

Kanji Dictionaries for the iOS Platform

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漢字辞典、スマートフォン、iOS、日本語教育

1. Introduction

The Kodansha Kanji Learner's Dictionary (KALD) is a popular kanji dictionary that has become a standard reference work in Japanese language education. Its primary aim is to provide an in-depth understanding of how kanji are used in contemporary Japanese. This is achieved by presenting abundant information on the forms, meanings, readings and functions of the most frequently used characters and compounds in a user-friendly design that promotes understanding and stimulates a desire to learn. iKALD is a dictionary application based on KALD that is designed specifically for the iOS (iPhone/iPad) platform. It exploits the unique features of that platform and includes a wide range of features such as dynamic stroke order diagrams, a friendly user interface, multiple search modes, collapsible compounds display, and other features not possible with print dictionaries. In this panel discussion, the author of KALD will use an iPad to illustrate how iKALD can help users learn kanji more effectively.

2. The iOS Platform

The iOS platform enables developers to create dictionary applications of superb design and advanced search features. It offers technological innovations that enhance the value of the dictionary as a learning tool, including text-to-speech technology, OCR and handwriting recognition, automatic speech recognition, and more. For example, such features as the scroll wheel interface enable users to quickly zoom in on dictionary entries, multilayered data display using toggle buttons can show or hide information such as example sentences, while multiple search modes (such as reverse indexes, fuzzy search and kanji lookup by on-kun/radicals/handwriting) can greatly enhance the search experience. The iOS platform also makes it easy to localize and customize applications to specific user needs.

留

▶KEEP
▶STAY

リュウ ル と(める) -と(める) -ど(め)
と(まる) とど(まる)*

田	Jōyō-5	S10-5-5	H1527
102	F0768	㊦3229	U7559

2-5-5

1 2 3 4 5 6 7 8 9 10

3. Character Meanings

iKALD presents character meanings in a manner that helps the learner understand them in-depth. English equivalents are grouped in a manner that shows how the single senses are related to each other through the **core meaning**. This is a concise keyword that provides a clear grasp of the most





- COMPOUNDS
- ① cause to remain in a given place or condition:
 - ㊦ [original meaning] **KEEP in place, keep from moving, keep in position**
 - ㊢ **KEEP in custody, detain**
 - ㊣ **KEEP for future use, leave behind**
 - a 係留する けいりゅうする moor, anchor
 - b 留置 りゅうち detention, custody, retention
 - c 留保する りゅうほする reserve, withhold, keep back
 - 保留 ほりゅう reservation
 - ② ㊦ (remain in a given condition) **STAY, remain, continue**
 - ㊢ (remain in a given place) **STAY, sojourn, reside**
 - a 留任する りゅうにんする remain [stay] in office
 - 残留する ざんりゅうする stay behind
 - b 留学生 りゅうがくせい student studying abroad

fundamental concept that links the principal senses of each character. The core meaning is a powerful learning aid because it integrates the various senses into a single, concise conceptual unit, acting as the central pivot that interrelates the principal senses to each other. For example, by grasping that the central concept represented by 留 is KEEP, the learner can see how such seemingly unrelated senses as ‘detain’, and ‘leave behind’ are derived from the same basic concept.

To promote a deeper understanding of character meaning, senses are presented in a manner that shows their interrelatedness. This is achieved by logical ordering of senses, the use of sense division numbers, disambiguation glosses, and the use of capitalized core words and indentation to establish a hierarchy between the senses. Moreover, numerous compound words (only a few are shown here), are grouped under the senses which they illustrate, enabling users to infer the meanings of compounds not listed in the dictionary.

4. Innovative Lookup System

The lack of an efficient system for ordering Chinese characters has long been a source of frustration to dictionary users. To this end, the author of KALD invented the **System of Kanji Indexing by Patterns** (SKIP), which enables users to locate characters quickly and accurately. IKALD provides a scroll wheel interface to SKIP that is extremely easy to use. Characters are classified under four geometrical patterns: 1 left-right, 2 up-down, 3 enclosure, and 4 solid, and further subdivided by stroke-count.

No.	Pattern	Examples
1	 LEFT-RIGHT	相 ₄₋₅ 代 ₂₋₃ 情 ₃₋₈ 街 ₃₋₉ 町 ₅₋₂ 翻 ₁₂₋₆ 髓 ₁₀₋₉ 伺 ₂₋₅
2	 UP-DOWN	示 ₁₋₄ 二 ₁₋₁ 三 ₁₋₂ 言 ₁₋₆ 系 ₁₋₆ 雀 ₄₋₇ 券 ₆₋₂ 春 ₅₋₄ 寺 ₃₋₃ 空 ₃₋₅ 文 ₂₋₂ 亭 ₂₋₇ 堯 ₂₋₆ 当 ₃₋₃ 南 ₂₋₇ 支 ₂₋₂
3	 ENCLOSURE	進 ₃₋₈ 辻 ₄₋₂ 刀 ₁₋₁ 司 ₁₋₄ 石 ₂₋₃ 考 ₄₋₂ 医 ₂₋₅ 臣 ₃₋₄ 旬 ₂₋₄ 載 ₆₋₇ 尾 ₃₋₄ 病 ₅₋₅ 肉 ₄₋₂ 凶 ₂₋₂ 回 ₃₋₃ 国 ₃₋₅
4	 SOLID	下 ₃₋₁ 耳 ₆₋₁ 雨 ₈₋₁ 子 ₃₋₁ 由 ₅₋₂ 自 ₆₋₂ 坐 ₇₋₂ 重 ₉₋₂ 中 ₄₋₃ 十 ₂₋₃ 手 ₄₋₃ 本 ₅₋₃ 由 ₅₋₂ 自 ₆₋₂ 坐 ₇₋₂ 重 ₉₋₂

For example, 汁 is classified under pattern 1. Since it contains three strokes in the shaded part (氵) and two strokes in the blank part (十), it appears under the SKIP number 1-3-2. Since SKIP is a reliable system that can be learned in a short time, it has gained popularity in many kanji dictionary applications.

5. Future Work

The CJK Dictionary Institute, which specializes in the compilation of large-scale CJK dictionary databases, is dedicated to meeting the specific needs of learners of Japanese through the development of dictionary and pedagogical applications, many of which have been released for the iOS platform. It is hoped that scholars and educators around the world will continue to contribute to this effort through advice direct collaboration.

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