progress, including pronunciation confidence, reading uniformity, reading speed, reading latency, etc.

- Notifications will be sent to parents from the main app, and will appear in the Companion App or can be sent as texts or emails. These can include:
    Learning progress and achievement reports.
    Prizes and Special Offers.

Audio Sharing:

- Family, friends and teachers can listen to and keep the voice recordings. Multiple recordings can be compared to see the progress of the child. The voice recording can be reviewed with or without synchronized animation and sound effects.

- Audio recordings can be exported and saved as MP3 files by the parents as keepsakes.

Gamification:

- The reward animations give the book a video game-like appeal to the young reader.
- The app makes reading fun by incorporating popular digital-gaming technologies and engagement techniques into the reading process.

- Each child can compete with their friends for fun as they all reach new levels.

- The Digital Book will become dynamic, after the child finishes reading certain sentences or paragraphs.

- New character and prop animations, sounds, and special effects will play with each additional reading of the book.

- Levels

    Promote multiple readings of the same book.

    At the end of smoothly reading aloud a page or section, the characters and props will animate as a reward.

    Each reading of the book is equivalent to completing a game level and advancing to the next. Points are awarded for each new level reached. Each time the child completes reading the book aloud, they will advance to another level. If they do this 5 times then they can be awarded a reading diploma for that book. It is printable and suitable for hanging.

    When the child finishes a level, the app can playback the whole reading of the book in the child's own voice, and at the same time the book will come alive by adding a multitude of synchronized animations and sound effects. Then the child can save the playback file and move onto the next level. As the child's completes the each level, more animation will appear in the following reading as a reward. This will promote the child to read the book over and over again. The better his reading score, the more animation and interactivity will be unlocked.

    After each level of completion a Mini-Quiz Game will pop up. The child will be prompted to answer one randomly chosen multiple choice question. Extra points can be awarded if the child gets it correct and characters will animate with sound and special effects.

Examples of questions:

Word Definitions: A word will be displayed along with 4 possible definitions. The child will select which definition they think is right. If correctly answered, one of characters will animate with sound.

Spelling Bee: The audio of a word from the book will be played and a keyboard will pop onto the screen allowing the child to type in the word.

Word Pronunciation: A word pops onto the screen and the child must read it aloud correctly.

Final level
 The last level will be highly interactive with an abundance of animation, sound, and special effects. It will also allow the child to customize some of the animations.
 Sponsored prizes will be awarded.

Scoring: Point are accumulated at several landmarks and in several ways.
 When starting first game
 At level completion
 Completion of mini-games
 Reading long passages of text smoothly
 Pronunciation confidence scoring
 Speed of reading scoring
 Completing the final level

Leaderboards
 Children can compete
 Children can share
 Children can post their scores to shared and private leaderboards.

Prizes
 Coupons
 Event Tickets
 Digital downloads
 Digital movie streaming
 Gift Cards, etc.

Technology Specification Summary:

Google Speech Recognition Technology
- Automatic Speech Recognition (ASR) powered by deep learning neural networking to power your applications like voice search or speech transcription
- Recognizes 120 languages and variants with an extensive vocabulary
- Handles noisy audio from many environments without requiring additional noise cancellation

App-based voice recording technology for playback review.

Peer-to-Peer Direct Networking for Android and iPhone
- Securely share audio without having to upload it to the web

Adobe Air
- App Engine
- ISO and Android native plugins

Adobe Animate
- 2D character and prop animation engine
- 3D camera space animation engine

Adobe After Effects
- Visual special effects

Adobe PhotoShop & Illustrator
- Character and prop creation

Sound Editing Software
- For voice-over, Mini-Games and app UI voice responses and instruction.

Google Play Store
- In-App Services API

Apple App store
- In-App Services API

Product Creation Process Workflow

Production schedule length:

The production cycle for the first version of the Interactive Digital Book app will take longer than subsequent versions because the software infrastructure, development workflow processes, and the team building will only have to be completed the first time. Below are outlines for both schedules.

- First Interactive Digital Book: Nine Month Production Cycle.
  Some timeline overlapping of phases will occur.
    - Research and Demo Testing
      - 60 days
    - Pre-production
      - 30 days
    - Production
      - 2 days
    - Post-Production
      - 60 days
    - Development
      - 60 days
    - Testing
      - 30 days
    - Deployment monitoring and adjustments
      - 15 days

- Subsequent Interactive Digital Books: Three Month Production Cycle.
  Some time-line overlapping of phases will occur.
    - Pre-production
      - 15 days
    - Production
      - 2 days
    - Post-Production
      - 45 days
    - Development
      - 45 days
    - Testing
      - 7 days
    - Deployment

Below is an outline of the stages required to create any version of the Digital Book app. Also listed are the personnel required for building the apps.

Research Process:
- Consult an education expert as to the proper implementation of learning principles in an app.
- Run focus group testing to determine the best way to use technology to implement the principles of reading science.

Pre-Production process:
- Book authoring or selection
- Animation concept design
- Interactive and gamification concept design
- Sound effects concept design
- User Interface design
- Technology design
- Reward idenfiication and partner selection (business sponsors and suppliers)
- Integrated storyboard development
- Team members / tasks:
  - Producer / Project Management
  - Educational consultant
  - Creative Director
  - Copy Editor
  - Product Plan Document
  - Design Document
  - UI/UX Design

Production process:
- Voice-over recording
- Team members / tasks:
  - Producer / Project Management
  - Facility Rental
  - Misc equipment and services
  - Craft services
  - Sound
  - Photographer
  - Director
  - Technical Director
  - Production Coordinator
  - Script Supervisor

Post-production process:
- Audio editing
- Graphic assets creation
- Copy assets creation
- Animation and FX assets creation
- Team members / tasks:
    - Producer / Project Management
    - Animation development
    - Visual effects development
    - Sound effects development
    - Sound editing
    - Copy editing
    - Graphic creation/editing
    - Photo image tech

Development Process:
- Animation programming
- User interface programming
- Functional programming
- Media Assets integration
- API programming
- System Programing
- Deployment programming
- Debugging
- Team members / tasks:
    - Producer / Project Management
    - Technical Director
    - Tech assistant
    - Google Cloud setup
    - Leaderboard application programming
    - Splash page and advertising programming
    - Animation control module programming
    - Game-play store programming
    - Custom Android programming
    - Custom IPhone programing
    - Android code setup, configuration, packaging, and publishing
    - IPhone code setup, configuration, packaging, and publishing

Testing:
- Technology testing
- Focus groups testing
- Team members / tasks:
    - Producer / Project Management
    - QA Tester 1
    - QA Tester 2

Deployment:
- Apple Store
- Google Play Store
- Amazon Store
- Team members / tasks:
    - Producer / Project Management
    - Apple store setup - Initial
    - Android store setup - Initial
    - Amazon store setup - Initial
    - Apple store maintenance
    - Android store maintenance
    - Amazon store maintenance

This is a summary of cost centers.
Details shown on "*App-Budget-spreadsheet.pdf*"

Pre-production:	$7,300.00
Production:	$2,800.00
Post Production:	$9,040.00
Development:	$12,625.00
Testing & Focus Groups:	$5,400.00
Marketing:	$7,600.00
Business Development:	$7,800.00
Legal and Company Fees:	$2,000.00

TOTAL: $56,565.00

NEXT STEPS:

1. **Develop a working demo of the Digital Book App that will demonstrate a small subset of the features that will be contained in the final version.**

2. **Develop detailed revenue projections using all of the possible revenue sources listed in this document.**