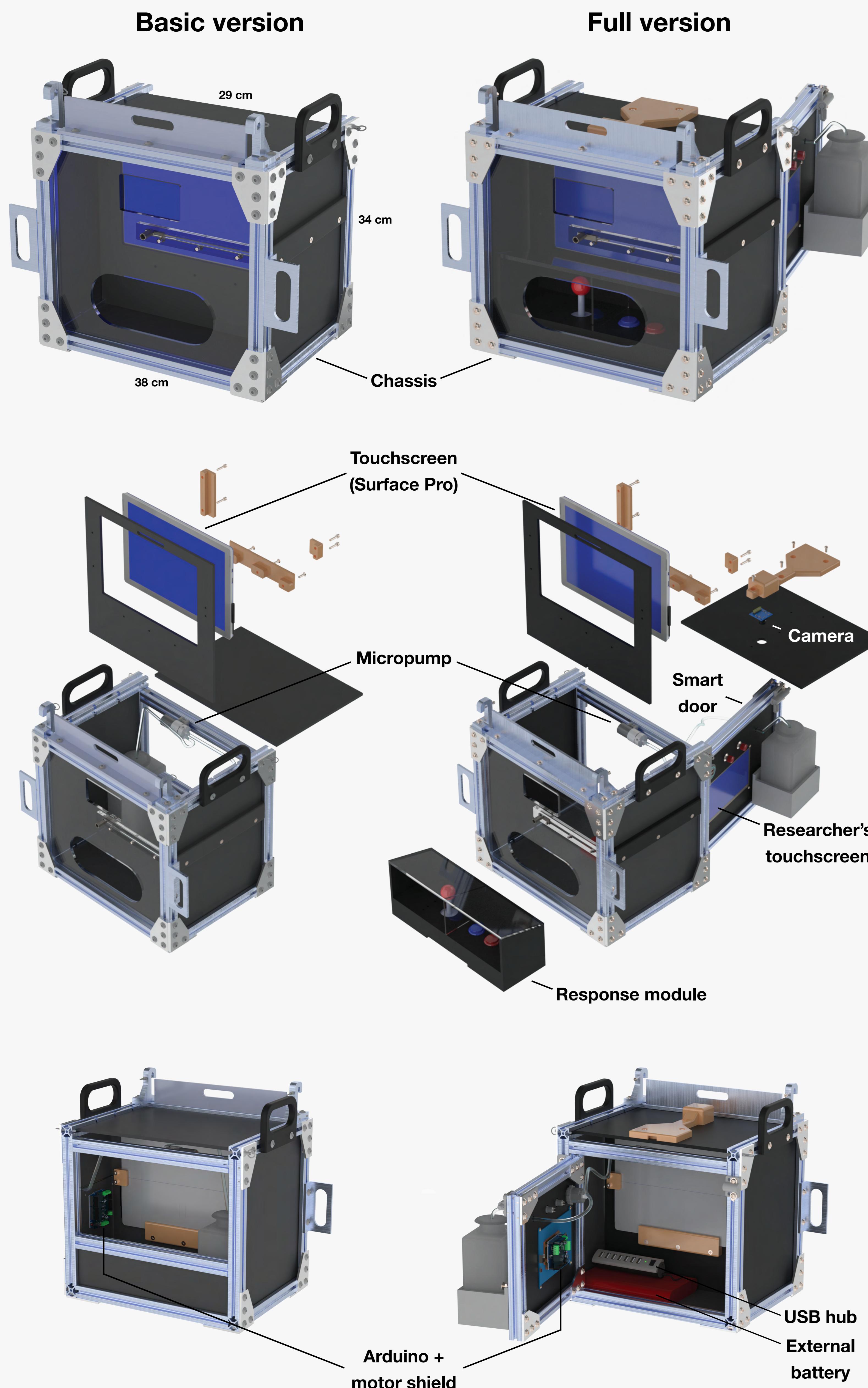


Introduction

- MonkeyBox: portable, modular, wireless, user-friendly, robust & open source
- Tested on a variety of audiovisual tasks, from classic behavioral paradigms to complex video games
- Validation study: selection of cognitive tasks to differentiate SHANK3-mutant macaques¹ ($n = 7$) from wild-type animals ($n = 8$)

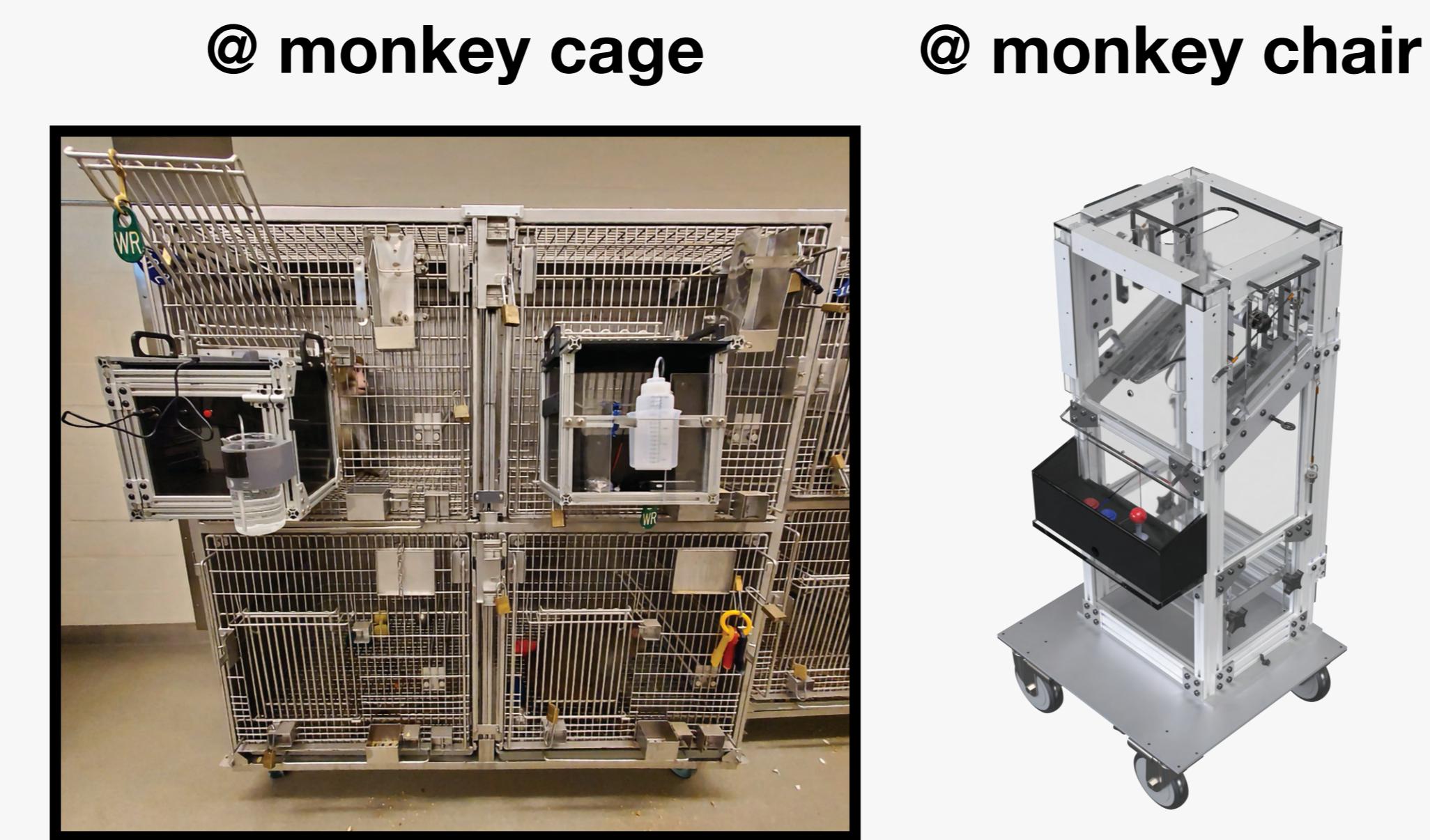
Hardware



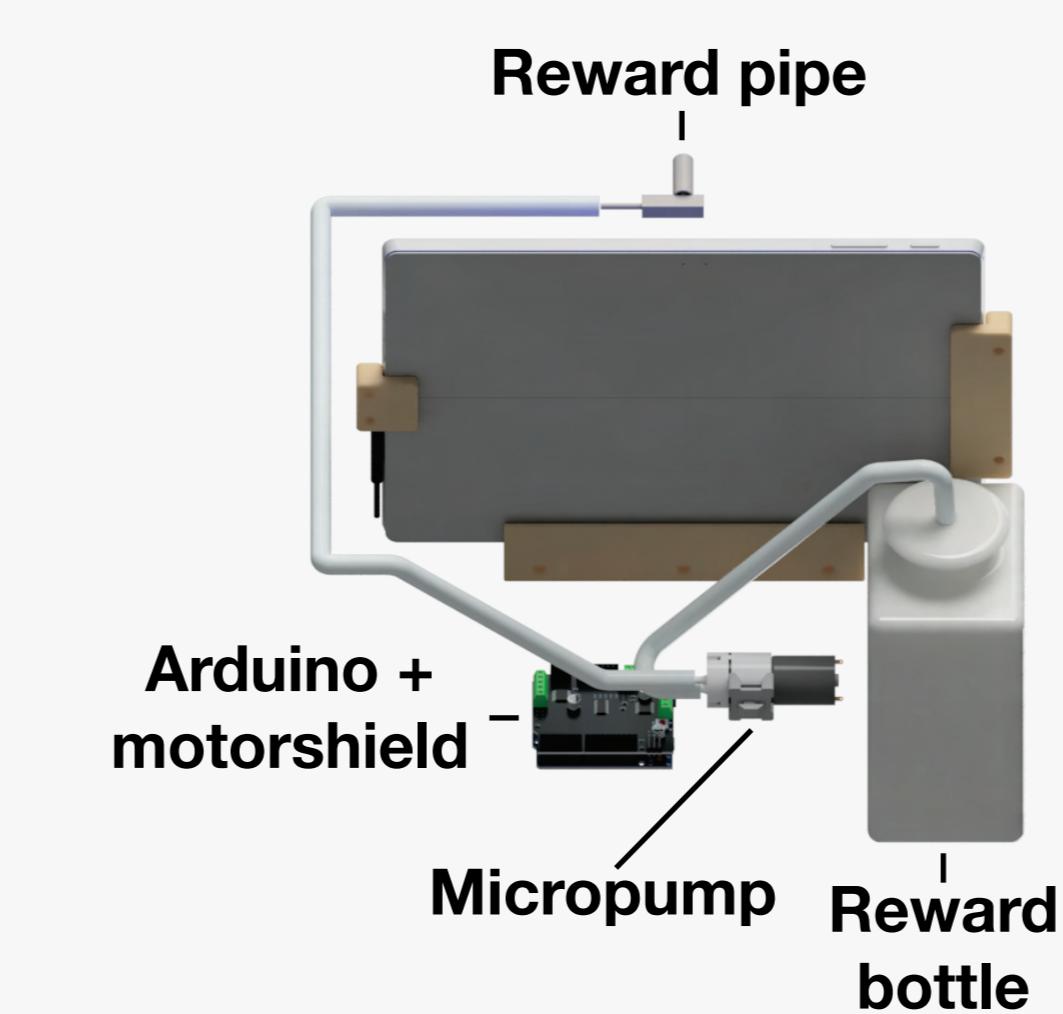
Response modules



Installation



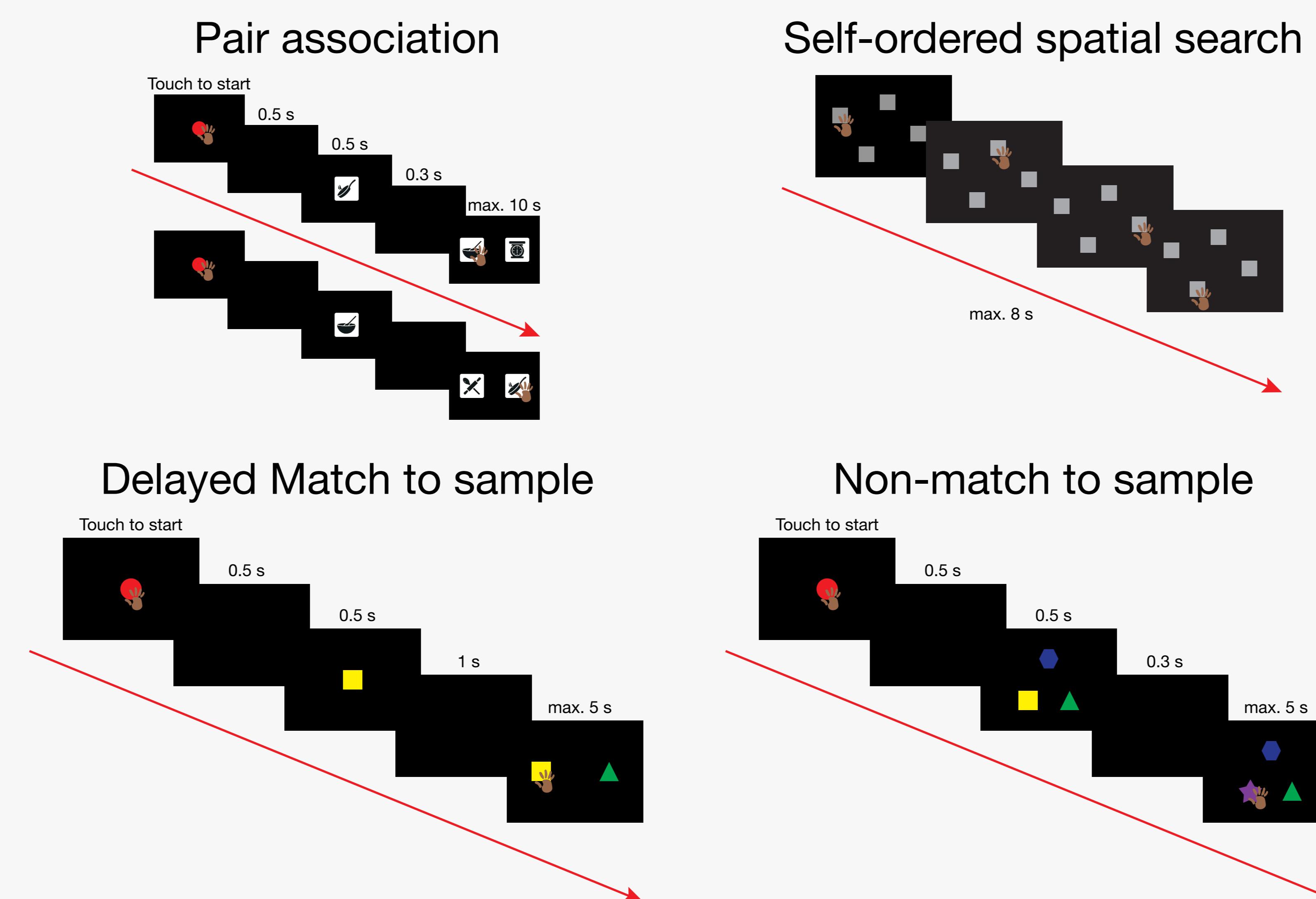
Reward System



Software compatibility

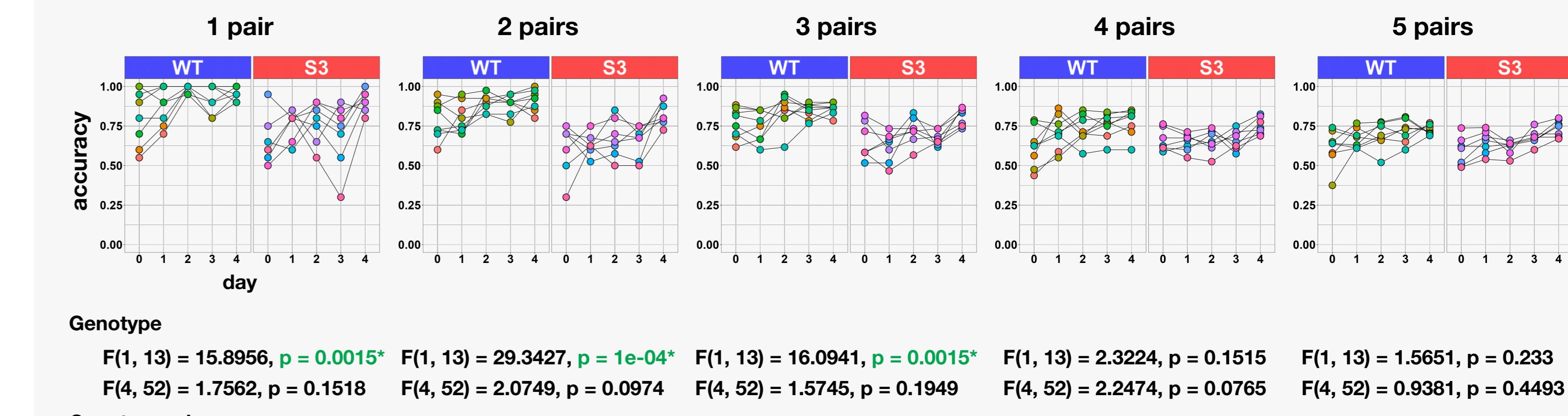
- Psychtoolbox on Windows 10 & 11, and Ubuntu 20.04 onwards
- Monkey logic on Windows 10 & 11
- Custom softwares, e.g. customized Super Mario Editor²

Behavioral paradigms: Shank-3 vs WT macaques

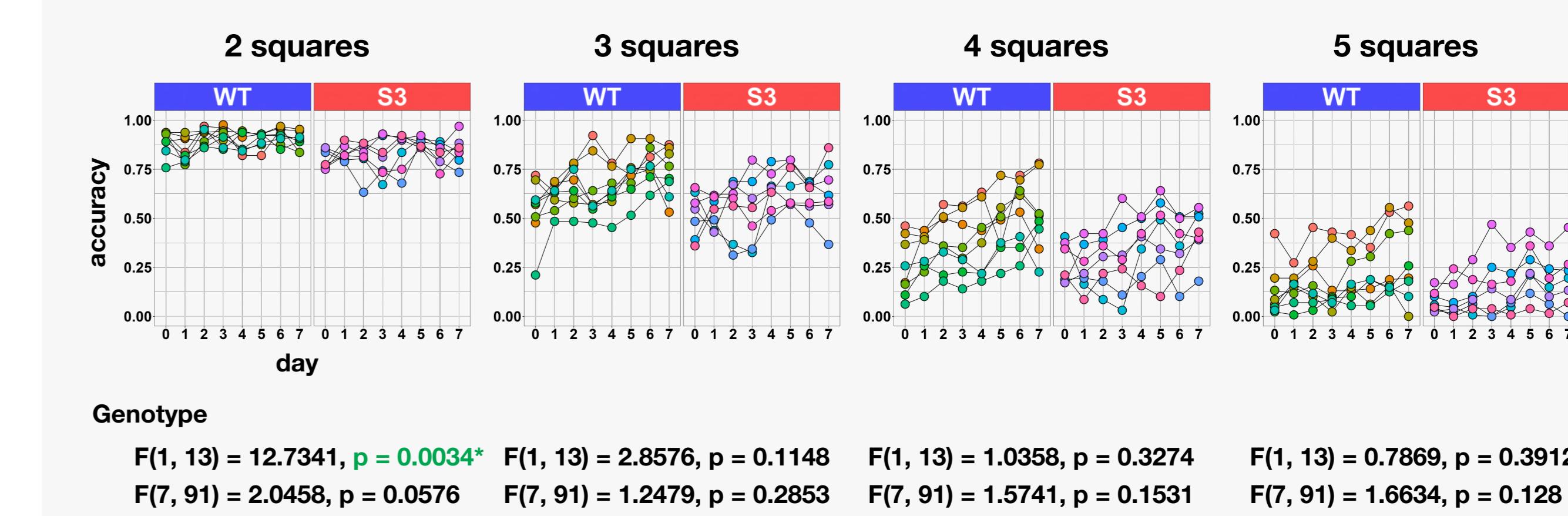


Preliminary results

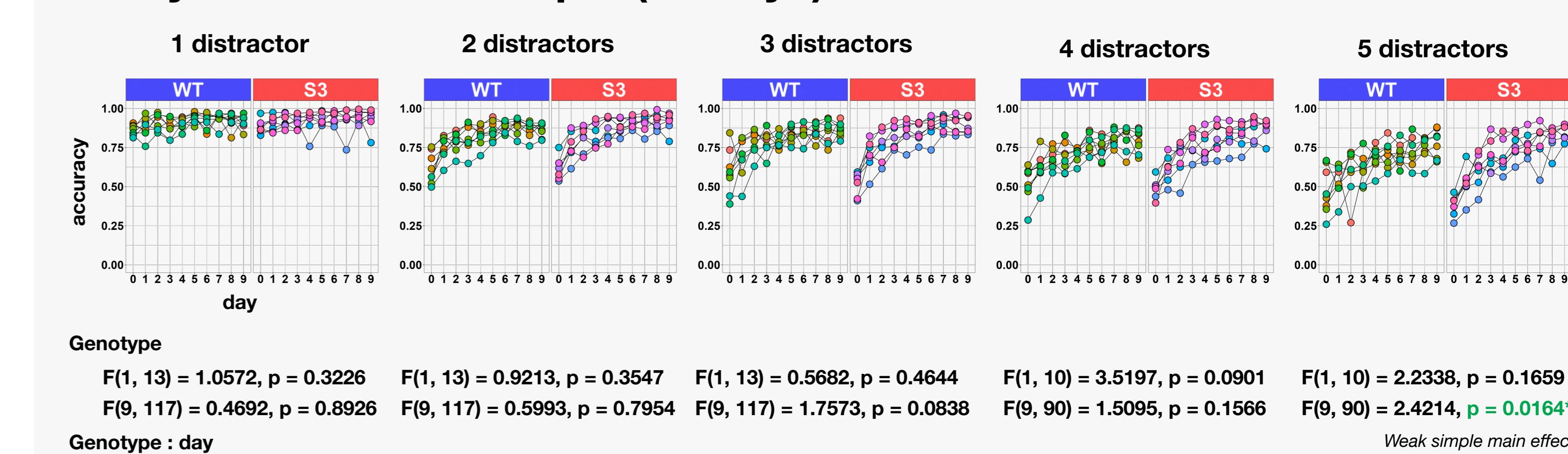
Pair association (5 days)



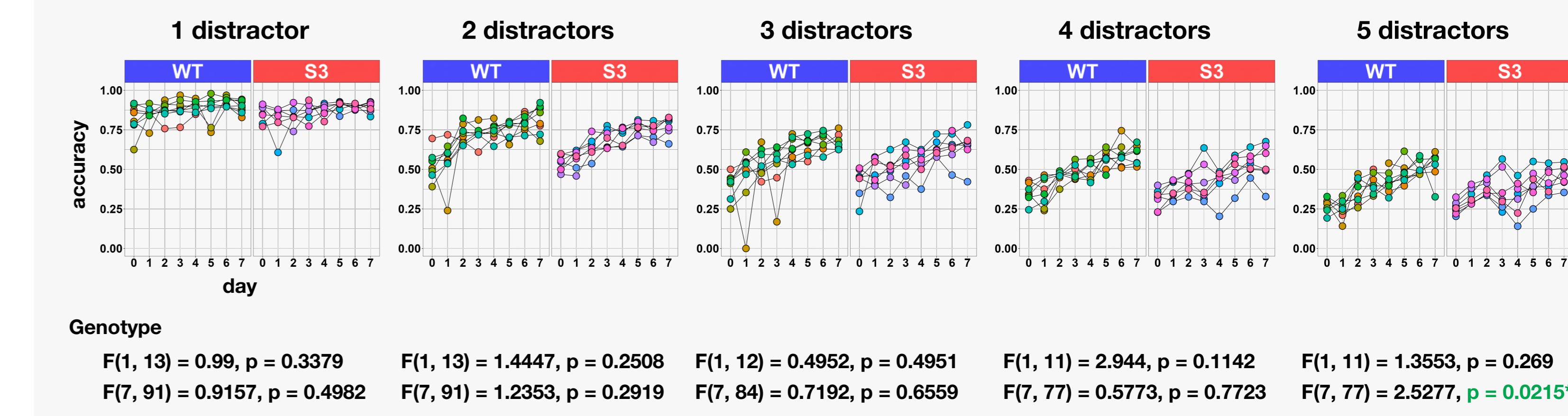
Self-ordered spatial search (8 days)



Delayed match to sample (10 days)



Non-match to sample (8 days)



- LMM and GLMM confirm that pair association is a promising task

References

1. Zhou et al. (2019) Atypical behaviour and connectivity in SHANK3-mutant macaques. *Nature*
2. <https://hellofangaming.github.io/wiki/Mario%20Editor.html>

Acknowledgements



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