

Designing Interactive Systems I

Gestalt Laws, Information Content, Visibility, Affordances, and Signifiers Lab 2

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<https://hci.ac/dis>



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Update: Short-term Memory

- Miller (1956): Estimated short-term memory to contain 7 ± 2 chunks on average.
- In 2001, Cowen showed that this is actually **4 ± 1 chunks**
- For details, see <https://doi.org/10.1017/S0140525X01003922>

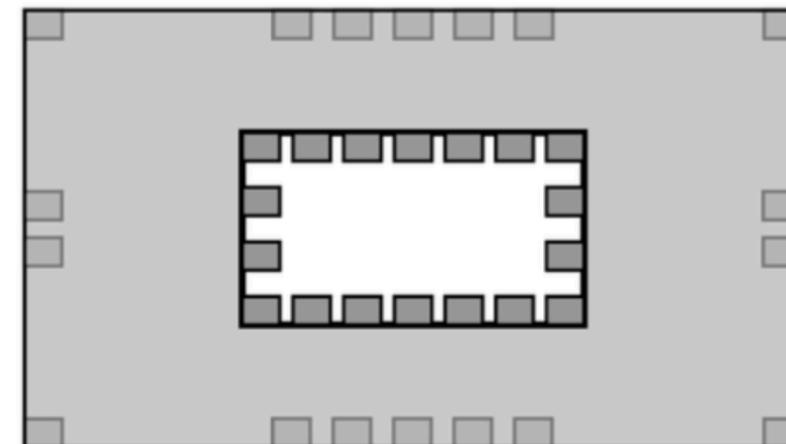
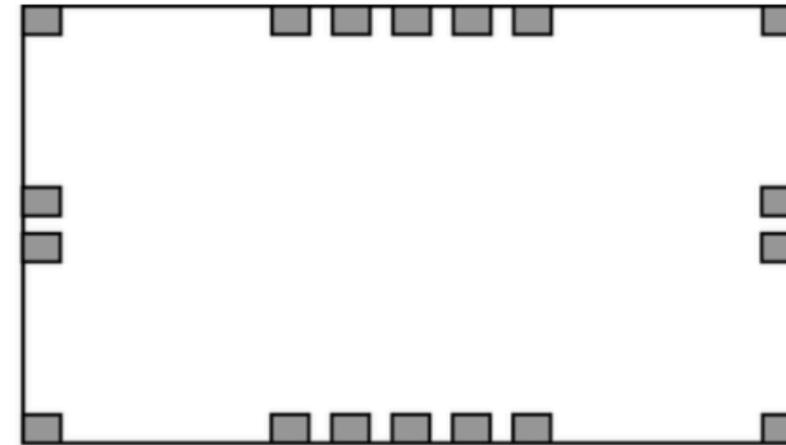
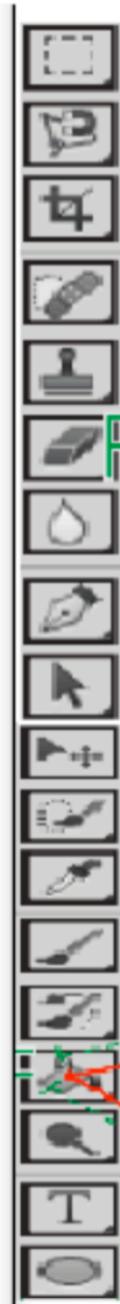
In-Class Exercise 1

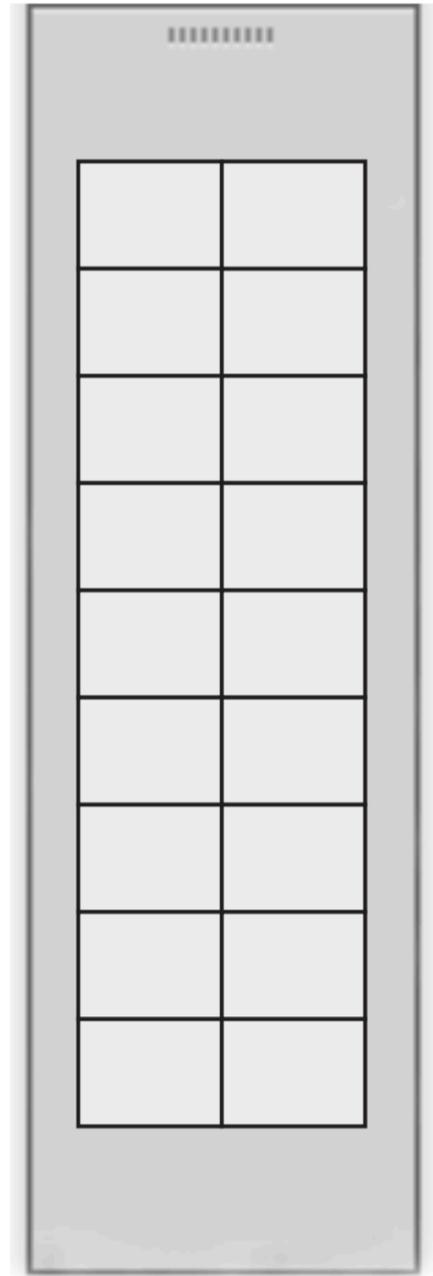


Assignment 1: Fitts' Law

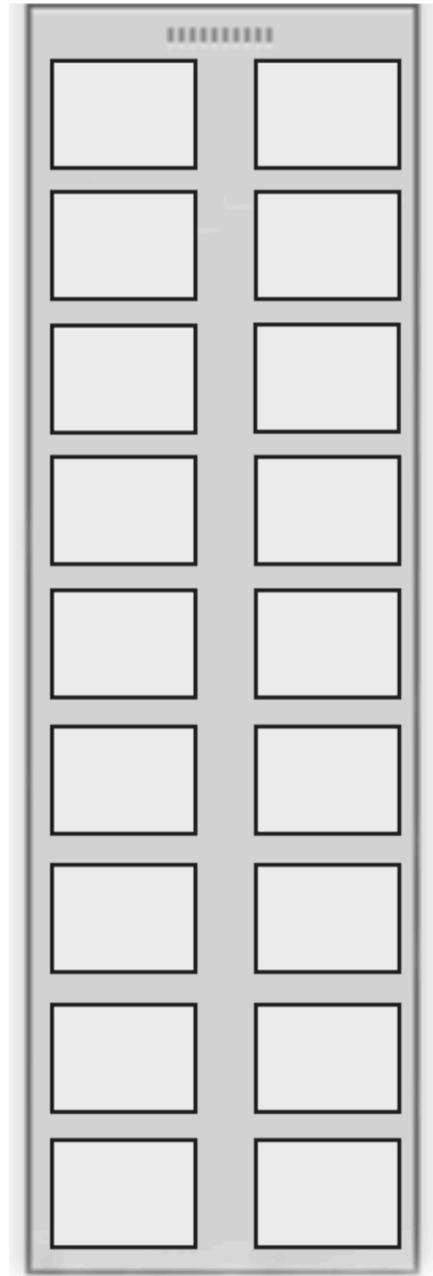


Left edge of the screen





Oliver's Design

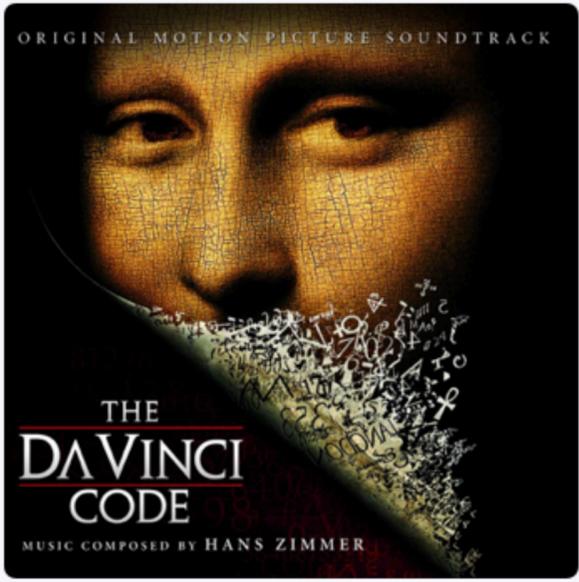
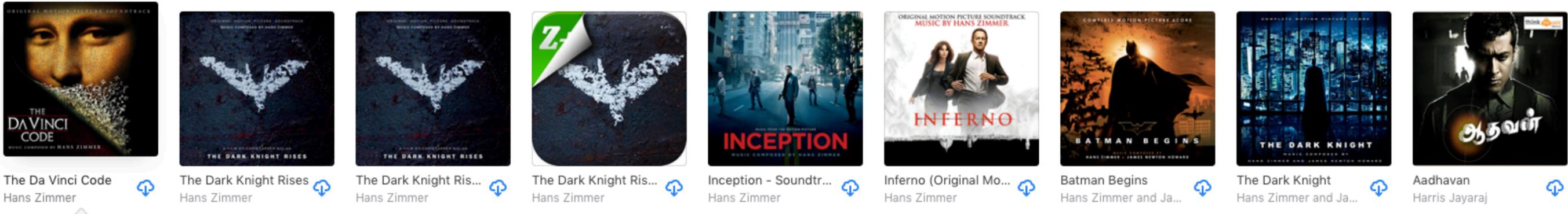


Krishna's Design



- Library
- Recently Added
- Artists
- Albums
- Songs
- Genres
- Music Videos
- Downloaded

- Apple Music Playlists
- A.R. Rahman Essentials
- Alia Bhatt Essentials
- Animationsfilme
- Beethoven and the Roma...
- Best of 90s Tamil
- Best of the Week
- Brain Work: Classical Mus...
- Colbie Caillat Essentials
- Coldplay Essentials
- Contemporary Classical P...
- Der Soundtrack zur TV S...
- Felix Jaehn Essentials
- Hans Zimmer - His Great...
- Hans Zimmer: Next Steps
- Harris Jayaraj Essentials (...)
- Harry Gregson-Williams E...
- Ilaiyaraaja Essentials
- Lazy Morning
- Magical Soundtracks
- Oscar Gewinner: Beste Fil...
- Passenger Essentials
- Rajinikanth Essentials
- Romantic day out at the B...
- Running to the Beats
- Sara Bareilles Essentials
- Sing Me to Sleep
- The A-List: Classical
- The Wachowskis
- Top Songs of 2016
- Video Games
- Vijay Essentials
- Workout with Tamil



The Da Vinci Code Hans Zimmer

Soundtrack • 2006

14 songs, 1 hour, 8 minutes [Shuffle](#)

1	Dies Mercurii I Martius Hans Zimmer & Richard Harvey	6:03	8	Daniel's 9th Cipher Hans Zimmer & Richard Harvey	9:31
2	L'esprit des Gabriel Hans Zimmer & Richard Harvey	2:49	9	Poisoned Chalice Hans Zimmer & Richard Harvey	6:20
3	The Paschal Spiral Hans Zimmer & Richard Harvey	2:49	10	The Citrine Cross Hans Zimmer & Richard Harvey	5:22
4	Fructus Gravis Hans Zimmer & Richard Harvey	2:50	11	Rose of Arimathea Hans Zimmer & Richard Harvey	8:12
5	Ad Arcana Hans Zimmer & Richard Harvey	6:07	12	Beneath Alrischa Hans Zimmer & Richard Harvey	4:23
6	Malleus Maleficarum Hans Zimmer & Richard Harvey	2:19	13	Chevaliers de Sangreal Hans Zimmer & Richard Harvey	4:07
7	Salvete Virgines Hans Zimmer & Richard Harvey	3:14	14	Kyrie for the Magdalene Various Artists & Richard Harvey	3:55



Aadhavan (Original... Harris Jayaraj) Anegan (Original M... Harris Jayaraj) Ayan Harris Jayaraj Bheema Harris Jayaraj Chellamae Harris Jayaraj Dhaam Dhoom Harris Jayaraj Endrendrum Harris Harris Jayaraj Iru Mugan (Original... Harris Jayaraj) Kaakha Kaakha Harris Jayaraj

[GETTING STARTED](#)
[TUTORIAL](#)

1. Introduction
2. The Hero Editor
3. Master/Detail
4. Multiple Components
5. Services
6. Routing
7. HTTP

[FUNDAMENTALS](#)

- Architecture
- Template & Data Binding
- Forms**
 - User Input
 - Template-driven Forms
 - Form Validation**
 - Reactive Forms
 - Dynamic forms
- Bootstrapping
- NgModules
 - NgModules
 - NgModule FAQs
- Dependency Injection

Template-driven validation

To add validation to a template-driven form, you add the same validation attributes as you would with [native HTML form validation](#). Angular uses directives to match these attributes with validator functions in the framework.

Every time the value of a form control changes, Angular runs validation and generates either a list of validation errors, which results in an INVALID status, or null, which results in a VALID status.

You can then inspect the control's state by exporting `ngModel` to a local template variable. The following example exports `NgModel` into a variable called `name` :

template/hero-form-template.component.html (name)

```
<input id="name" name="name" class="form-control"
      required minlength="4" forbiddenName="bob"
      [(ngModel)]="hero.name" #name="ngModel" >

<div *ngIf="name.invalid && (name.dirty || name.touched)"
      class="alert alert-danger">

  <div *ngIf="name.errors.required">
    Name is required.
  </div>
  <div *ngIf="name.errors.minlength">
    Name must be at least 4 characters long.
  </div>
  <div *ngIf="name.errors.forbiddenName">
    Name cannot be Bob.
  </div>
</div>
```

[Form Validation](#)

- Template-driven validation**
- Reactive form validation
 - Validator functions
 - Built-in validators
- Custom validators
 - Adding to reactive forms
 - Adding to template-driven forms
- Control status CSS classes

- Headphones
- Speakers
- more...
- Gift Cards**
- Apple Store Gift Cards
- iTunes Gift Cards
- Redeem Gift Card

Special Deals

- Refurbished Mac
- Refurbished iPod
- Refurbished iPad
- Clearance



Refurbished iPad

Full 1-year warranty



While supplies last

Refurbished 8GB iPod touch

Full 1-year warranty

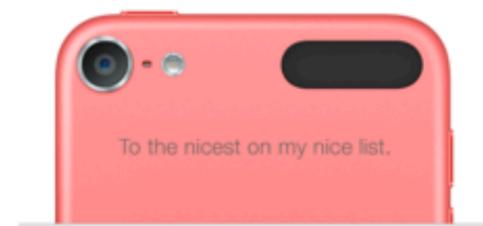


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In-Class Exercise 2: Affordances vs. Signifiers

- Find at least 5 examples each of affordances and signifiers in everyday objects
- E.g., think about kitchen appliances, electronics, workplace, etc.
- Affordances 'afford' a certain action
- Signifiers signal the affordance (how or where or what action needs to be done)

Assignment 2: Design Principles



Course Content for Week #3

Mappings, Constraints, and the Seven Stages of Actions

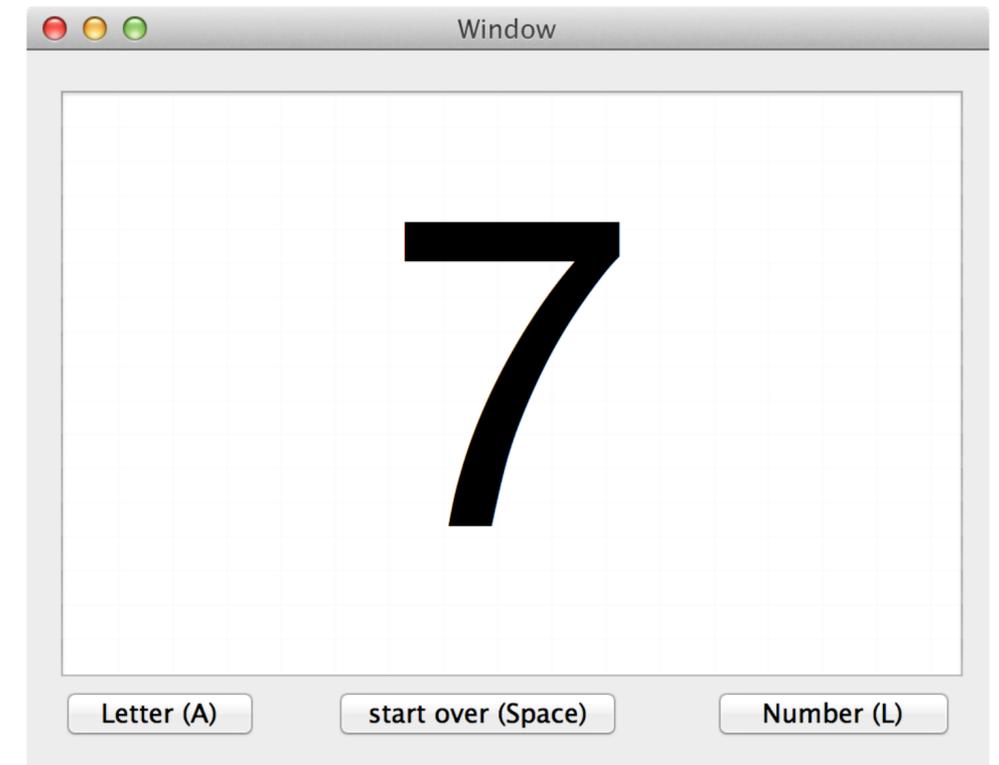






How Do People Carry Out a Task?

- A letter or a number is displayed randomly
- User has to press A (left) or press L (right) accordingly
- Remember?
 - Perceive (perceptive processor)
 - Understand & Interpret (cognitive processor)
 - Perform (motor processor)



7 Stages of Action

1. Perceive

2. Interpret

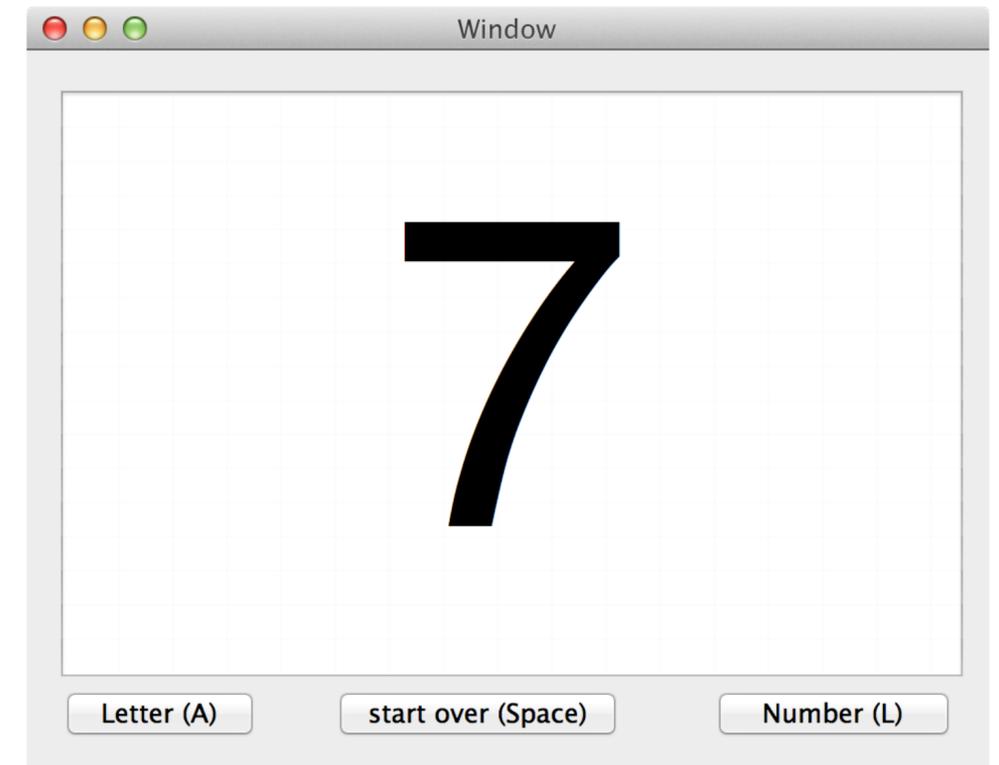
3.

4.

5.

6.

7. Perform



What Next?

- For your Studio slot on **Wednesday (Oct. 23):**
 - Complete task 1 and bring one or more home appliance(s) you have chosen for task 2.
- By **next Monday (Oct. 28):**
 - Read chapters 1–3 from the Norman book. Please use the 2nd edition!
 - Submit your solution for A02 via RWTHmoodle **by 9 am.**

