Customer subjective evaluations of Speech-to-Text Applications

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1. Problem:

Even after being warned of the dangers and 34 states banned text messaging for all drivers, people continue to take their eyes off the road to send text messages.

2. Hypothesis:

- The commercially available phone applications provide a technique that reduces the time drivers take their eyes off the road to send a text message.
- This time reduction is not enough to suffice for a fully safe technique for texting while driving.
- The layout of the application screens drive user ratings.

3. Goals:

- Find any weaknesses, flaws or strong points in the existing text-to-speech phone applications.
- Find out if these applications are safe for use while driving.

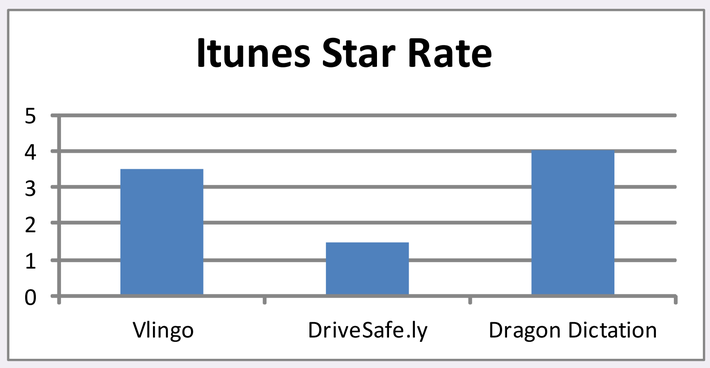
4. Methods:

- Focus on popular applications; Vlingo, Voice on the Go, DriveSafe.ly, Dragon Dictation and Voice Text Pro.
- Compile data from a common source where people buy the applications, ITunes, and a common source where people are socially active and comment on the applications.
- Sort through the user "likes," star ratings and comments from these sources to find relevant to driving and pertinent data on how the techniques work.

5. Results:

- **Comments:** Each application had comments such as "I can't imagine how many times Vlingo has saved my life or other's lives while I am driving" that commend it's use while driving.
- **likes**: Three applications, DriveSafe.ly, Dragon Dictation and Vlingo had outstandingly high numbers of facebook "likes," shown in the table below.

Phone Applications	Current Version Itunes	Number of Star Ratings	Facebook Likes
Vlingo	3.5	526	22934
Voice on the Go	1	7	310
DriveSafe.ly	1.5	120	728519
Dragon Dictation	4	245	32671
Voice Text Pro	1.5	31	0



- **Star Rank**: Two applications, Vlingo and Dragon Dictation had the highest user Star Rankings from the highest number of users, shown in the table and graph above.
- **Layout:** Dragon Dictation had the most user friendly layout, shown in figure one, with large buttons and overall few buttons to push or hold in order to completely send a text.

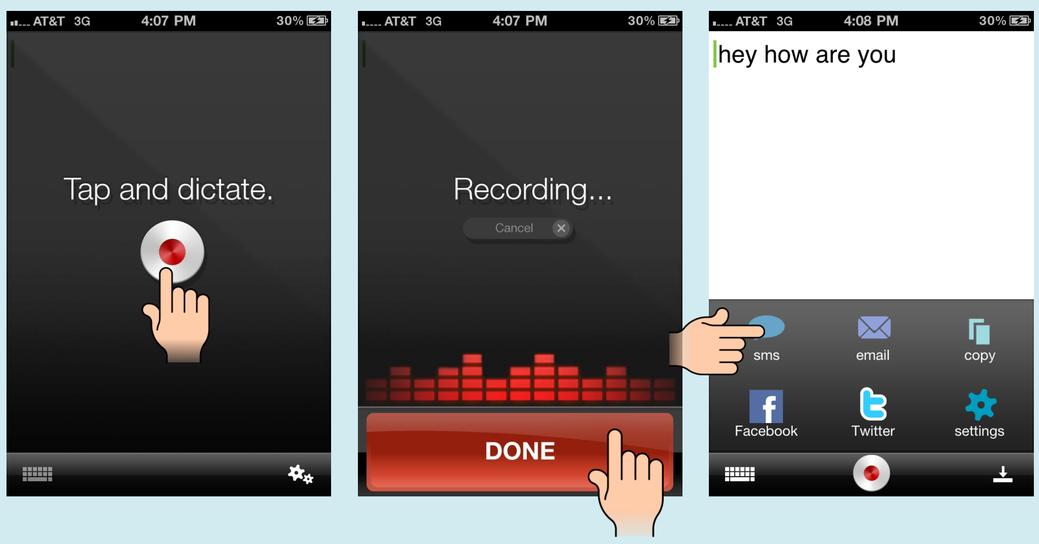


Figure 1: Dragon Dictation Screen Layout

Figure 2: Vlingo Screen Layout

- Dragon Dication had the highest "likes," highest star ratings overall and user friendly layout.

6. Conclusion:

People are taking initiative by using these applications as techniques to keep their eyes on the road while driving. However, even the highest rated application, Dragon Dictation, still requires users, drivers, to take their eyes off the road for a brief moment to start and finish sending a text. Therefore the currently deployed speech-to-text cell phone techniques are still prone to causing car accidents.

7. Future Work:

The user commends on these dangerous products show that people are going to continue texting while driving by any means. Therefore it is important to find a safer technique for texting while driving in order to lower the number of car accidents. I am hoping to find much better results with my current study on Microsoft's hands and eyes free response technique. By using the Project 54 driving simulator, eye tracker and physiological measures I will pinpoint exactly when using speech recognition to respond to text messages in a car affects driving.

Acknowledgements

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