

Project “egov_INNO”

“E-government services and tools from regional governments and regional development bodies to support and coordinate the regional research and innovation capital”

E-government Applications

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1. Notice

This Manual for the users of the Interreg egov_INNO program main platform, is intended to accompany any project partner during the use of the platform with its toolkits within the framework of the Interreg egov_INNO Cooperation Program. The team of the Regional Development Fund Region of Western Greece encourages Lead Partners and Project Partners to carefully read this document in order to better understand the terms and conditions of use of the platform. It is strongly recommended that the members of the program have a good command of the concepts presented in this document. Any change in the present Manual will be notified on the Program's website. This Manual targeted to the different users of the Interreg egov_INNO platform by the team of the Regional Development Fund Region of Western Greece from the Interreg egov_INNO Program.

2. Introduction

The platform has been developed based on the web application framework Yii2. For the data storage has been used Mysql server.

Yii is a high performance, component-based PHP framework for rapidly developing modern Web applications. The name Yii (pronounced Yee or [ji:]) means "simple and evolutionary" in Chinese. Yii is a generic Web programming framework, meaning that it can be used for developing all kinds of Web applications using PHP. Because of its component-based architecture and sophisticated caching support, it is especially suitable for developing large-scale applications such as portals, forums, content management systems (CMS), e-commerce projects, RESTful Web services, and so on.

Yii is not a one-man show, it is backed up by a strong core developer team, as well as a large community of professionals constantly contributing to Yii's development. The Yii developer team keeps a close eye on the latest Web development trends and on the best practices and features found in other frameworks and projects. The most relevant best practices and features found elsewhere are regularly incorporated into the core framework and exposed via simple and elegant interfaces.

3. Requirements and prerequisites

Yii 2.0 requires PHP 5.4.0 or above and runs best with the latest version of PHP 7. You can find more detailed requirements for individual features by running the requirement checker included in every Yii release. Using Yii requires basic knowledge of object-oriented programming (OOP), as Yii is a pure OOP-based framework. Yii 2.0 also makes use of the latest features of PHP, such as namespaces and traits. Understanding these concepts will help you more easily pick up Yii 2.0.

4. Getting the Platform online Checklist

Before launching the platform online, we recommend webmasters to perform a quality check on whether their platform is complete and if the minimum critical content has been uploaded.

Homepage

SECTIONS	RECOMMENDATIONS	CRITICAL	READY
Logo	There should a picture with the program logo	Yes	
Navigation menu	All pages should be displayed there as menu items	Yes	
Translation	The homepage is translated in the desired languages (Greek / English)	Optional	
Toolkit section	There should be 2 tools: 1) Business plan builder: you can run the wizard and use it either with a register account or as guest visitor 2) Courses: you can publish online courses with content, files, videos etc.	Yes	
Network section	There you can add your content as Company, Hub, Investor or Expert	Yes	
Barometer section	There you can navigate to another program tool about barometer on a different web address	Yes	
Funding section	There you can see a list of links and information	Yes	

	related to funding		
Contact	There is a contact form which sends messages to the RDFRWG main email	Yes	
About	An about page with a description of the program	Yes	
Footer: program description	There is a program short description text	Optional	
Footer: menu	There is a secondary navigational menu	Yes	

Content (pages, menu, items etc)

SECTIONS	RECOMMENDATIONS	CRITICAL	READY
Menu items / platform tree	The platform structure is tree-based and consistent with the project objectives and activities. No item (page) should be left empty or they should be hidden so they cannot be seen in the navigation menu.	Yes	
All sections	All sections should be visible with content and the appropriate functionality.	Optional	
All pages	All pages with static content should be visible with content.	Yes	
External links	All external links are properly working and have the option to open on a different tab.	Yes	
Download links	All download links are properly working and have a download link symbol.	Yes	
Buttons	All buttons are properly working.	Yes	
Translation	All pages to be translated are in the translated version and the multilingual button has displays the language versions.	Yes	

Forms	All the used forms are properly working.	Yes	
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5. System architecture and functionalities

5.1. General overview

In software architecture, there may be many layers between the hardware and end user. The front is an abstraction, simplifying the underlying component by providing a user-friendly interface, while the back usually handles business logic and data storage. E-government Applications are composed of a MySQL database, the backend and the frontend and a Linux OS server. The server hosts the application, the database stores application's data, the backend communicates with the server for each request and the frontend presents the information to the user. E-government Applications have been developed with different user permission levels. For each logged in user provides different and specific functionalities.

5.2. Database Design

E-government Applications uses one MySQL database to store the information into tables. Each application holds different tables on the database and there are some common tables such as the user table.

5.3. MVC Architecture

The Model View Controller (MVC) is a software design pattern commonly used for developing user interfaces which divides the related program logic into three interconnected elements. This is done to separate internal representations of information from the way's information is presented to and accepted from the user. This kind of pattern is used for designing the layout of the page.

Model: The central component of the pattern. It is the application's dynamic data structure, independent of the user interface. It directly manages the data, logic and rules of the application.

View: Any presentation of information such as a chart, table and content. Multiple views of the same information are possible, such as a bar chart for management and a tabular view for accountants.

Controller: Accepts input and converts it to commands for the model or view.

Besides the division of the application into these components, the model view controller design defines the interactions between them.

-The model is responsible for managing the data of the application. It receives user input from the controller.

-The view presents the model's data to the user in a particular format.

-The controller exists between the view and the model, responds to the user input and performs interactions on the data model objects. The controller receives the input, optionally validates it and then passes the input to the model.

5.4. Roles and Permissions

There are three types of users in the platform.

- **Guest users**
Guest user is any visitor of the platform that has not registered on it.
- **Registered users**
Are visitors that have been registered and they have a personal account in the platform. This gives them the ability to have some extra options like storing their business plan from the builder or having a profile on the supported network section.
- **Administrators**
These users are specific users that have been added to the platform in order to maintain platform data and update content such as the provided online courses.

6. Software Description

6.1. Software Elements

Server: The application is implemented and hosted in a Linux OS server with proper configurations.

Database: App is composed of a MS SQL database to store application's data. MySQL is an open-source relational database management system (RDBMS). The design of the database is based on tables and relations between them, depending on the needs. Different tables have been created to store specific data collection.

Backend: For the development of the backend part we use the Yii2 PHP web development framework. Yii2 is a free, open-source PHP web framework and intended for the development of web applications following the model view controller (MVC) architectural pattern and based on Yii2. The whole application for the back-end part is written in PHP general-purpose scripting language.

Frontend: The frontend consists of the logged in and non-logged users' area. Frontend provides specific functionalities, depending on the user's permission level. We use Bootstrap Framework and programming languages such as HTML, CSS, JavaScript for development. Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS and (optionally) JavaScript-based design templates for typography, layouts, buttons, navigation, and other interface components.

7. Application Functionalities

E-government applications provide many functionalities to the user. We present in short all of them.

- Creation of business plan and storage of the data inserted for future use.
- Export business plan report.
- Online courses with electronic material.
- An online network with companies, experts, hubs and investors that they can interact and collaborate through a smart matching tool.
- An information area for entrepreneurship support.