

# THINK AND FEEL?

what really counts  
major preoccupations  
worries & aspirations

User

# What do they SEE?

environment  
friends  
what the market offers

different  
hanwritten  
digits are  
seen

images of the  
user are  
uploaded by  
the user

understands  
image data  
automatically

# What do they SAY AND DO?

attitude in public  
appearance  
behavior towards others

proper  
commands  
should be  
given

observes  
different  
handwriting  
provided by  
the user

reduces  
human  
effort

# What do they HEAR?

what friends say  
what boss say  
what influencers say

features are  
based on  
shape  
analysis

detected  
result is  
returned to  
the user  
interface

handwritings  
are identified

70000  
different  
handwritten  
digits

understands  
automatically

own style of  
writing

## PAIN

fears  
frustrations  
obstacles

tricky for  
programmer  
to provide  
enough  
examples

sometimes  
character looks  
similar making it  
hard for the  
computer to  
recognise  
accurately

difficult to build  
handwritten digit  
recognition  
algorithm

## GAIN

"wants" / needs  
measures of success  
obstacles

generative  
models can  
perform  
recognition  
driven  
segmentations

rich description  
of the  
instantiation  
such as writing  
style

effective in  
obtaining  
good  
recognition  
accuracies