MStyles
Cascading Style Sheets for MATLAB

CS 294-10 Final Project

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CSS Concepts

- Tree of elements
- Rules

```
selector1, selector2 {
 propertyA: valueA;
 propertyB: valueB;
 …
}
```

- Select by class, id, and relative position in tree
- Layout by inline flow, normal flow, floats
- Rules cascade (replace general with specific)

Translation to MATLAB

- Handle graphics objects form tree
- Applying rules
  - Convert selectors to object handles
  - Use MATLAB set, get interface:

```
set([handle1,handle2],propertyA,valueA)
set([handle1,handle2],propertyB,valueB)
```

- Box model implemented as additional axes object
  - Borders and background “plotted” in axes
  - Hidden x-axis, y-axis, tick marks, labels, etc.
- Translate layout rules to absolute positions

Implementation

- Override built-in handle graphics objects
  - figure, axes, lineseries, text, etc.
  - Each inherit from MStyles.Box
- Use package mechanism

```
import MStyles.*
fig = figure()   (Uses MStyles.figure)
```

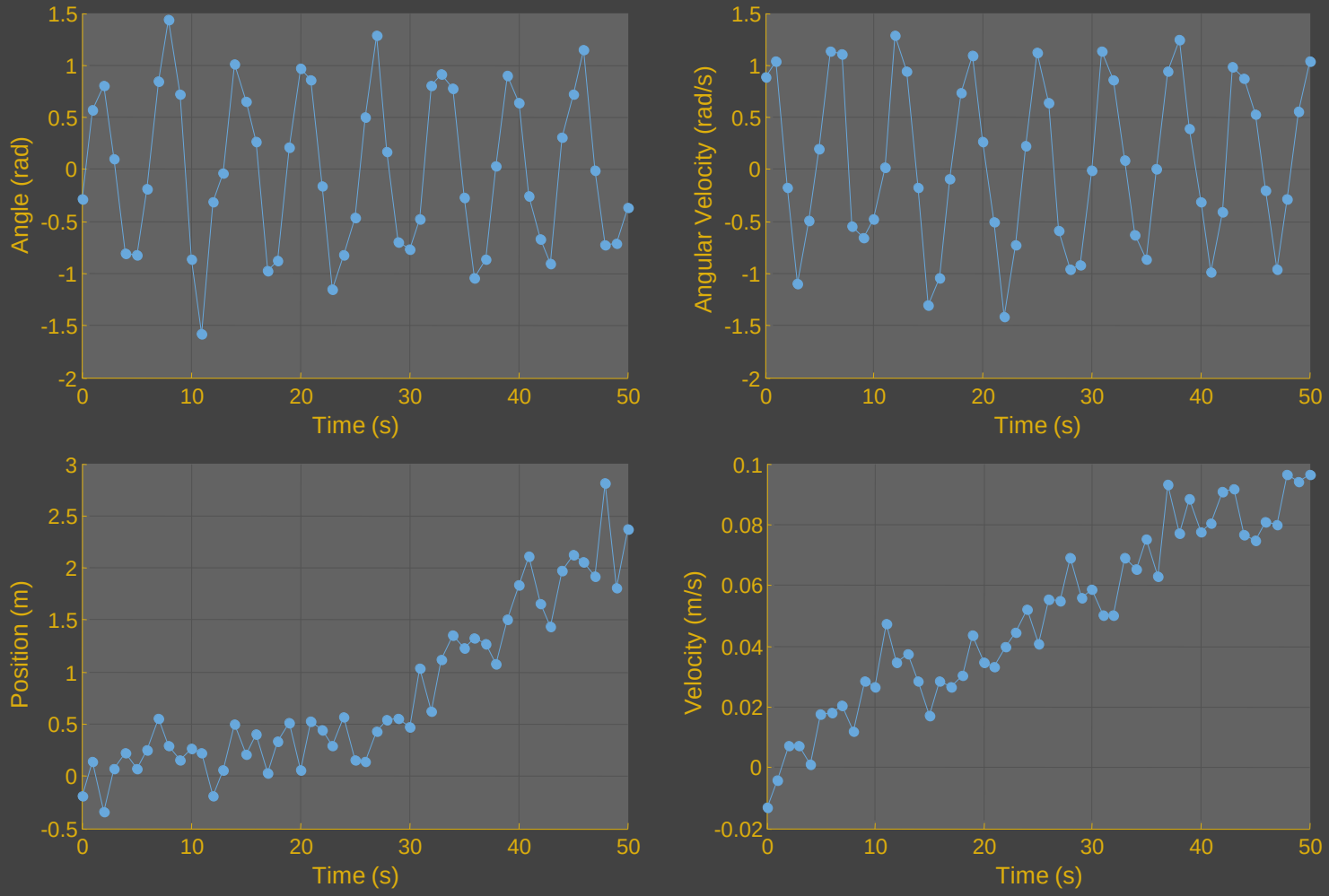
- CSS files (text) parsed manually
  - Regular expressions & finite-state machine logic
- Translate layout rules to absolute positions

Simplifications

- No floats
- No margin collapsing
- Property names consistent with MATLAB
  - e.g. BorderTopWidth, rather than border-top-width
- No attribute selectors
  - e.g. element[property=value]
- No selector specificity
  - Styles applied in order
  - Later overrides earlier

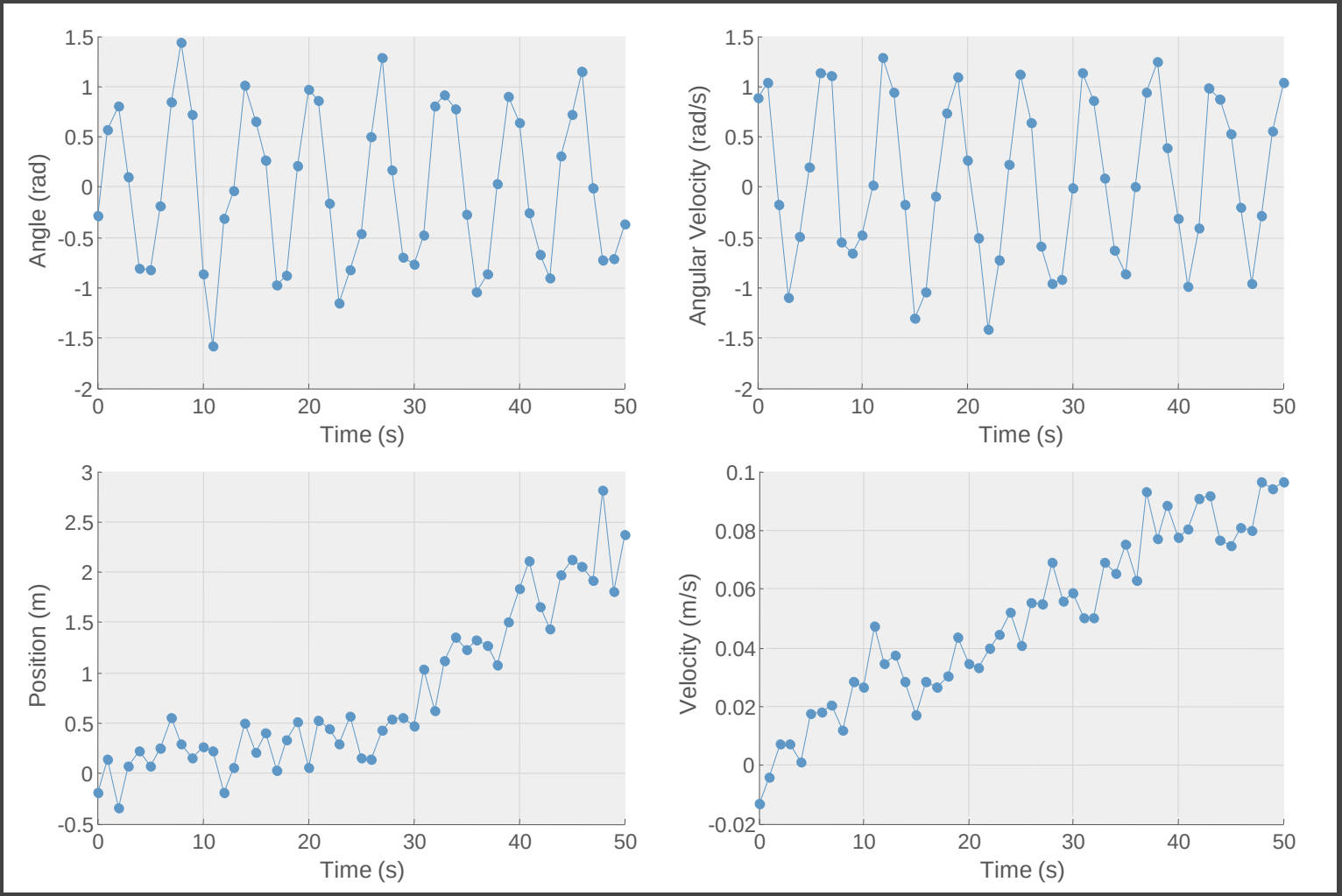
Example: Targeting Different Media

presentation.mss



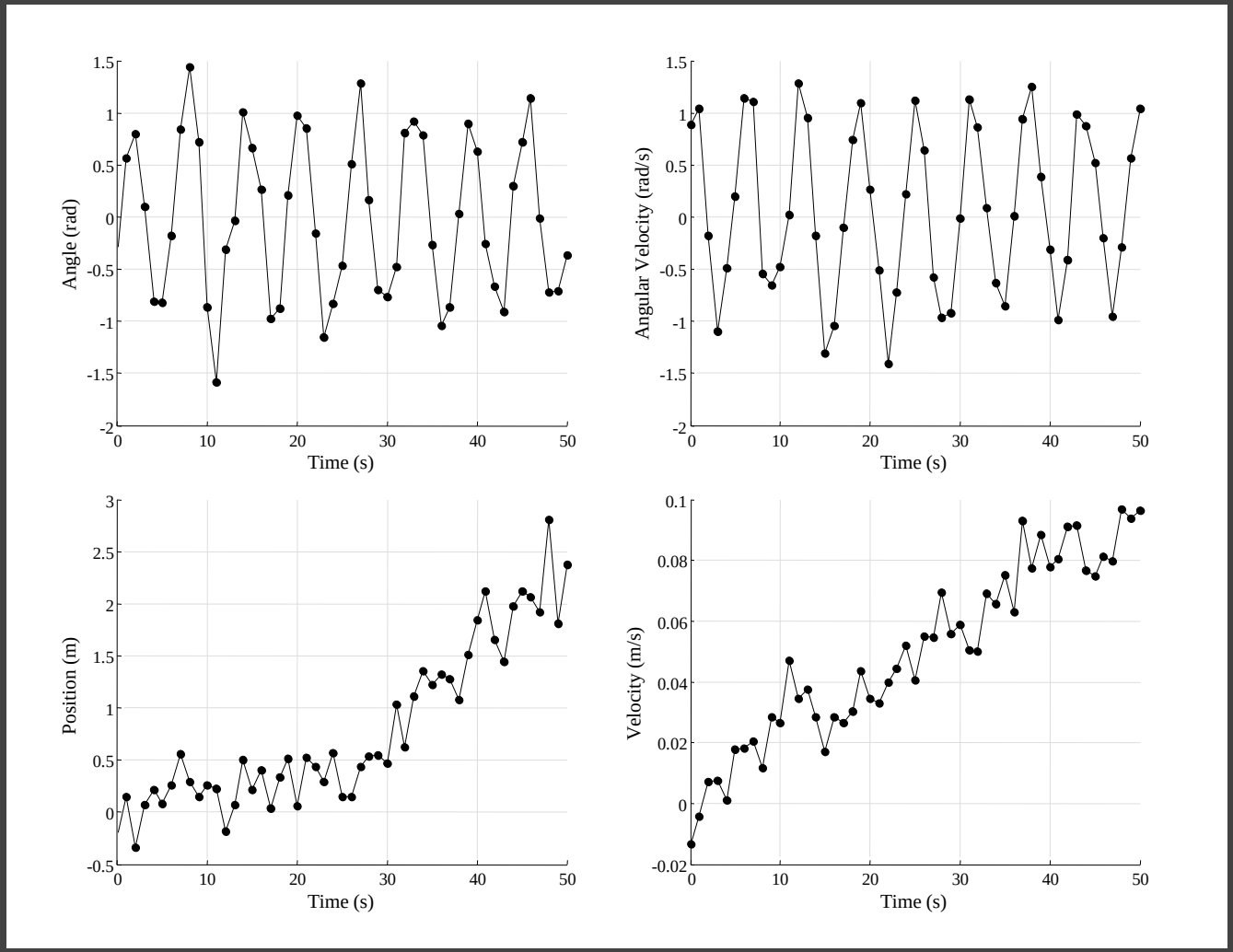
Example: Targeting Different Media

web.mss



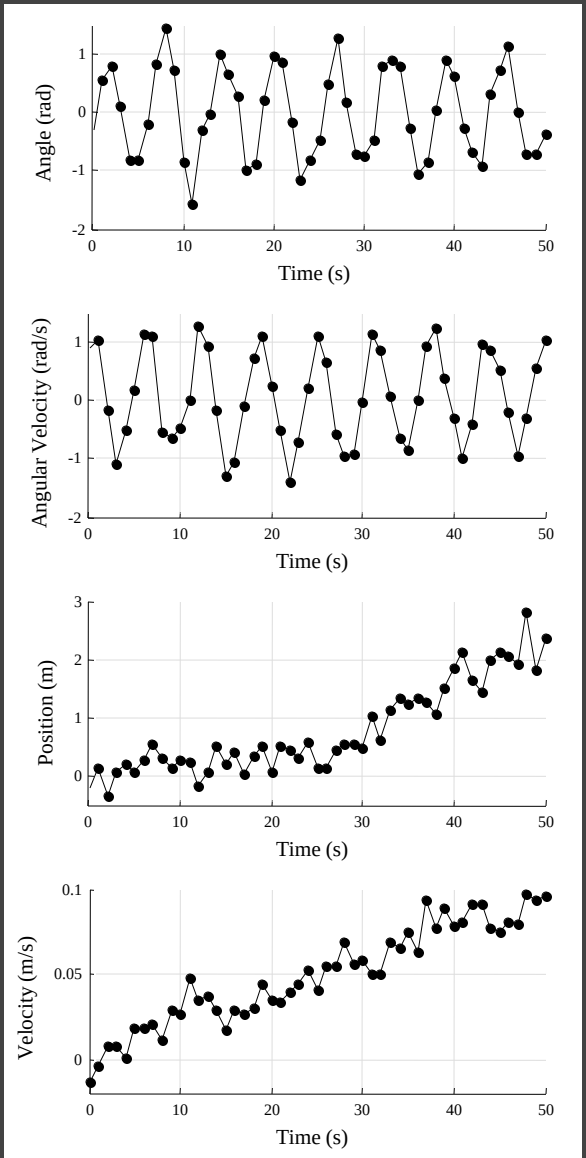
Example: Targeting Different Media

handout.mss



Example: Targeting Different Media

paper.mss



the end