



Learning about unstabilized approaches through animations

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FDM at transavia



- Start of FDM in Apr 2005
- Agreement with pilot union in 2007
- 1st Flight Animation in September 2007
- Currently 50-60 Flight Animations/year
- 550 crews performing 38.000 flights/year

Flight Data



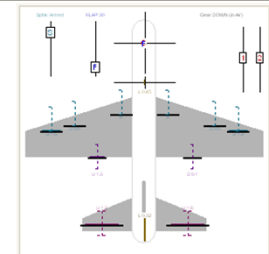
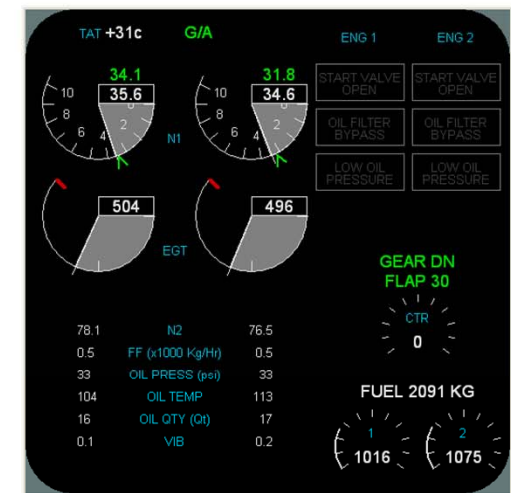
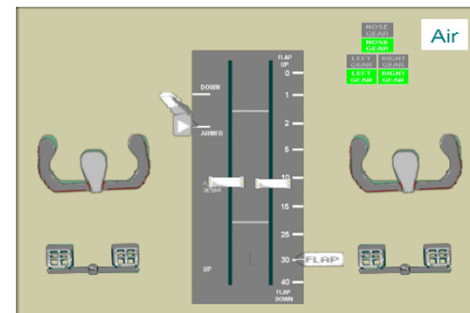
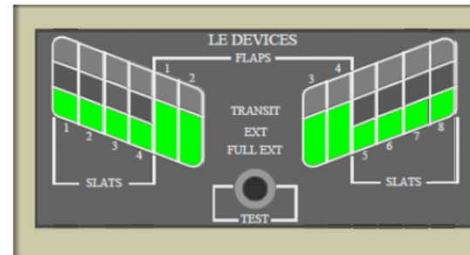
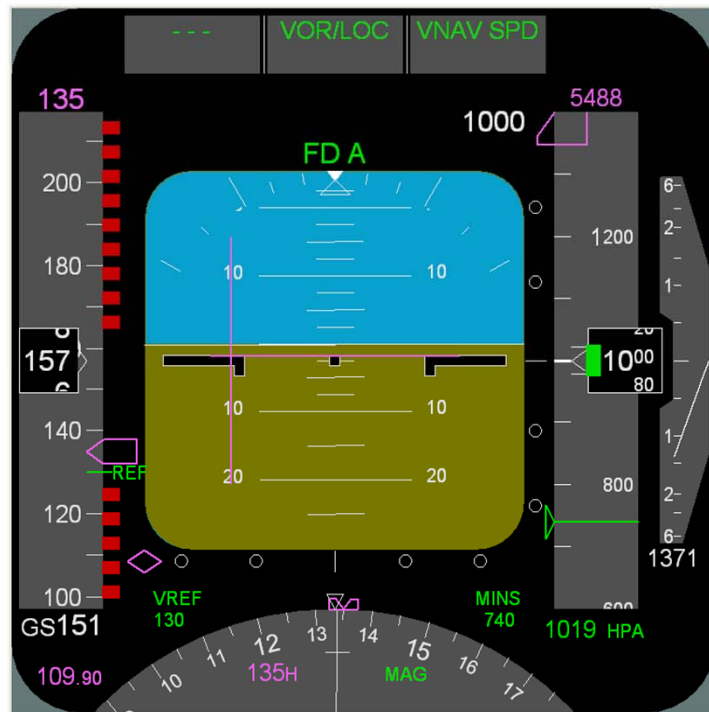
- Greatest strength is also greatest weakness
- Data is just data, no context
- Flight animation is unique opportunity to hear “story behind the flight”

Flight Animation



- Selection process based on triggered events
- Investigator pilot assesses flight and has final decision
- Most important question: is it useful?

Unstable Approaches



2.25

Unstable Approaches



Why does a professional crew continue an unstable approach, against company procedures?

Arguments



“Safety was not compromised,
landing uneventful”

- The aircraft touched down, so the approach was safe
- Safety Margins are reduced
- Human ability for multitasking limited

Arguments



“The weather was nice,
we could see the runway”

- Goal (runway) clearly visible and appears achievable
- How to recognize situation that will end in accident if you have never been in such a situation?

Arguments



“We can always go around later”

- After passing 1000ft, grey area
- What is the new stable approach altitude?
- When do we initiate the go-around?
- Sometimes go-around not possible

How to prevent?



- Discuss option of go-around early in approach
- Ensure pilot monitoring actually monitors
- Stable approaches are about maintaining safety margins you hopefully won't ever need, but may save you in the event you do!

Other benefits



- Incorrect, incomplete, ambiguous procedures were identified and corrected
 - e.g. briefing information INN airport
- Improvements in training programme were tailored to findings from flight animations
- Insight is gained in behavioural, cultural aspects of the pilot group

Results



Unstable Approaches (per 1000 sectors)

