



Introduction to Laravel

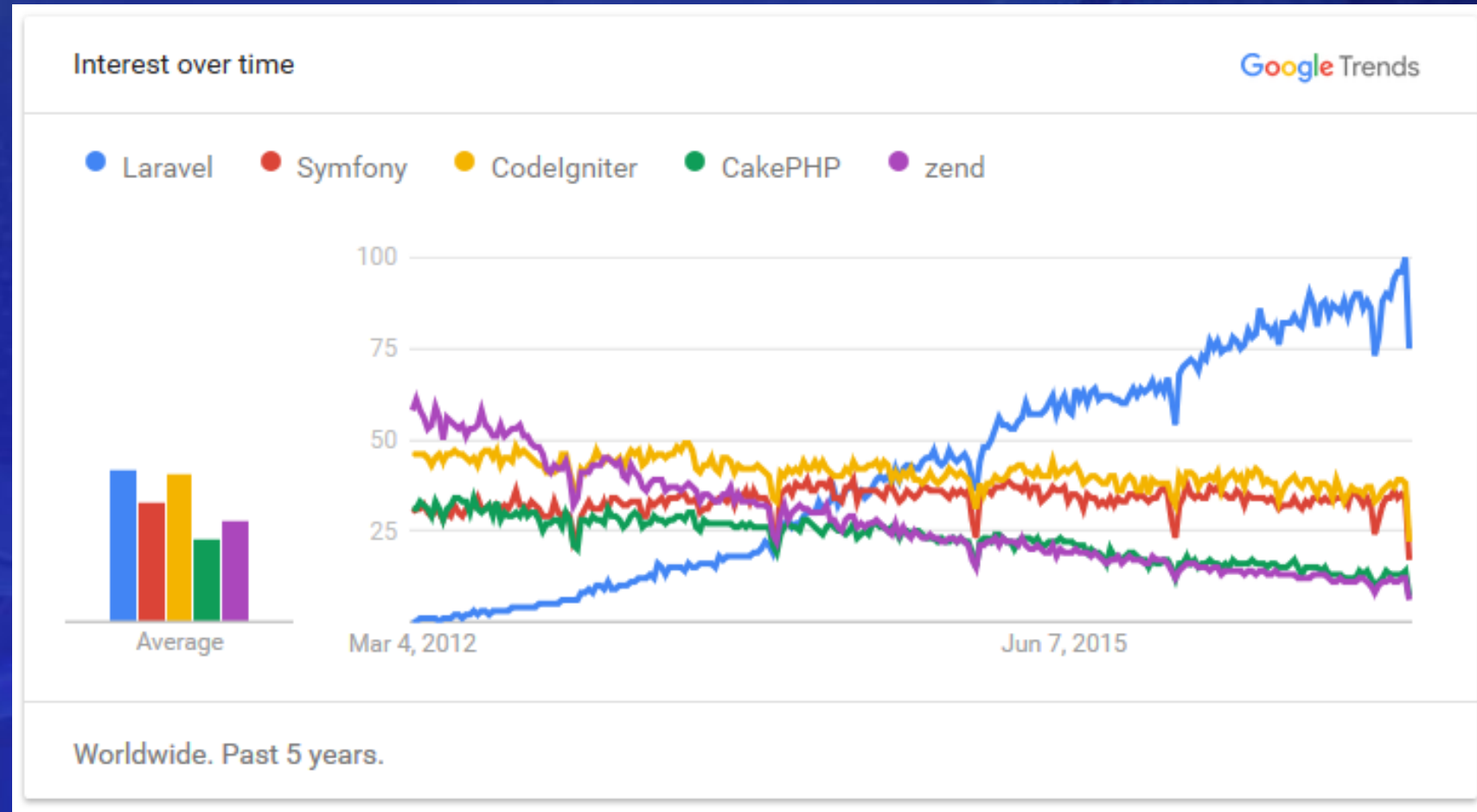
20 Points in 60 minutes

1. What is Laravel?

1. PHP Framework
2. Open source
3. Fully Object Oriented Programming (OOP)
4. Created by Taylor Otwell in 2011
5. Opiniated framework
 - Selected features / plugin supported out-of-the box

2. Most popular framework

1. 41k+ GitHub stars



3. Extensible

1. Reusable approach

- Easier to develop faster, quality code

2. Laravel Package

- Easy to install and update

3. Composer 👍

- Dependency manager for PHP
- <http://composer.org>

4. Migration File to create Database tables

Create database tables with version control

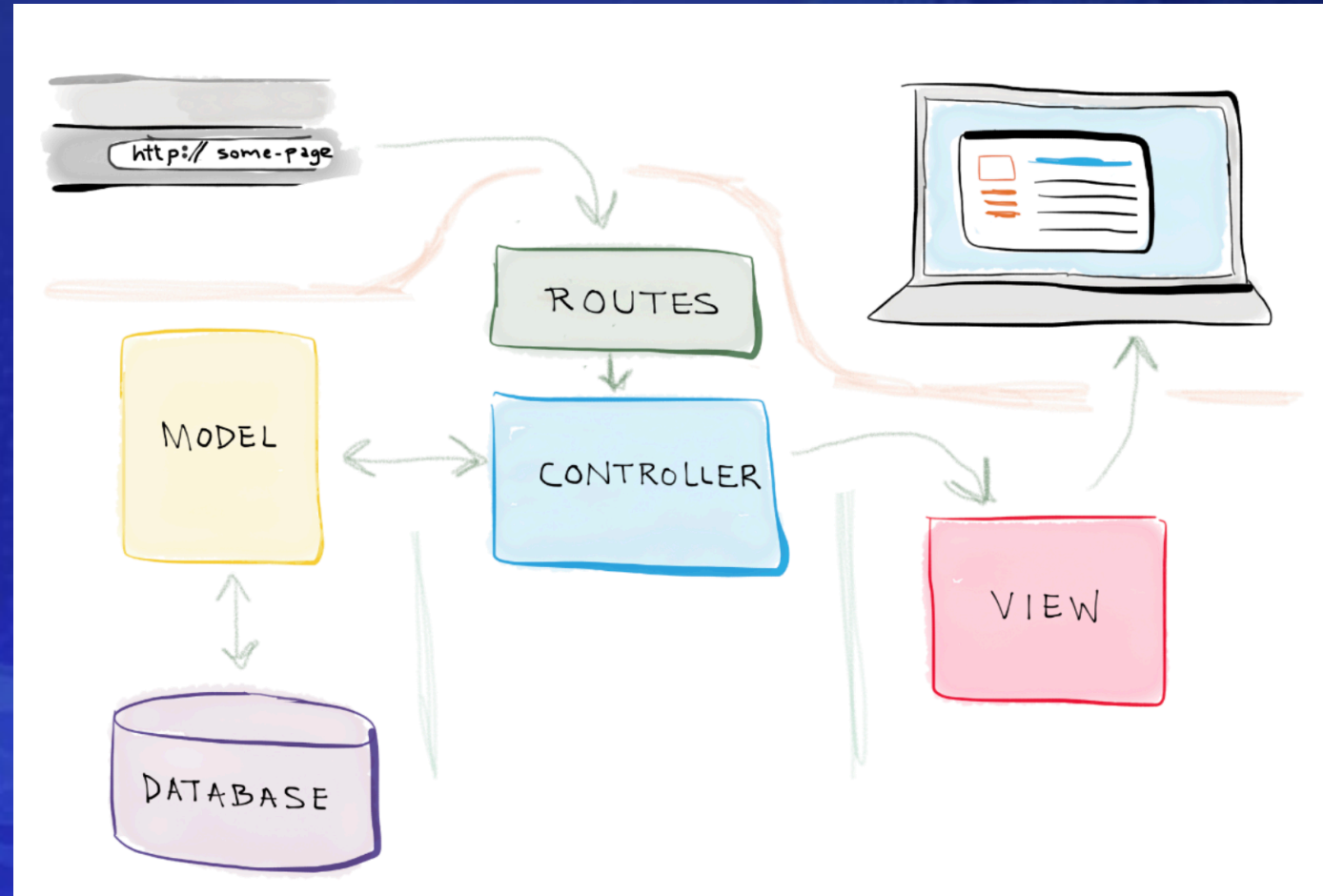
- Easy to synchronize structure
- Easy to rollback

```
Schema::create('users', function  
(Blueprint $table) {
```

```
    $table->increments('id');  
    $table->string('name')->index();  
    $table->string('email')->  
        unique();  
    $table->string('password');  
    $table->rememberToken();  
    $table->timestamps();  
}
```

5. MVC: Model, View, Control

1. Model – Eloquent
2. View – Blade template
3. Control – Controller



5.1 Eloquent ORM (Object Relational Mapping)

Model to represent an object (or SQL table)

```
php artisan make:model  
User
```

Example: To query all users:

```
<?php  
//in controller  
  
use App\User;  
...  
$users= User::all();  
  
foreach ($users as $user) {  
    echo $user->name;  
}
```

5.1 Eloquent Finding Data

```
use App\User;
```

```
...
```

```
//find user where ID is 3
```

```
User::find(3);
```

```
//find users who are young
```

```
User::where('age', '<', 40);
```

```
//find users who are young, sort by name ASC
```

```
User::where('age', '<', 40)  
    ->orderBy('name', 'ASC');
```


5.1 Updating Data

```
//update user email  
User::find(3)->update(  
    ['email' => 'ali@gmail.com']  
);
```

```
//update the user with siti@gmail.com,  
//if not found, create a new user
```

```
User::updateOrCreate(  
    ['email' => 'siti@gmail.com'],  
    ['lastlogin' => \Carbon::now()]  
);
```

5.1 Eloquent Relationship

1. Define models' relationship
 - Able to retrieve data together
2. Various types
 - One to one
 - One to many
 - Many to many
 - Has many through

5.1 Eloquent Relationship

e.g: a School belongs to a State

```
//in Model
```

```
class School extends Model{  
    public function state() {  
        return $this->belongsTo('\App\Models\State');  
    }  
}
```

```
//retrieve Schools with State
```

```
$data = School::with('state')->get();
```

5.2 View (using Laravel Blade template)

1. Blade is the simple, yet powerful templating engine provided with Laravel
2. Still can use `<?php .. ?>` tags

```
//in index.blade.php
```

```
Hello, {{ $name }}.
```

```
The current UNIX timestamp  
is {{ time() }}.
```

```
@if (count($users) >= 1)  
    At least one user  
@else  
    No users.  
@endif
```


5.2 Blade is extensible

Master layout (layouts/app.blade.php)

```
<html>
<body>
... <nav> ... </nav>

<div class="container">
    @yield('content')
</div>

.. <footer> ..</footer>
</body>
</html>
```

login.blade.php

```
@extends('layouts.app')

@section('content')

<p>This is login form.</p>
<form ....> </form>

@endsection
```

5.3 Controller

1. Business Logic (PHP methods only)
2. Similar to other frameworks
3. Resource Controller (standard methods with URLs)

Actions Handled By Resource Controller

Verb	URI	Action	Route Name
GET	/photos	index	photos.index
GET	/photos/create	create	photos.create
POST	/photos	store	photos.store
GET	/photos/{photo}	show	photos.show
GET	/photos/{photo}/edit	edit	photos.edit
PUT/PATCH	/photos/{photo}	update	photos.update
DELETE	/photos/{photo}	destroy	photos.destroy

6. Local Development Environment

1. Virtualization
 - Close to production environment
2. Laravel Homestead (pre-packaged Vagrant)
3. Vagrant
 - To setup multiple virtual machines
4. Laragon 👍
 - Easy to use Windows (similar to XAMPP)

7. URL Routing

1. Laravel has a very powerful URL routing

```
Route::get('foo', function () {  
    return 'Hello World';  
});
```

```
Route::get('/users', 'UserController@index');
```

```
Route::get('user/{id}', 'UserController@show')  
->where('id', '[0-9]+');
```


8. Security

1. Laravel has many built-in security features

- Authentication
- Route protection
 - `Route::get('/users', '..')->middleware('auth');`
- Guard
- Gates and Policies
- Validation, Cross Site Scripting, CSRF protection

8.1 CSRF (Cross Site Request Forgery)

```
<form method="POST" action="/profile">
```

```
    {{ csrf_field() }}
```

```
</form>
```

```
<meta name="csrf-token" content="{{ csrf_token() }}">
```

9. Authentication

Authentication out-of-the-box

```
php artisan make:auth
```

In view (Blade) file

```
@auth  
// The user is authenticated...  
@endauth  
  
@guest  
// The user is not authenticated...  
@endguest
```

10. Access Control List (ACL)

1. Laratrust package that provides the following:

- Role
- Permission
- Guard
- Gate

11. Front end Scaffolding

1. Bootstrap CSS Framework

- Mobile web / Responsive

2. CSS

- SASS and Less
- Laravel Mix (to compile into CSS)

3. JavaScript

- Vue JS (vuejs.org)

12. Command Line Generator

1. `php artisan <command>`

To make a controller:

```
php artisan make:controller PhotoController
```

To run migration files

```
php artisan migrate
```

```
php artisan migrate:rollback
```

13. Caching Support

1. Improved application performance
2. Easy to use / switch Cache Backend
 - File system
 - Redis
 - Memcached
 - Database
 - APC

14. Other Laravel Features

1. API Programming
2. Scheduling
3. Broadcasting
4. Unit Testing
5. Localization
6. Assets Compilation (CSS, JS, minification)
7. Notification (Email, etc)
8. Event (Queue, Listener)
9. Seeding
10. Pagination

What's next?

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Let's begin the Laravel journey!

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