**CPTS 543**
**Assignment #5 KML**
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## 1. Task steps

1. Type “Is this a dagger that I see before me?” in an empty word file
2. Replace “dagger” with “squirrel” by double click “dagger” and then type in “squirrel”
3. Italicize “see” by double click “see” and then press ctrl + i
4. On a new line, type "I have thee not yet I see thee still."
5. Replace all instances of “thee” with “you” by double click “thee” and then press ctrl + h, then click replace with, then type in “you”, then click replace all
6. Replace “me” with “my *very* eyes” by double click “me” and then type in “my very eyes”
7. Underline “squirrel” by double click “squirrel” and press ctrl + u
8. Save the document as “dagger.doc” by pressing alt + f + a and then click on text field, then type in “dagger” then click save

## 2. KML Model

K = 0.35, P = 1.1, B = 0.1, H = 0.4, M = 1.2, W = 0.1

| # | Task Step Description | KLM Model Derivation | Time Prediction (sec) |
|---|---|---|---|
| 1 | Type “Is this a dagger that I see before me?” | H + 41K + M | 15.95 |
| 2 | Double click “Dagger” | P + 2BB | 1.5 |
| 3 | Type “squirrel” | H + M + 8k | 4.4 |
| 4 | Double click “see” | P + 2BB | 1.5 |
| 5 | Ctrl + I | H + Ctrl + K | 0.83 |
| 6 | Click on end of the line | P + BB | 1.3 |
| 7 | Press enter | H+K | 0.75 |

| | | | |
|---|---|---|---|
| 8 | Type "I have thee not yet I see thee still." | M+39K | 14.85 |
| 9 | Double click “thee” | P + 2BB | 1.5 |
| 10 | Press ctrl + h | H + K + Ctrl | 0.83 |
| 11 | Click on replace with | P + BB | 1.3 |
| 12 | Type “you” | H + M + 3K | 2.65 |
| 13 | Click replace all | P + BB | 1.3 |
| 14 | Double click “me” | P + BB | 1.3 |
| 15 | Type “my very eyes” | H + M + 12K | 5.8 |
| 16 | Double click “squirrel” | P + 2BB | 1.5 |
| 17 | Press Ctrl + U | H + K + Ctrl | 0.83 |
| 18 | Press Alt + f + a | 3K | 1.05 |
| 19 | Click on text field | P + BB | 1.3 |
| 20 | Type “dagger” | H + M + 6K | 3.7 |
| 21 | Click save | P + BB | 1.3 |
| | | Total: | 65.04 |

## 3. Summary Table

| Task step | P1 Time | P2 Time | P3 Time | Participant Average | KLM Prediction | % Error |
|---|---|---|---|---|---|---|
| 1 | 14.15 | 9.23 | 10.73 | 11.37 | 15.95 | 0.29 |
| 2 | 1.15 | 1.76 | 1.5 | 1.47 | 1.5 | 0.02 |
| 3 | 3.61 | 3 | 4.6 | 3.74 | 4.4 | 0.15 |
| 4 | 1.14 | 2.33 | 1.26 | 1.58 | 1.5 | 0.05 |
| 5 | 0.95 | 0.81 | 1.02 | 0.93 | 0.83 | 0.12 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 6 | 1.38 | 1.88 | 1.29 | 1.52 | 1.3 | 0.17 |
| 7 | 0.71 | 0.9 | 0.86 | 0.82 | 0.75 | 0.10 |
| 8 | 13.11 | 8.84 | 9.57 | 10.51 | 14.85 | 0.29 |
| 9 | 1.36 | 1.45 | 1.76 | 1.52 | 1.5 | 0.02 |
| 10 | 0.9 | 1.41 | 0.83 | 1.05 | 0.83 | 0.26 |
| 11 | 0.97 | 1.5 | 1.25 | 1.24 | 1.3 | 0.05 |
| 12 | 1.31 | 1.24 | 1.25 | 1.27 | 2.65 | 0.52 |
| 13 | 1.31 | 1.18 | 0.96 | 1.15 | 1.3 | 0.12 |
| 14 | 1.37 | 1.41 | 1.55 | 1.44 | 1.3 | 0.11 |
| 15 | 3.09 | 3.91 | 5.25 | 4.08 | 5.8 | 0.30 |
| 16 | 1.1 | 1.14 | 1.38 | 1.21 | 1.5 | 0.20 |
| 17 | 0.97 | 1.2 | 0.81 | 0.99 | 0.83 | 0.20 |
| 18 | 1.17 | 1.15 | 1.12 | 1.15 | 1.05 | 0.09 |
| 19 | 1.48 | 1.04 | 1.83 | 1.45 | 1.3 | 0.12 |
| 20 | 1.55 | 1.5 | 1.92 | 1.66 | 3.7 | 0.55 |
| 21 | 14.15 | 9.23 | 10.73 | 11.37 | 15.95 | 0.29 |

Overall Error : 0.218376468

My KML model works well as the overall error of my model is 0.218, which is a little bit higher than 0.2. My KML model can predict short term operation precisely, such as double click actions or input single words. However, the prediction of typing a long sentence is quite inaccurate. I think K parameter should be shorter than 0.35 when users are typing long sentence to adjust this inaccuracy, because users gain sort of acceleration when they are continually inputting words.