

READ_ME.doc

Directory Contents

The directory contains the following:

Matlab data file for Visual to Passive transfer experiment

Commented Matlab example script to read-in the data (and utility functions that assist this process)

There are 4 zip files V1.zip V2.zip V3.zip V4.zip

You will need to expand them and then put all the data files in a common directory and make sure you set this directory path in the setup function
GetVisualLeadInParams.m

Use the Matlab script Main_AnalyseVisToPasTransDemo .m to read in the data structure into Matlab from the data individual participants

The data structures returned in the script has the data fields:

```
Trials: 1580
TrialNumber: [1×1580 double]
BatchTrialIdx: [1580×2 double]
WantCatch: [1580×2 double]
TrialType: [1580×1 double]
FieldType: [1580×2 double]
FieldConstant: [1580×2 double]
CatchFieldConstant: [1580×2 double]
FieldAngle: [1580×2 double]
FieldMatrix: [1580×2×4 double]
FieldMatrixID: [1580×2 double]
TargetPosition: [1580×2×3 double]
TargetAngle: [1580×2 double]
TargetDistance: [1580×2 double]
StartPosition: [1580×2×3 double]
FinishPosition: [1580×2×3 double]
ContextPosition: [1580×2×3 double]
MissTrialFlag: [1580×1 double]
MissTrials: [1580×1 double]
MoveReactionTime: [1580×1 double]
MovementDuration: [1580×1 double]
ExperimentTime: [1580×1 double]
GoTimeDelay: [1580×1 double]
contextID: [1580×1 double]
TrialID: [1580×1 double]
```

```

Training: [1x1 struct]
Prerun: [1x1 struct]
Probe: [1x1 struct]
batchesSwitchModulus: [1580x1 double]
BatchesSwitchStart: [1580x1 double]
WantCatchInNULL: [1580x1 double]
PrerunSwitchModulus: [1580x1 double]
probeSwitchModulus: [1580x1 double]
ExperimentType: [1580x1 double]
phaseOfTrials: [1580x1 double]
SwitchingDisplayOffset: [1580x2x3 double]
ViaPosition: [1580x2x3 double]
StartAngle: [1580x2 double]
contextDistance: [1580x1 double]
cursorDir: [1580x1 double]
cursorMovementMode: [1580x1 double]
fleidSelector: [1580x1 double]
pullerCnt: [1580x1 double]
pullerD: [1580x1 double]
pullerIdx: [1580x1 double]
pullerT: [1580x1 double]
wantpassiveArmPull: [1580x1 double]
appliedFieldDirection: [1580x1 double]
contextFieldDirection: [1580x1 double]
FrameData: [1x1 struct]
datName: 'TranGenVisDay2DP151217.DAT'
trialsInBatch: 42
fieldTrialsInBatch: 36
catchTrialsInBatch: 8
    numberOfBatches: 37.6190
    batchesPerSwitch: 1
batchSwitchPhases: 37.6190
dataSamplingRate: 1000
PhaseTrialBoundary: [1x37 double]

```

Matlab data file for Passive to Visual transfer experiment
Commented Matlab example script to read-in the data (and utility functions that assist this process)

There are 4 zip files P1.zip P2.zip P3.zip P4.zip
You will need to expand them and then put all the data files in a common directory and make sure you set this directory path in the setup function GetPassiveLeadInParams.m
Use the Matlab script Main_AnalysePasToVisTransDemo.m to read in the data structure into Matlab from the data individual participants

The data structures returned in the script has the data fields:

```
    Trials: 1580
    TrialNumber: [1×1580 double]
    TargetIdx_g: [1580×2 double]
    WantCatch_g: [1580×2 double]
    TrialType_g: [1580×1 double]
    FieldType_g: [1580×2 double]
    FieldConstant_g: [1580×2 double]
    CatchFieldConstant_g: [1580×2 double]
        FieldAngle_g: [1580×2 double]
        FieldMatrix_g: [1580×2×4 double]
        FieldMatrixID_g: [1580×2 double]
        TargetPosition_g: [1580×2×3 double]
            TargetAngle_g: [1580×2 double]
        TargetDistance_g: [1580×2 double]
        StartPosition_g: [1580×2×3 double]
        FinishPosition_g: [1580×2×3 double]
        ContextPosition_g: [1580×2×3 double]
        MissTrialFlag_g: [1580×1 double]
        MissTrials_g: [1580×1 double]
    MoveReactionTime_g: [1580×1 double]
    MovementDuration_g: [1580×1 double]
        ExperimentTime_g: [1580×1 double]
        GoTimeDelay_g: [1580×1 double]
        m_contextID_g: [1580×1 double]
        m_TrialID_g: [1580×1 double]
        TargetCount_g: [1580×2 double]
    TargetCountWashout_g: [1580×2 double]
        TargetCountProbe_g: [1580×2 double]
    batchesSwitchModulus_g: [1580×1 double]
    BatchesSwitchStart_g: [1580×1 double]
        WantCatchInNULL_g: [1580×1 double]
    washoutSwitchModulus_g: [1580×1 double]
    probeSwitchModulus_g: [1580×1 double]
        ExperimentType_g: [1580×1 double]
        m_phaseOfTrials_g: [1580×1 double]
    SwitchingDisplayOffset_g: [1580×2×3 double]
        ViaPosition_g: [1580×2×3 double]
        StartAngle_g: [1580×2 double]
        contextDistance_g: [1580×1 double]
        cursorDir_g: [1580×1 double]
    cursorMovementMode_g: [1580×1 double]
    fleidSelector_g: [1580×1 double]
    pullerCnt_g: [1580×1 double]
```

```
pullerD_g: [1580×1 double]
pullerIdx_g: [1580×1 double]
pullerT_g: [1580×1 double]
wantpassiveArmPull_g: [1580×1 double]
appliedFieldDirection_g: [1580×1 double]
contextFieldDirection_g: [1580×1 double]
    FrameData: [1×1 struct]
        datName: 'TranGenPasDay2Ryys150626.DAT'
    trialsInBatch: 42
fieldTrialsInBatch: 36
catchTrialsInBatch: 8
    numberOfBatches: 37.6190
    batchesPerSwitch: 1
batchSwitchPhases: 37.6190
    dataSamplingRate: 1000
PhaseTrialBoundary: [1×37 double]
```

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Matlab Data structure

The Matlab data is held in the structure rawData. In the interference data example., contains the following fields.

Trials: 1904
TrialNumber: [1x1904 double]
TargetIdx_g: [1904x2 double]
WantCatch_g: [1904x2 double]
TrialType_g: [1904x1 double]
FieldType_g: [1904x2 double]
FieldConstant_g: [1904x2 double]
CatchFieldConstant_g: [1904x2 double]
FieldAngle_g: [1904x2 double]
FieldMatrix_g: [1904x2x4 double]
FieldMatrixID_g: [1904x2 double]
TargetPosition_g: [1904x2x3 double]
TargetAngle_g: [1904x2 double]
TargetDistance_g: [1904x2 double]
StartPosition_g: [1904x2x3 double]
FinishPosition_g: [1904x2x3 double]
ContextPosition_g: [1904x2x3 double]
MissTrialFlag_g: [1904x1 double]
MissTrials_g: [1904x1 double]
MoveReactionTime_g: [1904x1 double]
MovementDuration_g: [1904x1 double]
ExperimentTime_g: [1904x1 double]
GoTimeDelay_g: [1904x1 double]
m_wantROmode_g: [1904x1 double]
m_TrialID_g: [1904x1 double]
TargetCount_g: [1904x2 double]
TargetCountWashout_g: [1904x2 double]
TargetCountProbe_g: [1904x2 double]
batchesSwitchModulus_g: [1904x1 double]
BatchesSwitchStart_g: [1904x1 double]
WantCatchInNULL_g: [1904x1 double]
washoutSwitchModulus_g: [1904x1 double]
probeSwitchModulus_g: [1904x1 double]
ExperimentType_g: [1904x1 double]
m_phaseOfTrials_g: [1904x1 double]
SwitchingDisplayOffset_g: [1904x2x3 double]
ViaPosition_g: [1904x2x3 double]
StartAngle_g: [1904x2 double]
ABC_g: [1904x1 double]

```
RSquared_g: [1904x1 double]
FrameData: [1x1 struct]
datName: 'RandProbePasGenRHA05112013.DAT'
catchAngles: [0 225 0 135]
TrialIDLookup: [32 33 34 35 36 37 38 39 40 41 42 43]
```

The samples data is held within the FrameData structure:

```
Frames: [1904x1 double]
ForcesOn_g: [1904x2198 double]
TrialTime_g: [1904x2198 double]
Position_g: [4-D double]
Velocity_g: [4-D double]
Force_g: [4-D double]
Acceleration_g: [4-D double]
HandleForce_g: [4-D double]
HandleTorque_g: [4-D double]
passiveMovementPart_g: [1904x2198 double]
FieldForce_g: [4-D double]
```