



Dragon Tale – A Serious Game for Learning Japanese Kanji

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Learning Chinese characters is very difficult for foreigners who have never been exposed to them.

So many Chinese characters: approximately 70000. The current list of commonly used Chinese characters was announced on November 30, 2010 (Heisei 22), as Cabinet Notification No. 2 of Heisei 22, and contains 2,136 characters.

Complex shape: Not only need to remember the shape of the Chinese characters, also need to remember the stroke order and meaning.



Figure 1: Dragon Tale, a mystical adventure to learn Japanese kanji

To counter the difficult task of studying kanji when learning the Japanese language, they suggest an adventure style **Serious Game**.

various mini games to train all aspects of kanji: stroke order, meaning, pronunciations and compound words.

Classic approaches

Title	3D world	Story	Turn-based	AR	Myths
Slime Forest Adventure		X	X		
Kanji Corporation		X			
Learn Japanese to Survive!		X	X		
Slashcards: Learn Japanese	X				
Hanjamaru		X			
Kawaii Nihongo		X			X
Kanji no Owari	X	X	(X)		X
Koe (声)	X	X	X		(X)
MondlyAR	X			X	
Dragon Tale	X	X	X	X	X

Table 1: Various competitors in comparison to Dragon Tale

Gamification: Duolingo, easyJapanese.org, KOE et.



Serious Games: achieve a continuous **sense of flow**.

Goal of this game

1. Learn at least 2.000 kanji
2. Learning stroke orders for a balanced handwriting
3. Remembering different meanings as their pronunciations
4. Combining kanji to words, so called compounds (jukugo)



Figure 1: Dragon Tale, a mystical adventure to learn Japanese kanji

Dragon Tale is a RolePlaying Games (RPG) with a focus on exploring and playful interactions. The result is a unique story-driven adventure game with tactical turn-based encounters. Device of choice are tablets because of their intuitive large touchscreens to draw kanji and the possibility to use gestures

Drawing Game – What is the correct stroke order?



Drawing correctly = win

Figure 2: Drawing Game

Quiz Game – What does the kanji mean?



Select correctly = point

Figure 4: Quiz Game

AR Puzzle Game – How to build advanced words in Japanese?



Figure 5: AR Puzzle Game, on the left wrong combination (Book + Sun) and on the right correct pairing (Sun + Book = Japan)

find the correct compound word (jukugo)
= beat the boss

Reading Game – What different pronunciations does the kanji have?



Figure 6: Reading Game

Right pronunciations = attack

Different levels

Level 1 – Finding the initial kanji

Yuni discovers a dragon egg, which hatches into Ryū. She learns the ancient language to communicate with the dragon and saves her village from a fire using magical kanji.



Figure 7: The full storyline consisting out of 5 levels in three open environments. Throughout the journey new challenges, characters and mini games allow for a diverse experience to keep up the *flow* and encourage the learning process.

Source: Map designed by Kaohua Liu with Inkarnate map editor

Level 2 – First turn-based kanji challenge

Yuni and Ryū meet a jealous man in the forest who tries to steal Ryū. After he turns hostile, Yuni defends herself using kanji spells and defeats him.



Figure 3: Enemy encounter

Level 3 + 4 – Knowledge and friendship

Yuni and Ryū meet a witch, Awasōbaba, and learn new kanji. They uncover the mystery of the dragons' disappearance and find a hidden island by using the kanji for "friend."



Figure 7: The full storyline consisting out of 5 levels in three open environments. Throughout the journey new challenges, characters and mini games allow for a diverse experience to keep up the *flow* and encourage the learning process.

Source: Map designed by Kaohua Liu with Inkarnate map editor

Level 5 – The true essence behind words

In a cave, Yuni solves puzzles and learns the true power of names. She and Ryū defeat enemies and help the dragons return to the world.



Figure 6: Reading Game

Dragon Tale shows great potential. The current focus is on writing (Drawing Game), meaning (Quiz Game, AR Puzzle Game) and reading (Reading Game) of kanji.

In the future

1. adding content for studying hiragana and basic grammar
2. mini games with the collected feedback.
3. Improve the combat system, speed and precision when drawing strokes will correlate with the attack strength of a spell.
4. Physical training cards with markerless AR by detecting written kanji could be a way to improve handwriting



Thank You

