Q1.What are you trying to do? Articulate your objectives using absolutely no jargon.

1. Hand writing recognition is a very important as the ability to convert handwritten content to digital format is time saving and has many industrial advantages.
2. But in comparison to the whole sentence input experience on a PC, the efficiency of the continuous handwriting input is lowered dramatically on size-restricted handheld devices. Say on a 3.5 inches screen it is difficult for the user to write many characters at a time, even if the whole screen is set as the writing area.
3. One solution to support users writing characters continuously on such a small touch screen is to allow those characters being overlapped with one another.
4. The paper proposes an overlapped handwriting input method on handheld devices, which allows users to write continuously without breaks on a single size-restricted writing area.

Q2. How is it done today, and what are the limits of current practice?

1. OHI and four Chinese HWR methods are available currently.
2. Barth proposed an overlapped handwriting recognition system for English words in lowercase and word recognition accuracy is about 90% when there are 20K words in the lexicon. However the results mentioned above cannot satisfy the requirement of Chinese users.
3. Currently, a product level Chinese handwriting recognition engine needs to support at least 6716 characters, defined by the national standard GB2312, recognize at least 10 characters per second with a correct rate larger than 90% for unconstrained handwriting samples. This means some research works are still needed.

Q3. What's new in your approach and why do you think it will be successful?

Two issues have been considered during the implementation of the overlapped input method:

1. The first is that since there is no spatial interval between characters, the segmentation and recognition process becomes more difficult for overlapped handwriting than common continuous handwriting.
2. The second is that since the handwritten characters are all displayed at the same location, users can not see clearly what he/she is currently writing. Users may be confused and slow down the writing speed or even stop writing and wait for the screen to be cleared.

Approach:

1. One common solution is to let the strokes fade gradually during the writing process with a pre-defined fading speed.
2. Fixed speed cannot deal with the diversity of different use cases.
3. Thus an adaptable fading method which can detect the beginning of one character is needed for a good overlapped handwriting input method.

Q4. Who cares? If you're successful, what difference will it make?

With the gradual growth of internet as a mode of communication, the pace of work at companies has hastened and the turnaround time has reduced by a great extent. Due to the unavailability of adequate input systems, forms filled up by hand is still a mode of accepting data in most parts of the world. As a result, it is difficult to send data in handwritten form over a short period of time. To get rid of this problem, efforts have been made to develop handwritten recognition for retail forms to convert the structured handwritten content into a digital form of text which can be realized by any computer. This reduces a lot of hard work that goes into typing the data from the structured handwritten content into a computer. The conversion process using handwritten recognition for retail forms is automated and requires supervision from a single person.

5. What are the risks involved?

NA