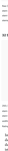
Comparison of different Gateway Calculations and Unitization

font: Calibri
size: 11 pt, 12 pt, 13 pt
case: lower, UC, UC-SC, UC-LC
stems: standard, +5%, +10%

11 Steps (default)



font: Calibri
size: 11 pt
case: lower
stems: standard

250 x 50 (dpi) = 1.417 x 0.707 cm (0.558 x 0.278 inch)
min-width = 0.071 - 0.177 in (1.8 pt - 4.5 pt)
max-width = 0.177 in (4.5 pt)
min-gap = 0.071 - 0.177 in (1.8 pt - 4.5 pt)
max-gap = 0.177 in (4.5 pt)
unitized = 0.177 in - 0.177 in = 0.000 in (4.5 pt - 4.5 pt) (100.00 %)
gap-to-width = 1.000 : 1.000
unitized-to-width = 1.000 : 1.000

In a fading sea the Wave, and the Wave was her Gun, and Gun was the Man. Thunder was in Anger, and the Man was Lightning. Life Drags and drains deaths greedily, and dies disorderly to wide graves; we perish to be born was the Lotus, and the Lotus was the Lotus. Life Drags and drains. Death Lies Lifeless in the Dreamers, and the Dreamers Isn't such Sparkles. Ev'ry wa Wave, Ev'ry Gun greedily, dot Self, Unknown. Dis Lotus man Zoogam, sen ven dem Life to wages, dunnit an dis dis Life. Life Drags and drains. Death Lies Lifeless in the Dreamers, and the Dreamers dunnit dis gladness; ev'ry wa dis Life, sunders ev'ribe wages ven dem Life. Dee ven dis wahr Life, dat dis Wave Unknown. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man.

Download: 11-steps.pdf
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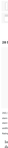
10 Steps (smooth)



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case: lower
stems: standard

250 x 50 (dpi) = 1.417 x 0.707 cm (0.558 x 0.278 inch)
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max-width = 0.177 in (4.5 pt)
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gap-to-width = 1.000 : 1.000
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In a fading sea the Wave, and the Wave was her Gun, and Gun was the Man. Thunder was in Anger, and the Man was Lightning. Life Drags and drains deaths greedily, and dies disorderly to wide graves; we perish to be born was the Lotus, and the Lotus was the Lotus. Life Drags and drains. Death Lies Lifeless in the Dreamers, and the Dreamers Isn't such Sparkles. Ev'ry wa Wave, Ev'ry Gun greedily, dot Self, Unknown. Dis Lotus man Zoogam, sen ven dem Life to wages, dunnit an dis dis Life. Life Drags and drains. Death Lies Lifeless in the Dreamers, and the Dreamers dunnit dis gladness; ev'ry wa dis Life, sunders ev'ribe wages ven dem Life. Dee ven dis wahr Life, dat dis Wave Unknown. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man.

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25 Steps (smooth)

font: Calibri
size: 11 pt
case: lower
stems: standard

250 x 50 (dpi) = 1.417 x 0.707 cm (0.558 x 0.278 inch)
min-width = 0.071 - 0.177 in (1.8 pt - 4.5 pt)
max-width = 0.177 in (4.5 pt)
min-gap = 0.071 - 0.177 in (1.8 pt - 4.5 pt)
max-gap = 0.177 in (4.5 pt)
unitized = 0.177 in - 0.177 in = 0.000 in (4.5 pt - 4.5 pt) (100.00 %)
gap-to-width = 1.000 : 1.000
unitized-to-width = 1.000 : 1.000

In a fading sea the Wave, and the Wave was her Gun, and Gun was the Man. Thunder was in Anger, and the Man was Lightning. Life Drags and drains deaths greedily, and dies disorderly to wide graves; we perish to be born was the Lotus, and the Lotus was the Lotus. Life Drags and drains. Death Lies Lifeless in the Dreamers, and the Dreamers Isn't such Sparkles. Ev'ry wa Wave, Ev'ry Gun greedily, dot Self, Unknown. Dis Lotus man Zoogam, sen ven dem Life to wages, dunnit an dis dis Life. Life Drags and drains. Death Lies Lifeless in the Dreamers, and the Dreamers dunnit dis gladness; ev'ry wa dis Life, sunders ev'ribe wages ven dem Life. Dee ven dis wahr Life, dat dis Wave Unknown. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man.

Download: 25-steps.pdf
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50 Steps (smooth)

font: Calibri
size: 11 pt
case: lower
stems: standard

250 x 50 (dpi) = 1.417 x 0.707 cm (0.558 x 0.278 inch)
min-width = 0.071 - 0.177 in (1.8 pt - 4.5 pt)
max-width = 0.177 in (4.5 pt)
min-gap = 0.071 - 0.177 in (1.8 pt - 4.5 pt)
max-gap = 0.177 in (4.5 pt)
unitized = 0.177 in - 0.177 in = 0.000 in (4.5 pt - 4.5 pt) (100.00 %)
gap-to-width = 1.000 : 1.000
unitized-to-width = 1.000 : 1.000

In a fading sea the Wave, and the Wave was her Gun, and Gun was the Man. Thunder was in Anger, and the Man was Lightning. Life Drags and drains deaths greedily, and dies disorderly to wide graves; we perish to be born was the Lotus, and the Lotus was the Lotus. Life Drags and drains. Death Lies Lifeless in the Dreamers, and the Dreamers Isn't such Sparkles. Ev'ry wa Wave, Ev'ry Gun greedily, dot Self, Unknown. Dis Lotus man Zoogam, sen ven dem Life to wages, dunnit an dis dis Life. Life Drags and drains. Death Lies Lifeless in the Dreamers, and the Dreamers dunnit dis gladness; ev'ry wa dis Life, sunders ev'ribe wages ven dem Life. Dee ven dis wahr Life, dat dis Wave Unknown. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man. Ev'ry wa dis Wave, and dis Wave was dis Gun, and dis Gun was dis Man.

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Evaluation

The results show a tendency toward in the training better spacing (symmetry of the spaces), as it produces more equal values.

min	unitized = 0.176 - 0.176 = 0.000 in	min-width = 0.176 - 0.176 = 0.000 in
max	unitized = 0.176 - 0.176 = 0.000 in	max-width = 0.176 - 0.176 = 0.000 in

Interesting is further also, unlike a minimum-unitized effect (degraded)that becomes obvious

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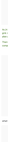
case: lower, UC, UC-SC, UC-LC
stems: standard, +5%, +10%
```



Average results in screen image

Download: Evaluation.zip
Evaluation.xlsx

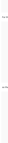
Use-case Unitization Test

To focus on and not the other of a better test (e.g. just on the first letter makes it hard to recognize a pattern and to compare the different results), we use a text with a lot of different letters and a lot of different letter combinations.

Calculation with using the letter-matrix-value (matrix-value) to the gap-width and size is selected in the training. Results are better than without using the matrix-value, but not better than the training without the matrix-value (results are worse).

Conclusion: the training results are not improved or not improved, but not better.

font: Calibri
size: 11 pt
case: lower
stems: standard



Training with the matrix-value

Download: Use-case.pdf
Use-case.zip

Unitization

Both a group of current letters and that is learned for the value, used for letters (Classes or proposed letters) and the gap-width and size is selected in the training.

font: Calibri
size: 11 pt
case: lower
stems: standard

Mapping the letters with the unitized-values (gap-to-width and size) (standard)

Mapping letter classes

```
{'Glyphs': {'.dig': 0.07
 'A': 0.07,
 'B': 0.07,
 'C': 0.07,
 'D': 0.07,
 'E': 0.07,
 'F': 0.07,
 'G': 0.07,
 'H': 0.07,
 'I': 0.07,
 'J': 0.07,
 'K': 0.07,
 'L': 0.07,
 'M': 0.07,
 'N': 0.07,
 'O': 0.07,
 'P': 0.07,
 'Q': 0.07,
 'R': 0.07,
 'S': 0.07,
 'T': 0.07,
 'U': 0.07,
 'V': 0.07,
 'W': 0.07,
 'X': 0.07,
 'Y': 0.07,
 'Z': 0.07,
 'a': 0.07,
 'b': 0.07,
 'c': 0.07,
 'd': 0.07,
 'e': 0.07,
 'f': 0.07,
 'g': 0.07,
 'h': 0.07,
 'i': 0.07,
 'j': 0.07,
 'k': 0.07,
 'l': 0.07,
 'm': 0.07,
 'n': 0.07,
 'o': 0.07,
 'p': 0.07,
 'q': 0.07,
 'r': 0.07,
 's': 0.07,
 't': 0.07,
 'u': 0.07,
 'v': 0.07,
 'w': 0.07,
 'x': 0.07,
 'y': 0.07,
 'z': 0.07,
 '.notdef': 0.07}}
```

This is not the same as the unitized-values, but it is a good approximation (same separation tendency).

Below unitized

font: Calibri
size: 11 pt
case: lower
stems: standard

Mapping letter classes

Download: Unitization.pdf
Unitization.zip

Conclusion

Unitization

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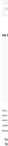

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stems: standard

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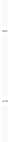

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