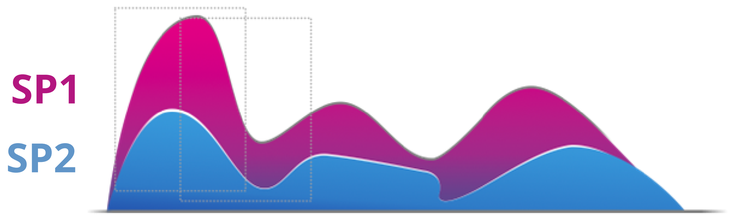
MEASURING RESILIENCE IN TEAM COMMUNICATION SKILLS REMOTELY USING VR

Mr Conor McKenna, VP Product Engineering / Founder, Vocavio
Mr. Jerome Bresee FRAeS, VP Human Systems, Vocavio

Introduction

Vocavio, together with teammates PlayerThree and Affect In, developed and tested a VR based environment that placed various teams in a virtual C130 performing an unfamiliar loadmaster-flight engineer task requiring actions coordinated through voice communication only.



Prosodic adaptation

(De Looze et al, Trinity College Dublin 2014)

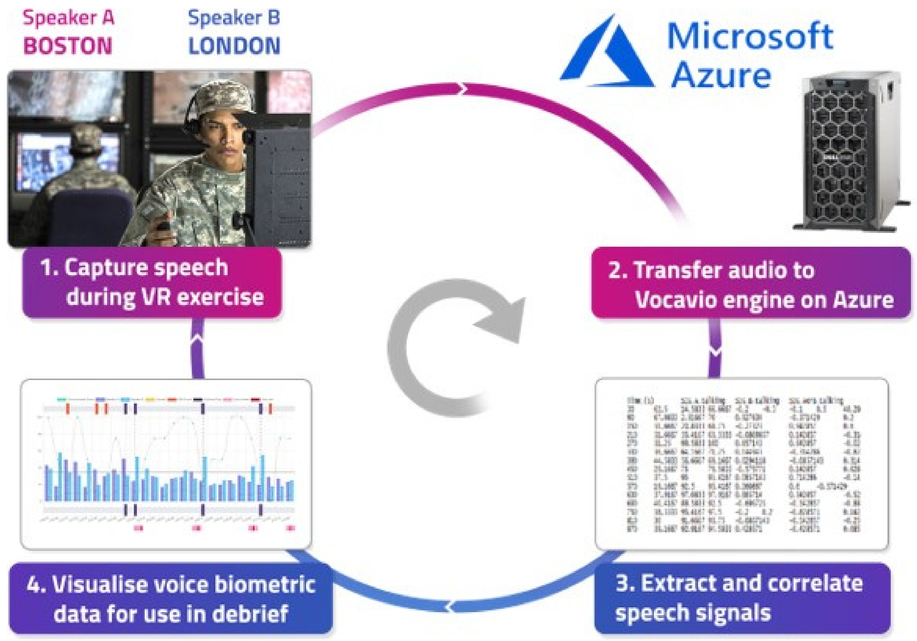
- Features: pitch, energy, tempo
- Tracks the correlation between median values of two speakers within a moving time window.

US PATENT #101528992

VOCAVIO
communication dynamics

Technical process

Vocavio engine, which extracts and coorelates signal values from collaborative dialog (and not signals from wolves, yet), was used to evaluate communication, teamwork and situational awareness through measurement and analysis of speech characteristics and task performance data (control events) sourced from the game engine logs.



Performance Data

LEVEL	DROP ACCURACY	SA	TEAM	COMMS
1	.82	.47	.99	.50
2	.85	.65	.97	.47
3	.73	.28	.94	.51

Conclusions

Derived measures of situational awareness and resilience were shown to increase as number of trials increased. While these findings show promise in a research setting, future research is needed under field conditions to assess the impact of field stressors on teamwork, situational awareness and resilience as measured by communications data.

Acknowledgments

UK Defense
PlayerThree VR Studio
AffectIN Cognitive Science