

A person with dark hair, wearing a blue and white checkered shirt, is seated at a long, rustic wooden table. They are looking down at a laptop or tablet. The room is bright, with large windows in the background showing a view of a building. A modern, minimalist lamp hangs above the table. The overall atmosphere is professional and creative.

AN INTRODUCTION TO INHERITANCE AND PROTOTYPES

CHO S. KIM, INSTRUCTOR
GENERAL ASSEMBLY

GA

Objectives

- Students will be able to...
 - describe the purpose of inheritance
 - describe the look-up process
 - describe what's a prototype
 - use `Object.create()`
 - use constructors
 - use prototypes



WHAT'S INHERITANCE?

Inheritance:

▸ Syntax

```
// our file
```

```
var cat
```

```
// console
```

Inheritance:

▸ Syntax

```
// our file  
var cat =
```

```
// console
```

Inheritance:

▸ Syntax

```
// our file  
var cat = {};
```

```
// console
```

Inheritance:

▸ Syntax

```
// input  
  
var cat = {};  
  
cat
```

```
// output
```

Inheritance:

▸ Syntax

```
// input  
var cat = {};  
cat
```

```
// output  
  
Object {}
```


Inheritance:

▸ Syntax

```
// input  
var cat = {};  
  
cat  
cat
```

```
// output  
  
Object {}
```

Inheritance:

▸ Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name
```

```
// output  
  
Object {}
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name =
```

```
// output
```

```
Object {}
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat
```

```
// output
```

```
Object {}
```

Inheritance:

► Syntax

```
// input  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}
```


Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age  
cat
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined
```


Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age  
cat.age
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age  
cat.age =
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age  
cat.age = 7;
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined  
Object {name: "Garfield", age: 7}
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age  
cat.age = 7;  
cat
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined  
Object {name: "Garfield", age: 7}
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age  
cat.age = 7;  
cat.constructor
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined  
Object {name: "Garfield", age: 7}
```

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age  
cat.age = 7;  
cat.constructor
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined  
Object {name: "Garfield", age: 7}  
undefined
```


Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age  
cat.age = 7;  
cat.constructor
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined  
Object {name: "Garfield", age: 7}  
Object {}
```



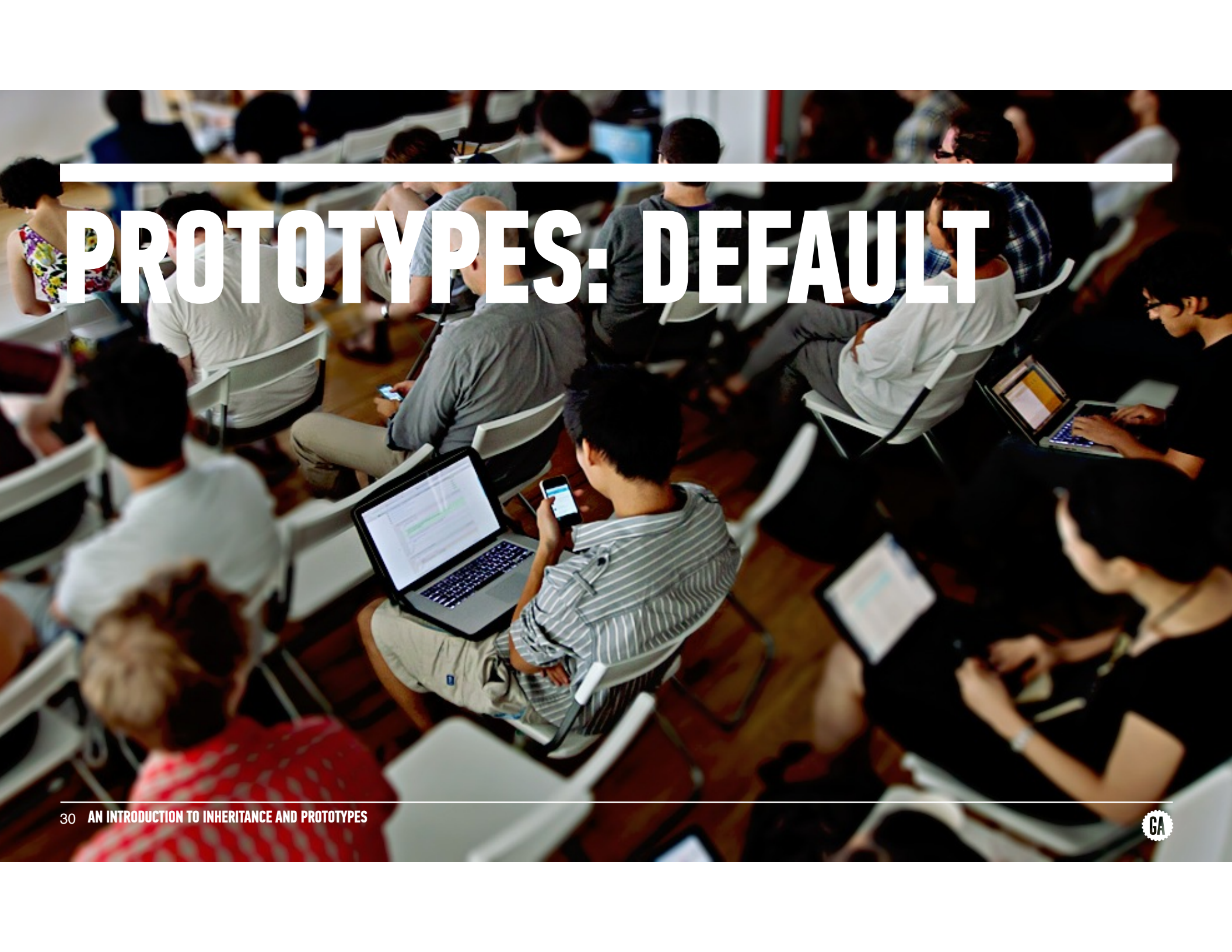
THE LOOK-UP CHAIN: A VISUALIZATION

Inheritance:

► Syntax

```
// input  
  
var cat = {};  
  
cat  
  
cat.name = "Garfield";  
  
cat  
cat.name  
cat.age  
cat.age = 7;  
cat.constructor
```

```
// output  
  
Object {}  
  
Object {name: "Garfield"}  
"Garfield"  
undefined  
Object {name: "Garfield", age: 7}  
Object {}
```

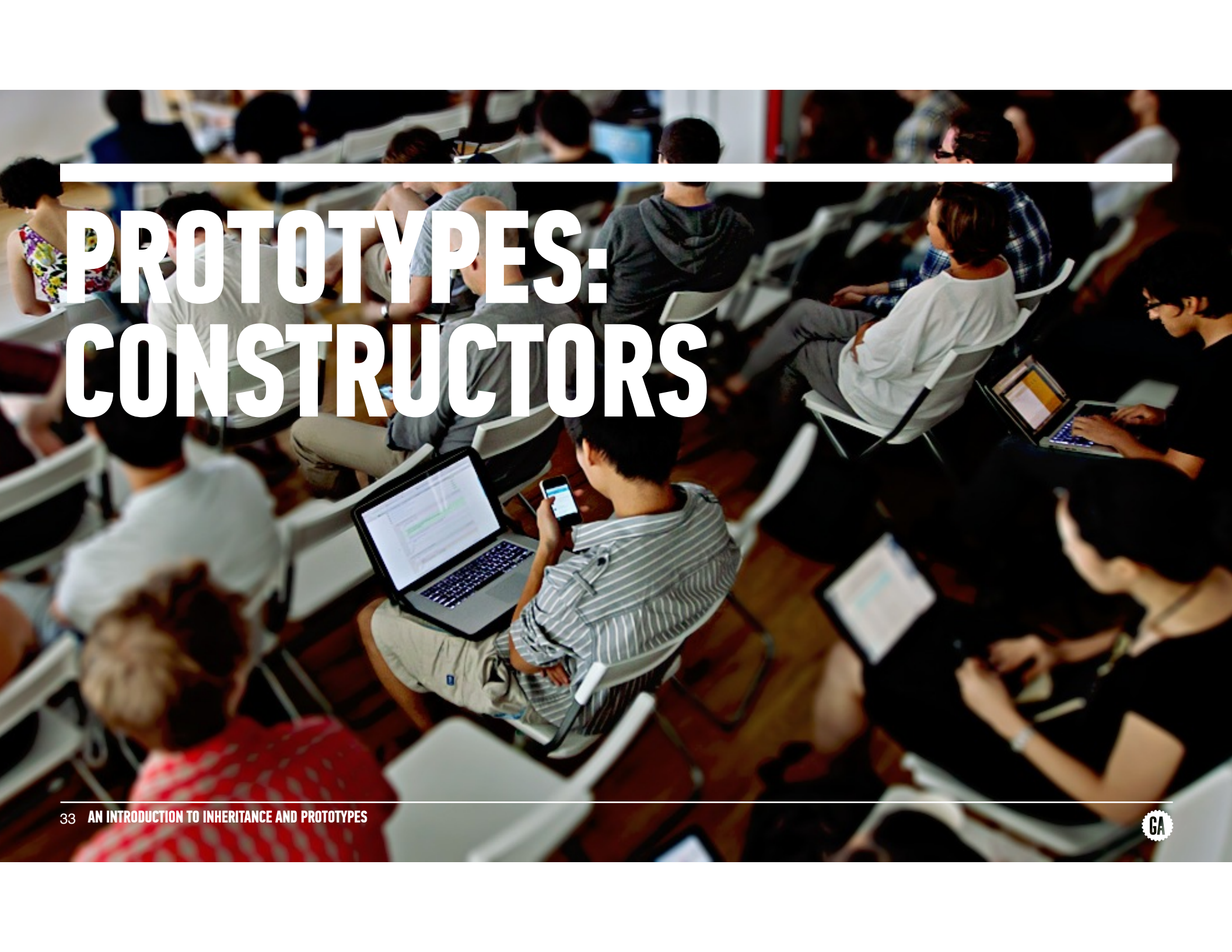
PROTOTYPES: DEFAULT



PROTOTYPES: CUSTOM



PROTOTYPES: MAKERS



PROTOTYPES: CONSTRUCTORS

A man with dark hair, wearing a blue and white checkered shirt, is seated at a long, rustic wooden table. He is focused on his laptop, with his hands on the keyboard. The table is made of several wide wooden planks and is surrounded by light-colored wooden chairs. In the background, there is a large window with vertical blinds, a black fan on a windowsill, and a white radiator. A modern, minimalist lamp hangs from the ceiling. The overall atmosphere is bright and professional.

CODE: SQUARES AND RECTANGLES

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 - describe what's a prototype
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THANK YOU.

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