Visualization of PEBL movetotarget task

Shane T. Mueller [shanem@mtu.edu](mailto:shanem@mtu.edu)

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Note: This analysis script runs in RStudio, and requires the prepdat and ggplot2 libraries.

library(prepdat)  
library(ggplot2)  
dat <- file\_merge(folder\_path = "data",  
 has\_header=T,  
 raw\_file\_name="movetotarget-summary",  
 raw\_file\_extension="csv")

## Found 2 files

## 2 files were merged and saved into dataset.txt

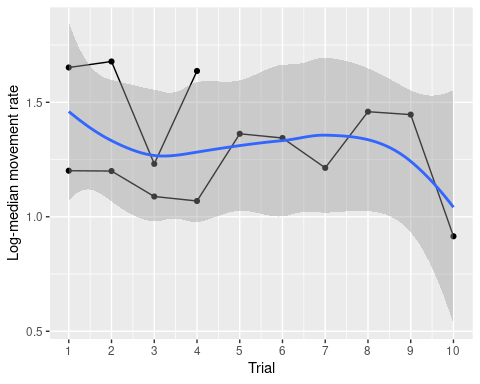
## file\_merge() finished!

dat$rate <- dat$rt/dat$dist  
dat.test <- dat[dat$trial>0,]  
  
##find log-median rate of movement per subject/trial  
dat.bysub <- aggregate(dat.test$rate,  
 list(trial=dat.test$trial,  
 subnum=dat.test$subnum),  
 function(x){log(median(x))})  
  
dat.bysub$hr <-aggregate(dat.test$hit,  
 list(trial=dat.test$trial,  
 subnum=dat.test$subnum),  
 mean)$x

This figure shows log-median movement rate (time/distance) for each trial–which involves 30 move-to-targets. This removes the first ‘practice’ trial, and so the progression shows learning over the timeframe of the session. In the figure, each participant is shown as a separate connected series.

ggplot(dat.bysub,aes(x=trial,y=x))+   
 geom\_point()+  
 geom\_line(aes(group=subnum)) +  
 geom\_smooth(method='loess') +  
 scale\_x\_continuous(breaks=1:10)+  
 xlab("Trial") + ylab("Log-median movement rate")

## `geom\_smooth()` using formula = 'y ~ x'



ggplot(dat.bysub,aes(x=trial,y=hr))+   
 geom\_point()+  
 geom\_line(aes(group=subnum)) +  
 geom\_smooth(method='loess') +  
 scale\_x\_continuous(breaks=1:10)+  
 xlab("Trial") + ylab("Hit rate")

## `geom\_smooth()` using formula = 'y ~ x'

