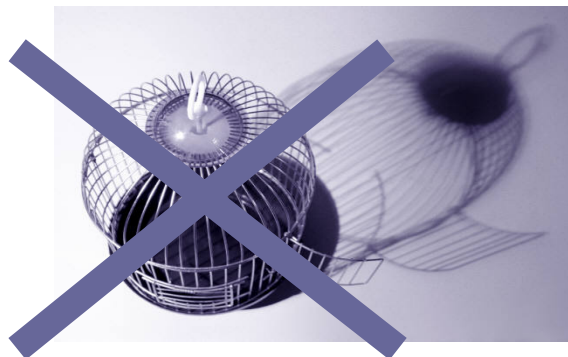


# KAGE - An Automatic Glyph Generating Engine For Large Character Code Set

Koichi KAMICHI  
KEIO University  
kamichi@fonts.jp  
<http://fonts.jp/>

# What's KAGE ?

- Not a cage.



# KAGE [kʌge]

- Kanji-glyph (font)
- Automatic
- Generating
- Engine
  
- 影 : shadow, Ninja, background





# Glyph automatic generation

- parametric generation
  - values of size, position are given.
  - use for closed character set
    - with memory saving
- full / semi automatic generation
  - size, position are calculated on the fly
  - for open character set



# Features of KAGE system

- using HTTP protocol
- using Kanji components
- using Wiki for management



# HTTP protocol

- Server and Client system
  - User access to KAGE server by a network.
- IDS for input
  - User puts request to KAGE server by describing Kanji by IDS.
  - can use CHISE strings
- PNG, SVG, EPS for output
  - KAGE server makes glyphs on demand.



# KAGE/cgi

- Current version of KAGE system doesn't have any server implementation.
- work with a web server (=Apache)
  - easy to install
- one of a service realized by cgi
  - implemented by (GNU) C
  - glib, libpng, BDB

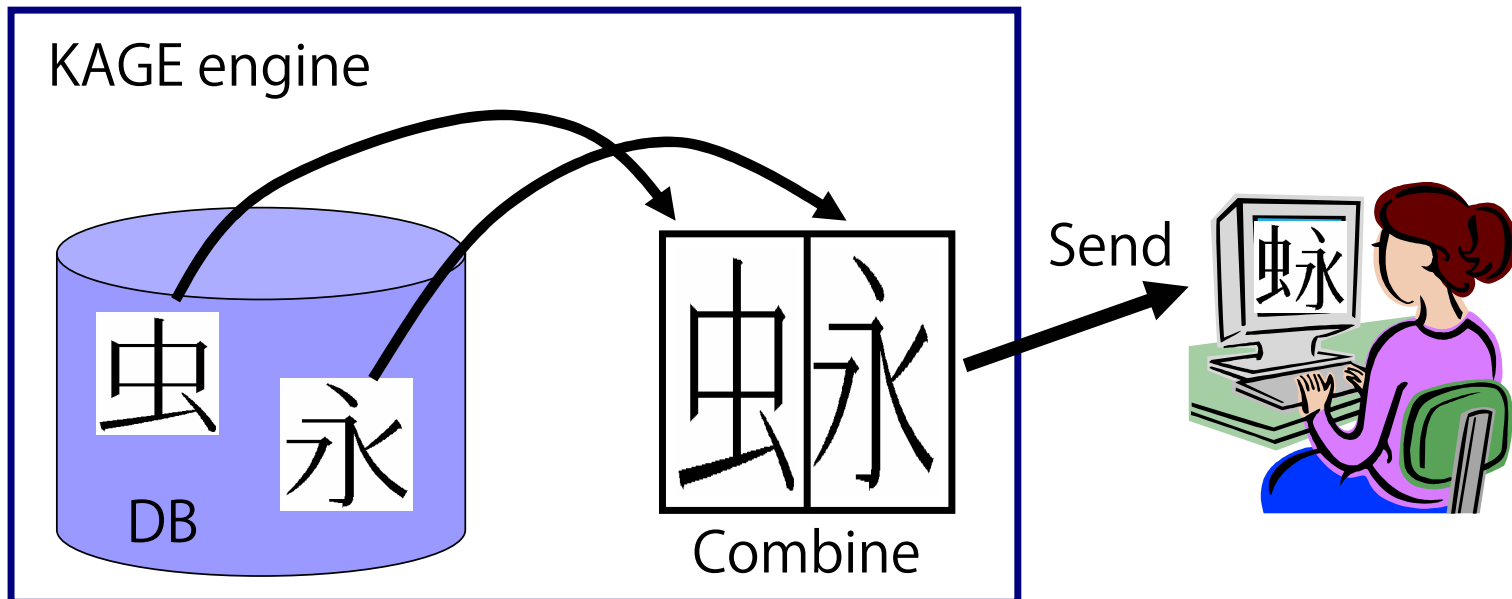


# Demonstration



# Kanji components

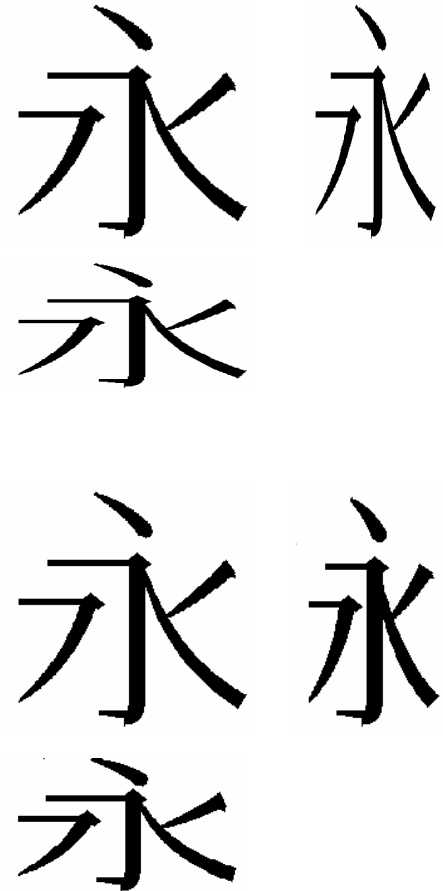
- request : □虫永
- Kanji components DB





# Skeleton data

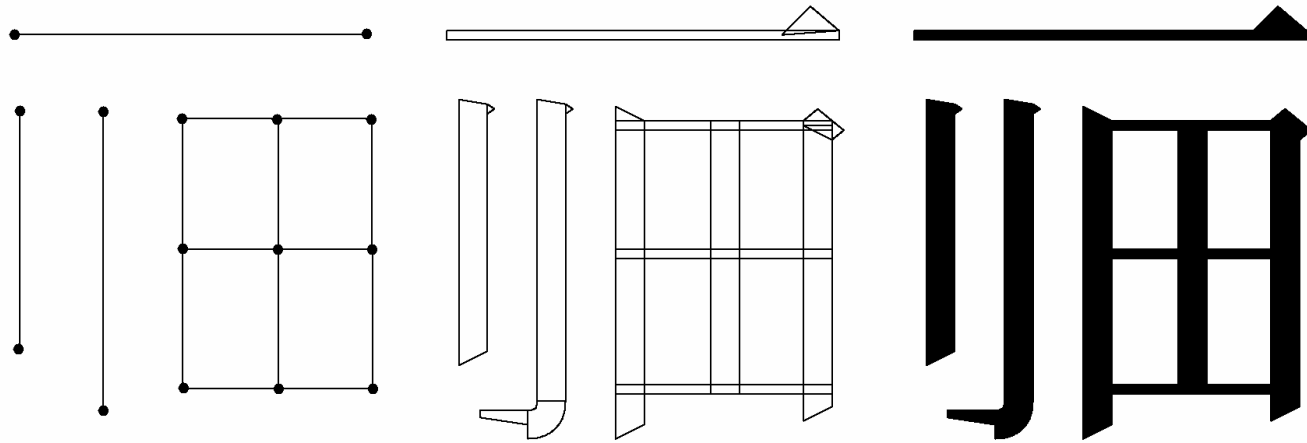
- zoom in/out of outline data
  - imbalance width
- ↕
- skeleton data
  - any size, same width





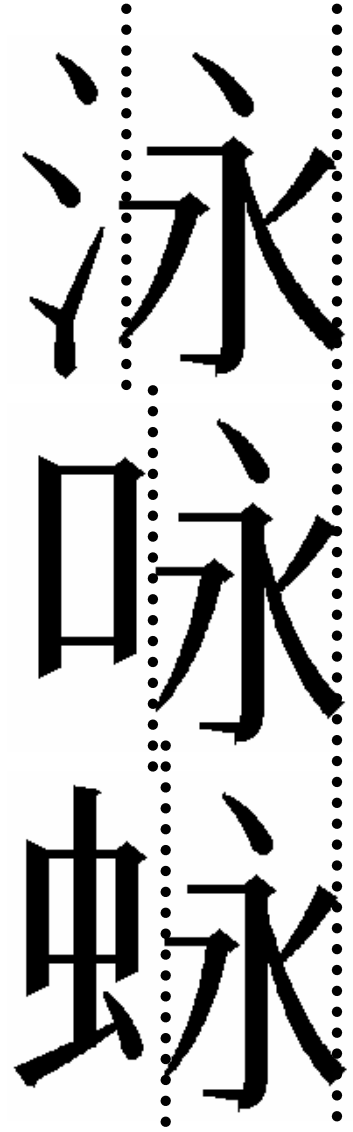
# Skeleton -> each typefaces

- puts each kind of decoration to realize
- Mincho and Gothic
  - simplified decoration



# Automatic arrangement

- by their characteristics
- #1 : size of component
  - by ratio of each complexities





# Automatic arrangement

- #2 : LTR combine; change of left component

□ ex. □土永 □木木

土永



土永



木木

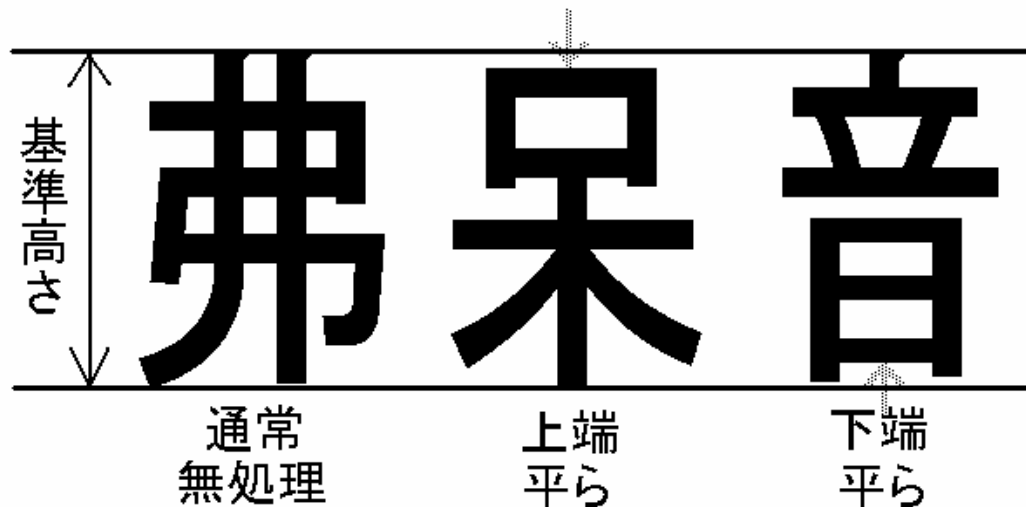


木木



# Automatic arrangement

- #3 : position of component



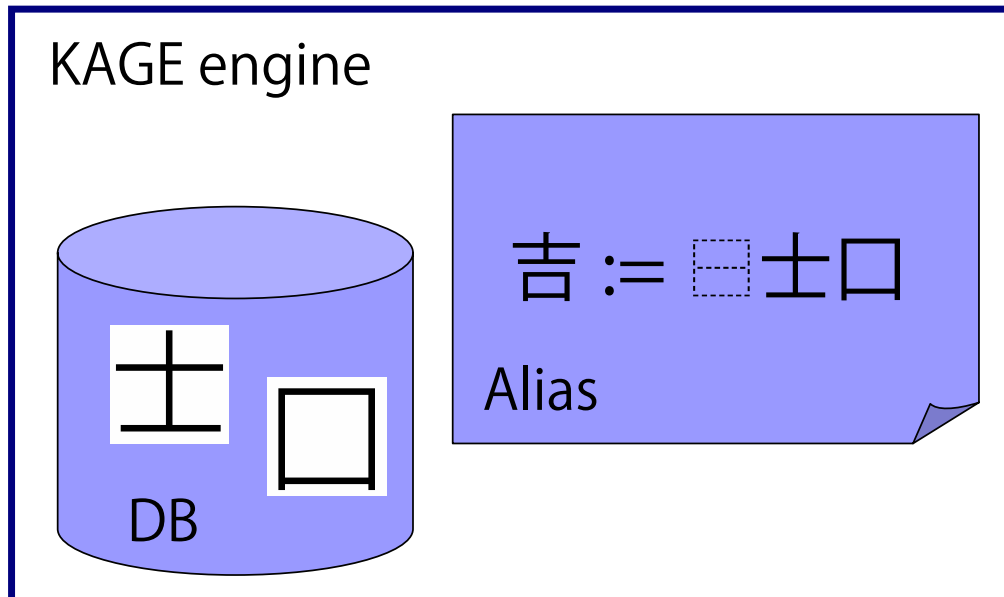


# Kanji Alias DB

■ request : □ 𠄎 吉

□ replace to □ 𠄎 𠄎士□

(Demo.)



# Select component's design

- differ between regions
  - China, Japan, Korea, Vietnam, etc.
- in IDS, Unicode chars CANNOT fix the glyph
  - because of unification

丈 丈      与 与 与





# Use of KAGE system

- Ω/CHISE
- web documents
  - <IMG> tags

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# *Itaiji*- proper noun (name)

■ 切 ↔ 切

川島	小田切信保	野島光男	坂下善彦	町会・自治会長
明	高森町会	森下四下	清澄三下	14
(元)塩浜八				



# *Kokuji*- original Kanji by Japanese

- cf. 和製漢字の辞典

- <http://member.nifty.ne.jp/TAB01645/ohara/>

蛭 蚘 蚌 蚊  
蚘 蚘 蝨 蛛



# Wiki for management

- KAGE uses some DB
    - components DB
    - alias DB
  - unify to 1 DB
  - Wiki for management interface
    - anyone can update
    - anyone can create new
- (Demo.)



# Re-designing of created glyphs

- quality of created glyph : low
  - impractical quality by current engine
- human can adjust the glyphs
  - easily on the web browser
  - put them to DB, re-use on generating
- also can use as component editor
- Demo.



# Conclusion

- KAGE server as on demand glyph generating engine
- easy to use on the web
- can adjust by user, can update DB



■ Thank you.

