**Examica**

A Documentation Submitted to the

Information Technology Institute

In Partial Fulfillment of the

Requirements for the Professional Training Program

(9 Months Diploma- Intake39)

Web Development and User Interface

**Examica**

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Under the Supervision of

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Eng. Menna Shata

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We would also like to thank **Eng. Menna Shata**, for her unconditional support and for taking the time to demonstrate the workflow needed to be shown in Examica.

Thanks are extended to all the engineers in our department, who taught us directly in lectures or by mere communication. Knowing you has enriched us technically and personally.

Abstract

The requested level of knowledge is continuously increasing and education of employees or students is essential for achieving the required level at any organization.

Testing knowledge is an important segment in a process of managing human resources, whether it is a question of entrance testing of a candidate for employment or testing the level of knowledge of persons already employed or even students in colleges or schools. Results of those tests are the basis for management’s decision making and support to the process of placing the right person on the right position.

We as a team elaborated the system that administers the test of knowledge by creating a software that will enable organizations to easily setup a customized exam with multiple question types and invite the users they want to test, it will also auto correct the exams and hands out an endless number of certificates. In this way, the complete process of testing is covered by means of only one tool and all its elements are put under control.

**CHAPTER 1**

**INTRODUCTION**

**1.1. Project description**

Examica is a software service that enables you as an organization to easily setup a customized exam with multiple question types and invite the users you want to test to take it, it also auto correct the exams for you and hands out endless number of certificates.

[1.2. Stakeholders](#_Toc357559188)

* Owner.
* Admin.
* Examiner.
* Examinee.

1.3. Risks

* Server failure.
* Competitors.

1.4. Constraints

* Create friendly interface, easy to interact with.
* Secure organizations data.
* Time shortage

1.5. Reources

* React Js.
* C#.
* ASP .NET Core API.
* SQL Server.

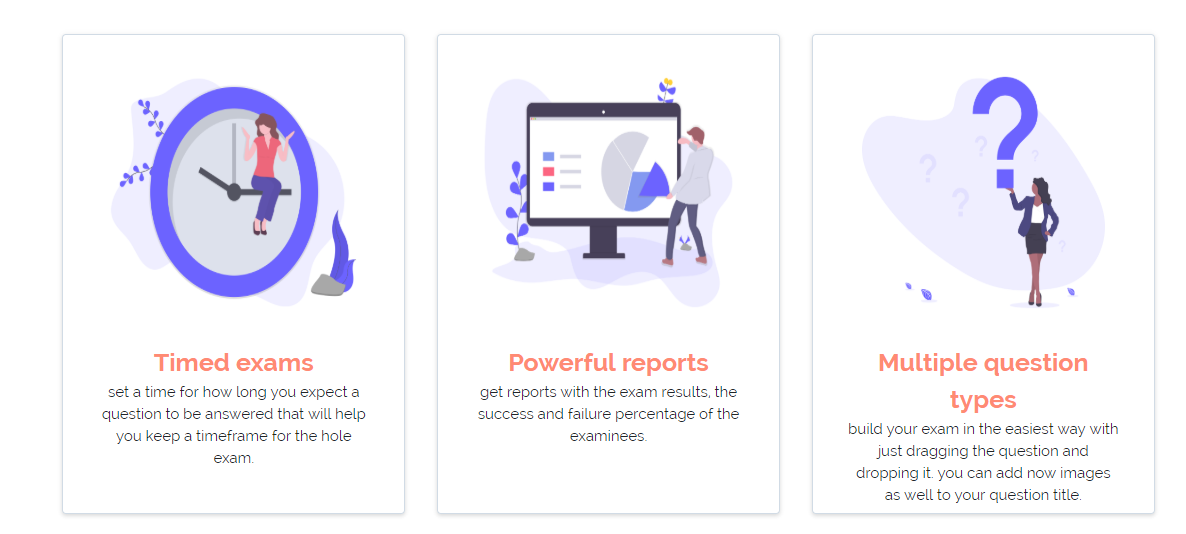
**CHAPTER 2**

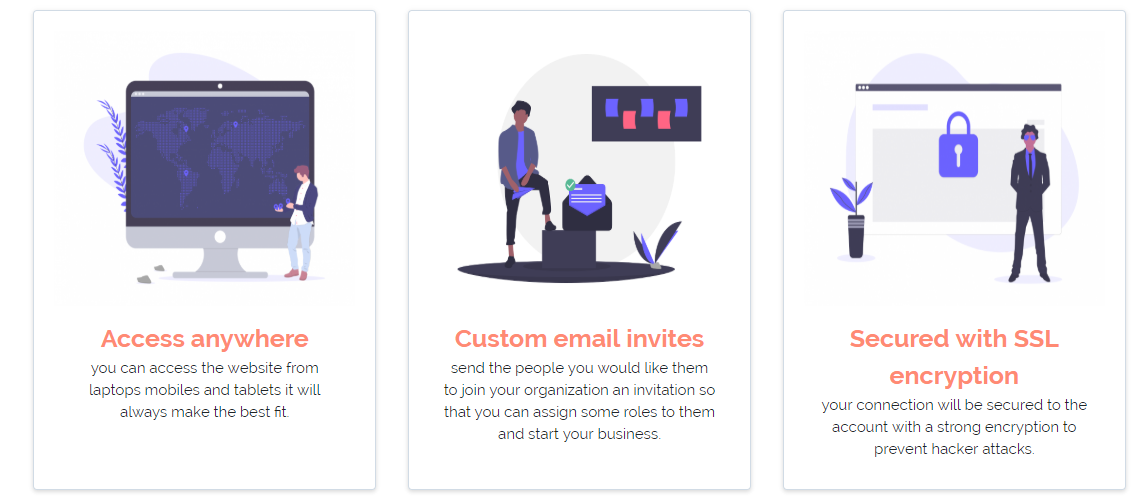
**SYSTEM MANAGEMENT PLAN**

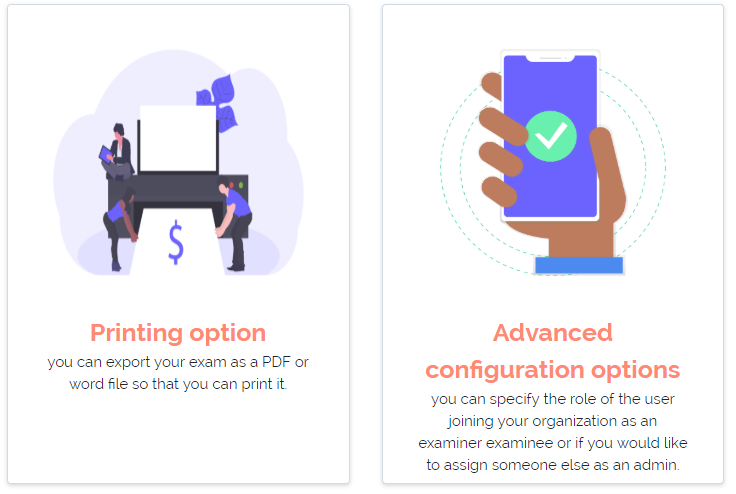
**2.1. System Overview**

Examica is a software service that enables you as an organization to easily setup a customized exam with multiple question types and invite the users you want to test to take it, it also auto correct the exams for you and hands out endless number of certificates.

**2.2. System Features**







**2.3. Roles**

Examica has 5 main roles:-

**2.3.1.** **General User**

* Navigate in the website public pages.
* Free trial.
* Sign up first.

**2.3.2. Owner**

* Register one or more organizations.
* Assign roles.

**2.3.3. Admin**

* Assign roles except for owner.
* Edit organization details.

**2.3.4. Examiner**

* Add exams.
* Add questions to the pool.

**2.3.5. Examinee**

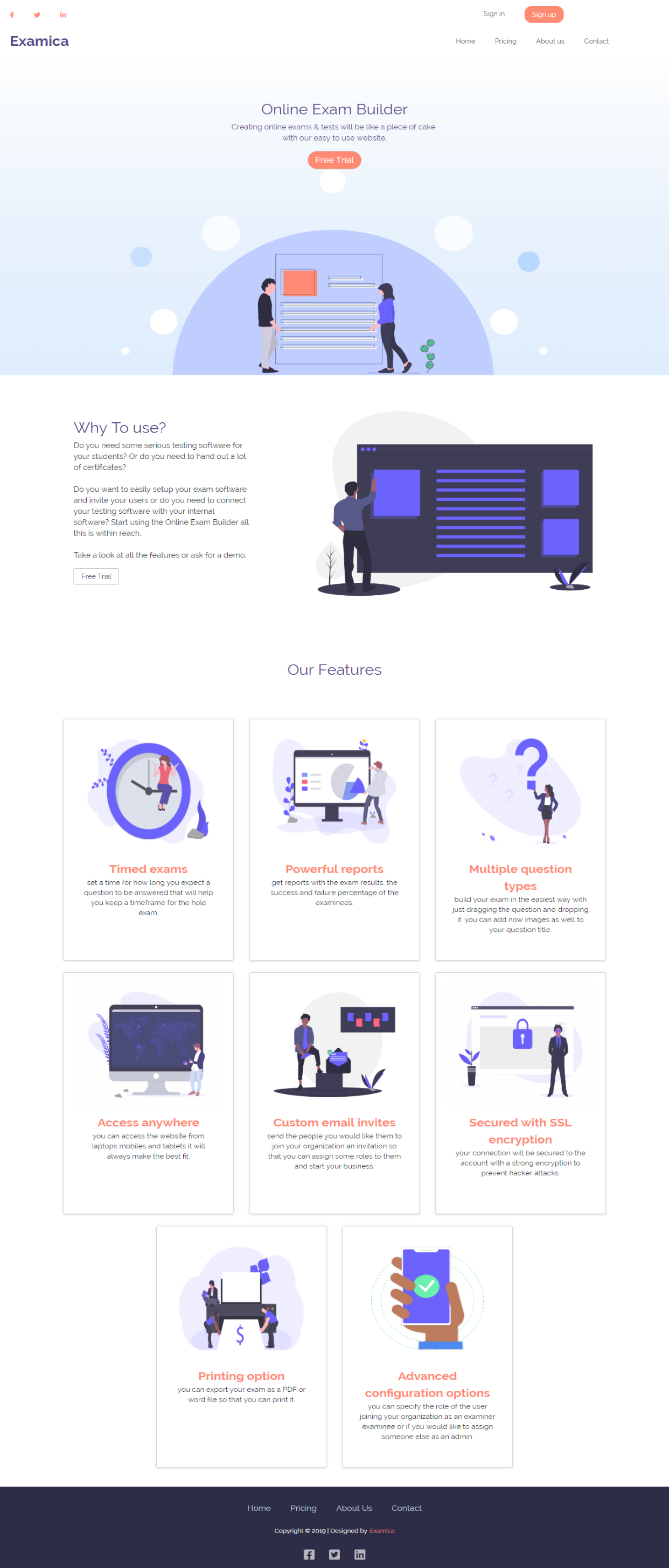
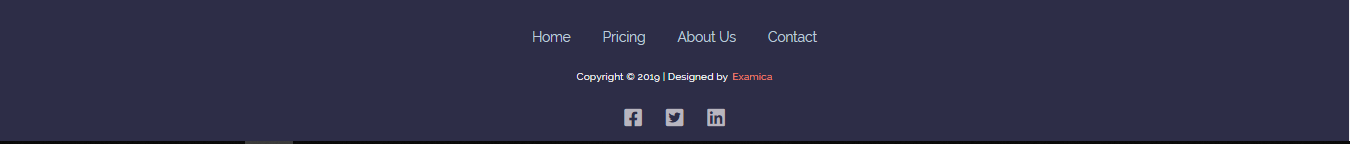
* Take exams.
* Edit his profile.

**CHAPTER 3**

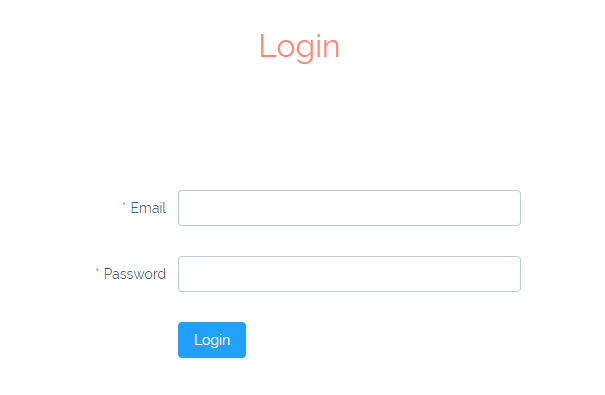
**SYSTEM WORK FLOW**

**3.1. General User**

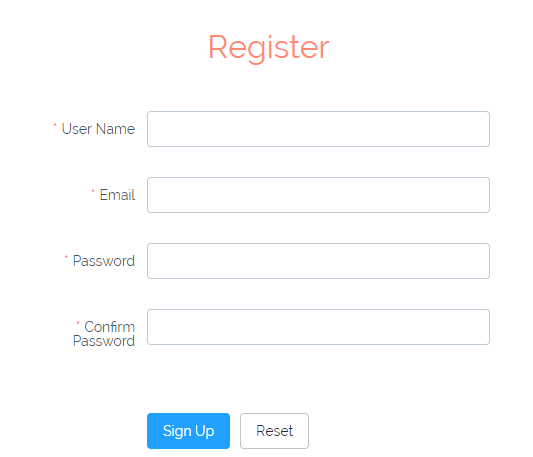
3.1.1. Home



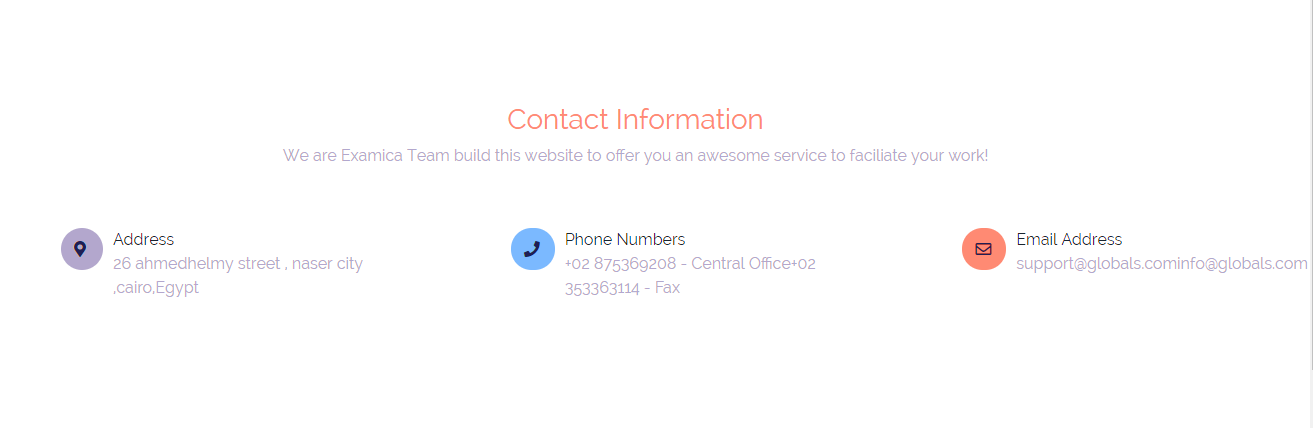
3.1.2. Login



3.1.3. Register

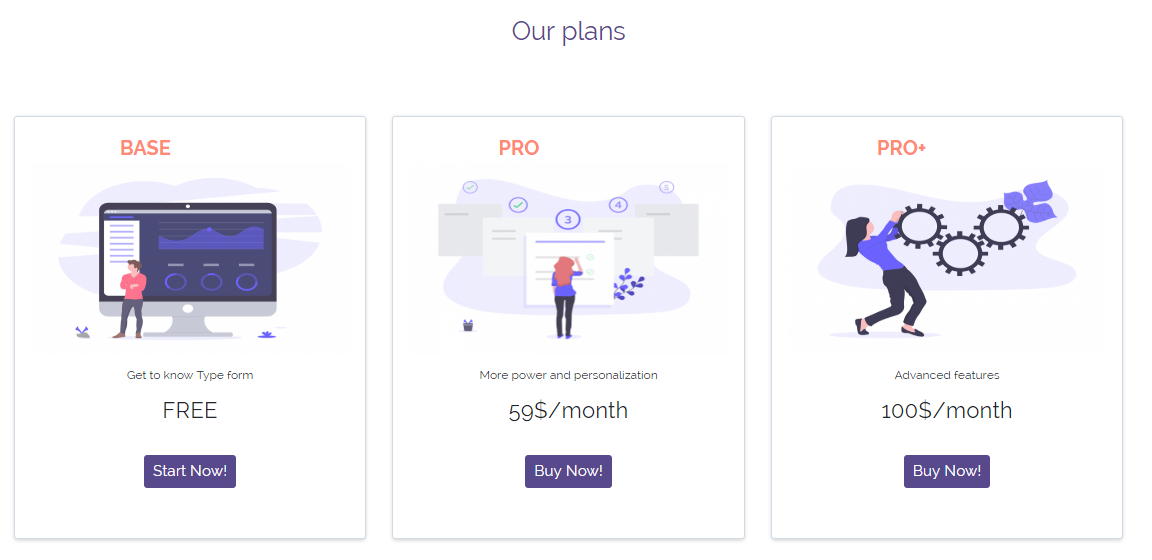


3.1.5. Contact us



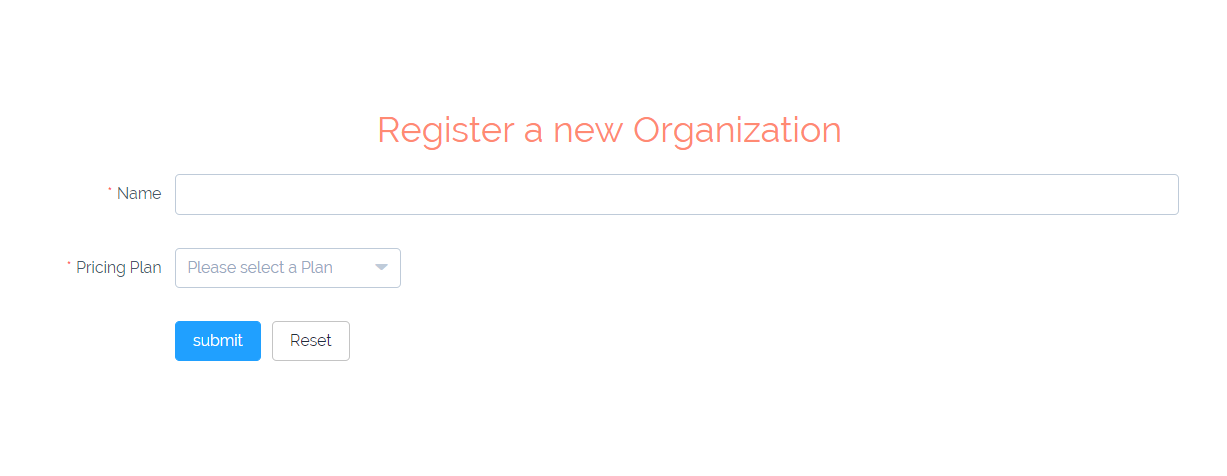
3.1.4. About us

3.1.6. Pricing Plans

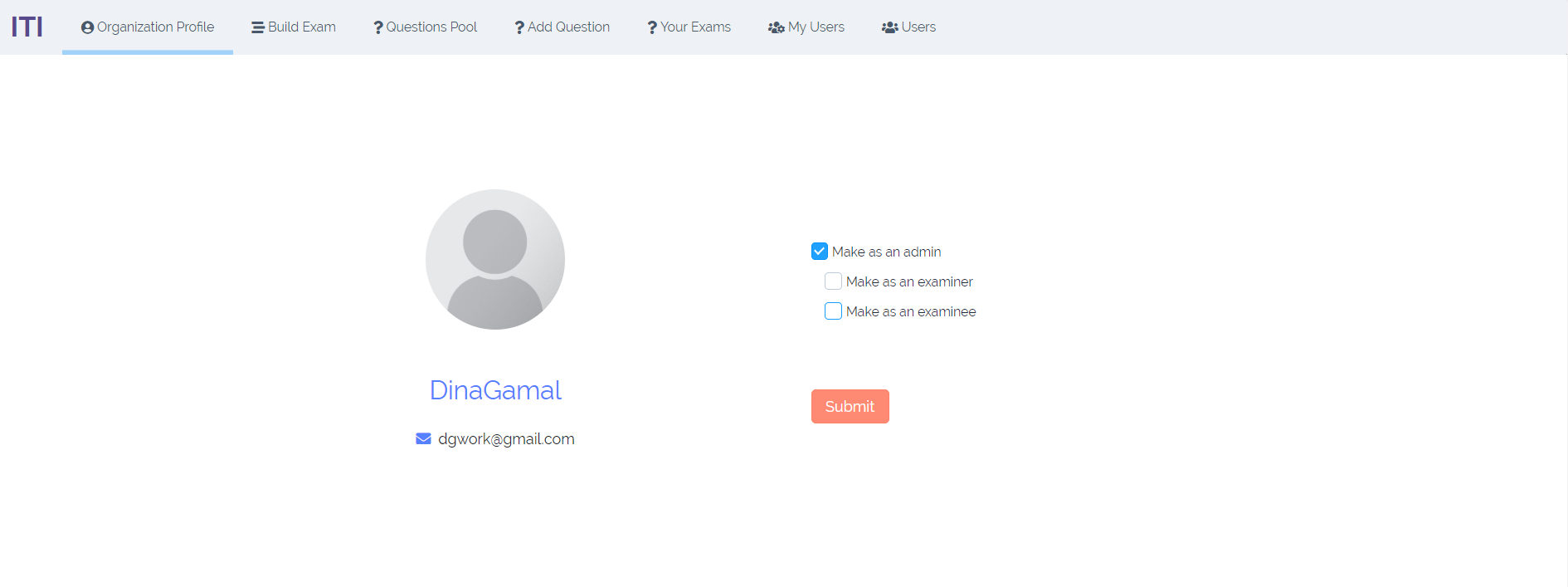


**3.2. Owner**

3.2.1. Register Organization.



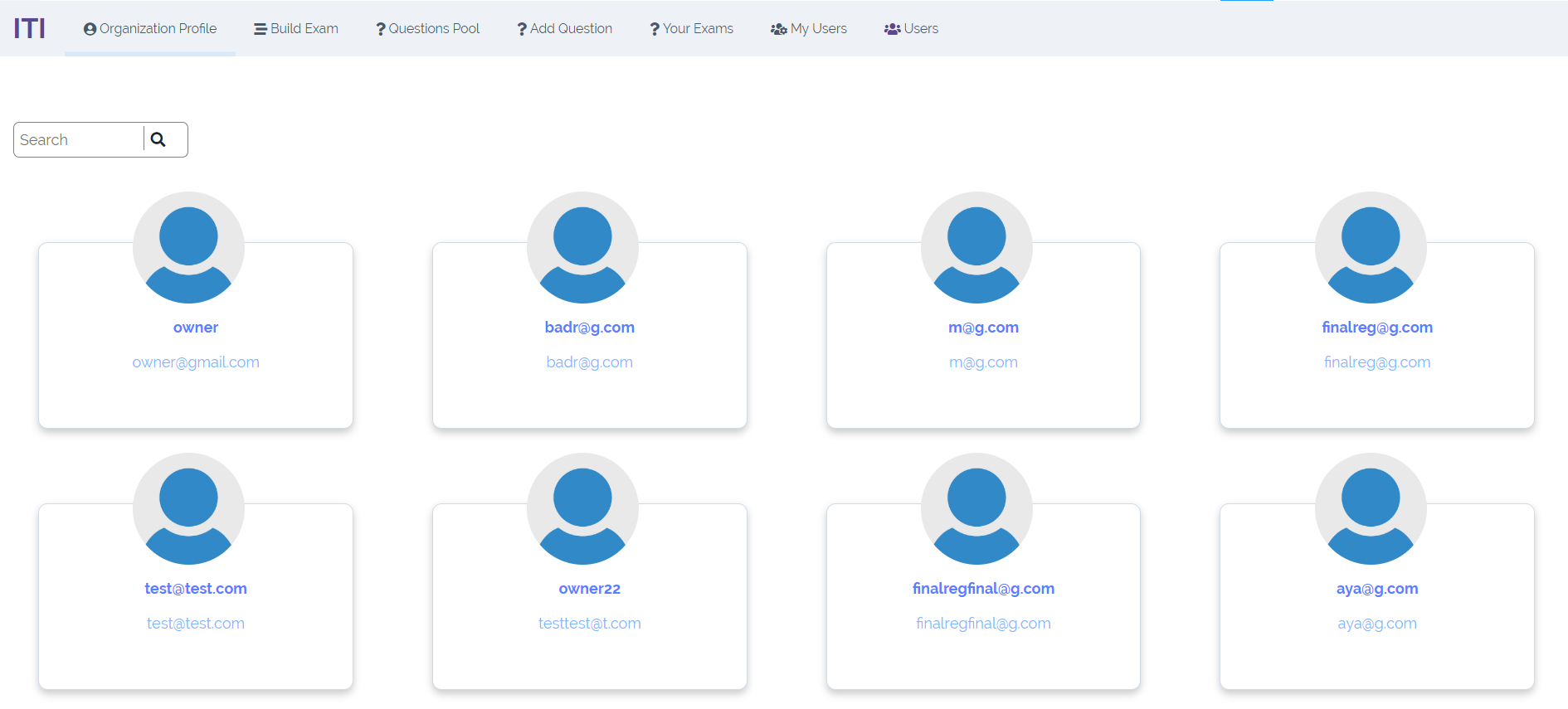
3.2.2. Assign Roles.



**3.3. Admin**

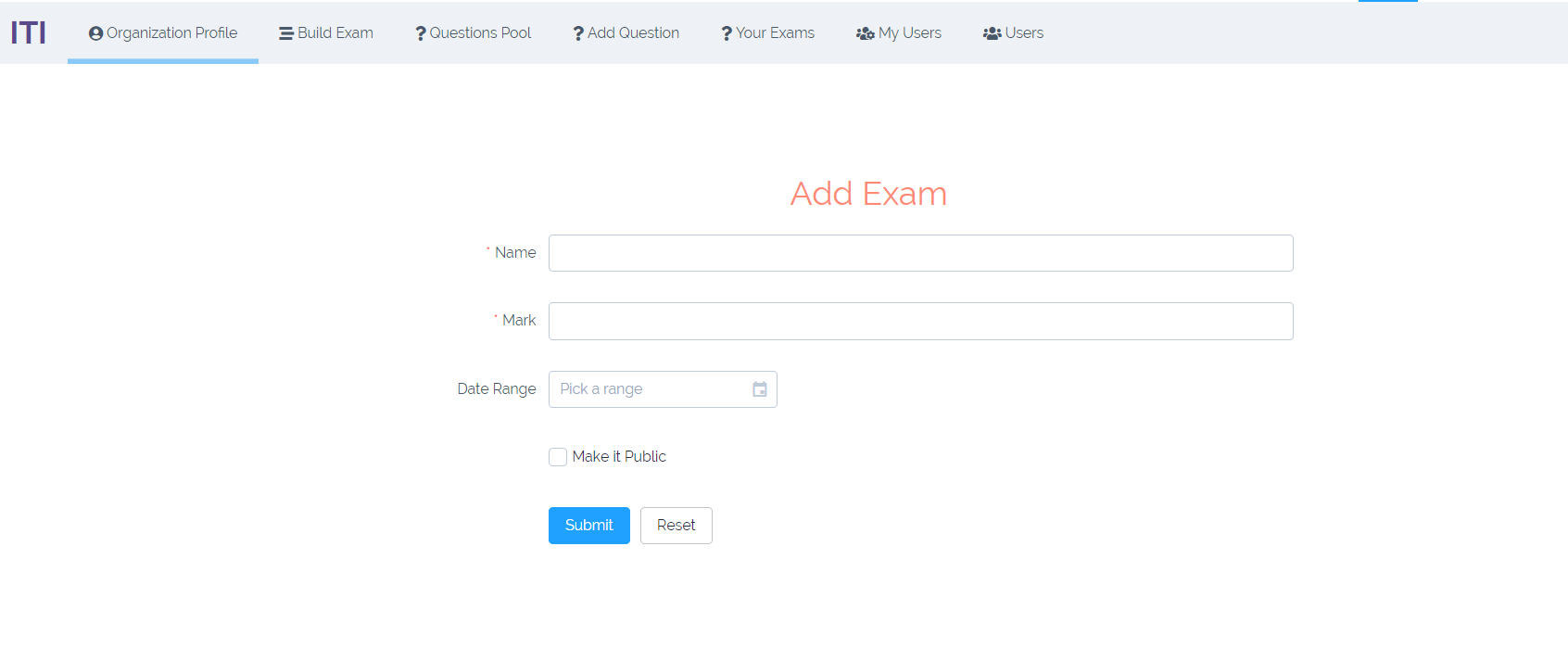
3.3.1. Add Users.

3.3.2. Assign Roles.

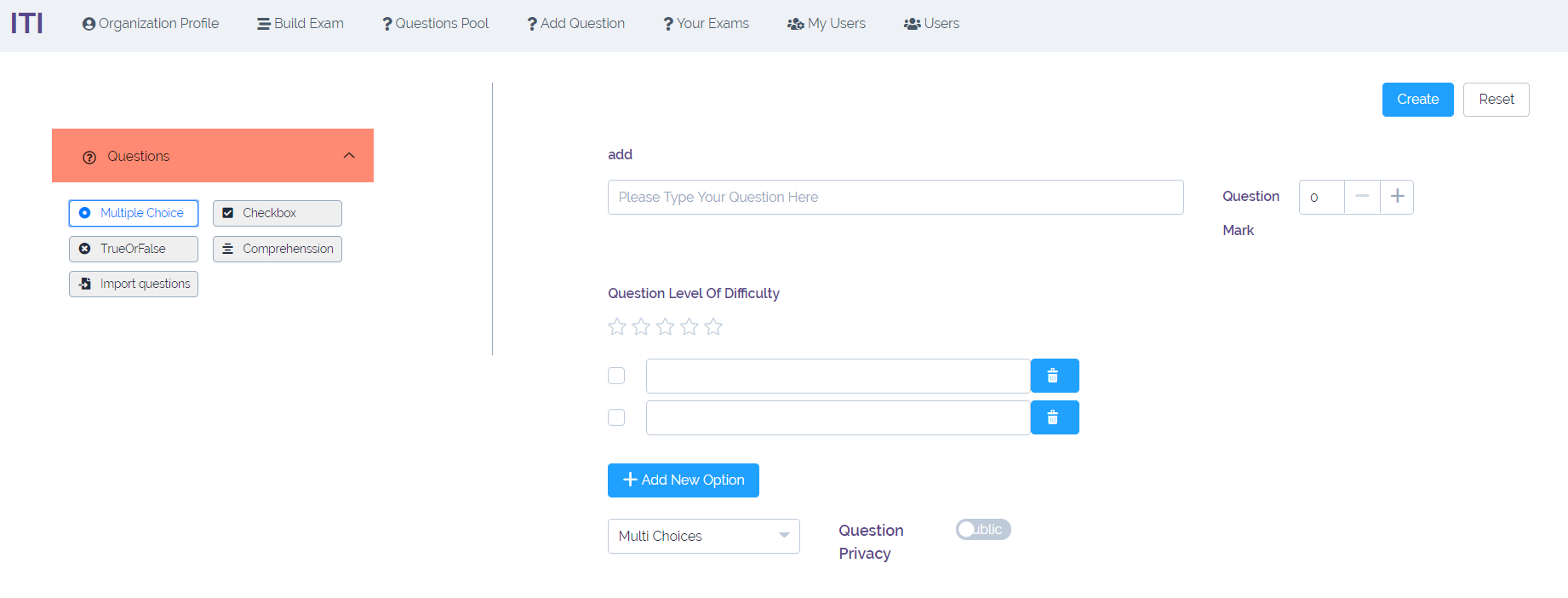


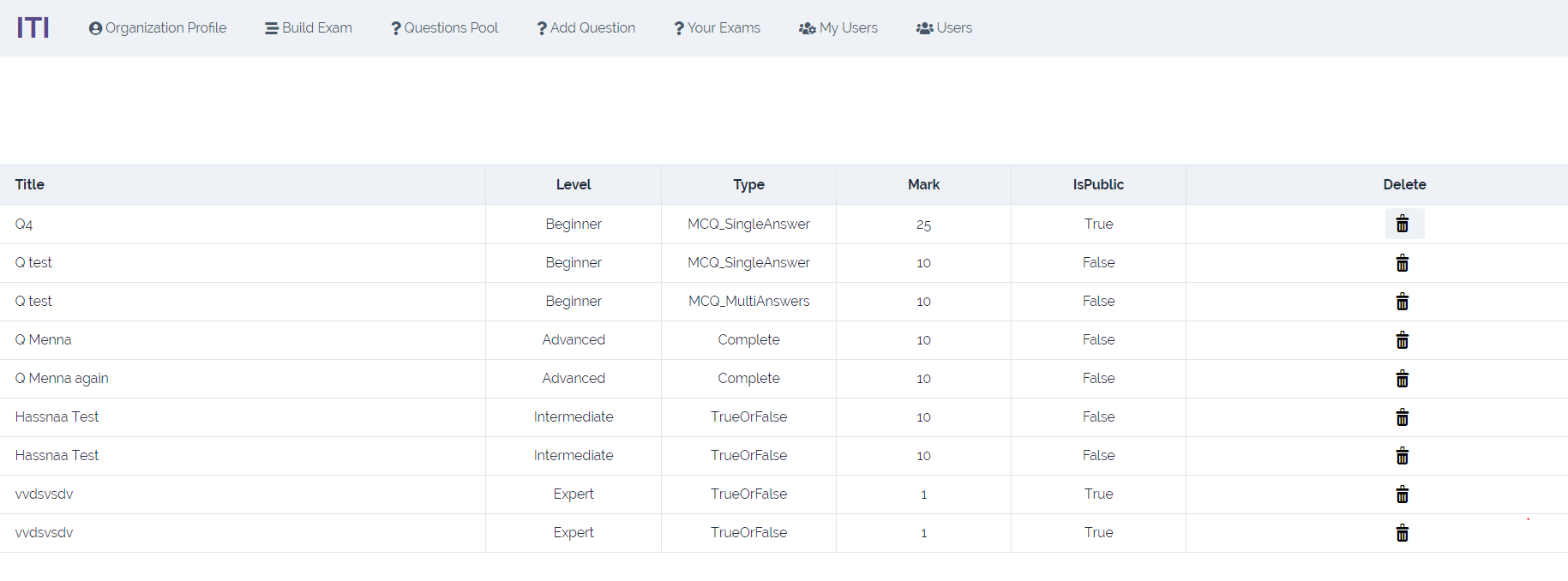
**3.4. Examiner**

3.4.1. Add Exams.



3.4.2. Add Questions To The Bank.

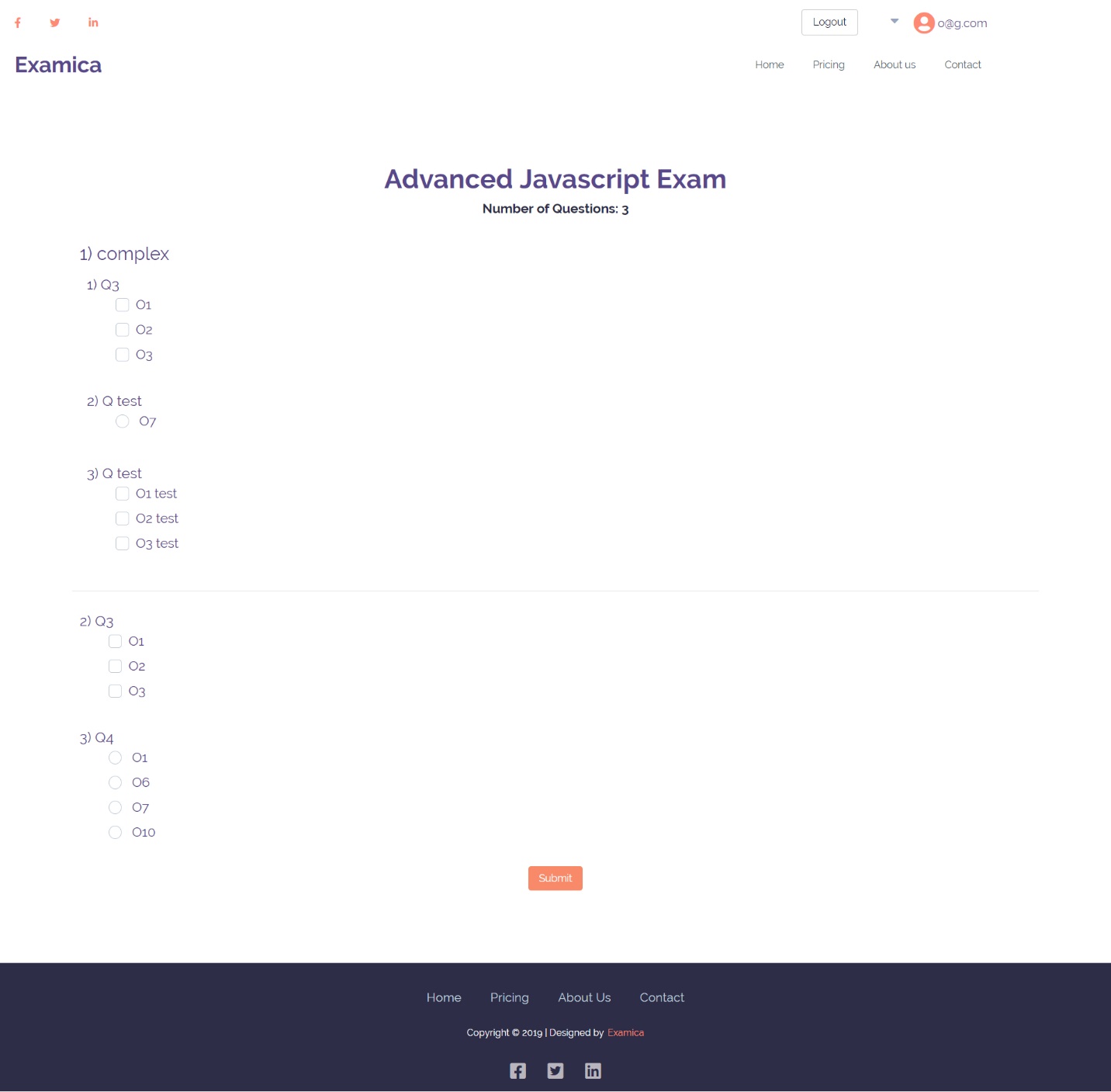


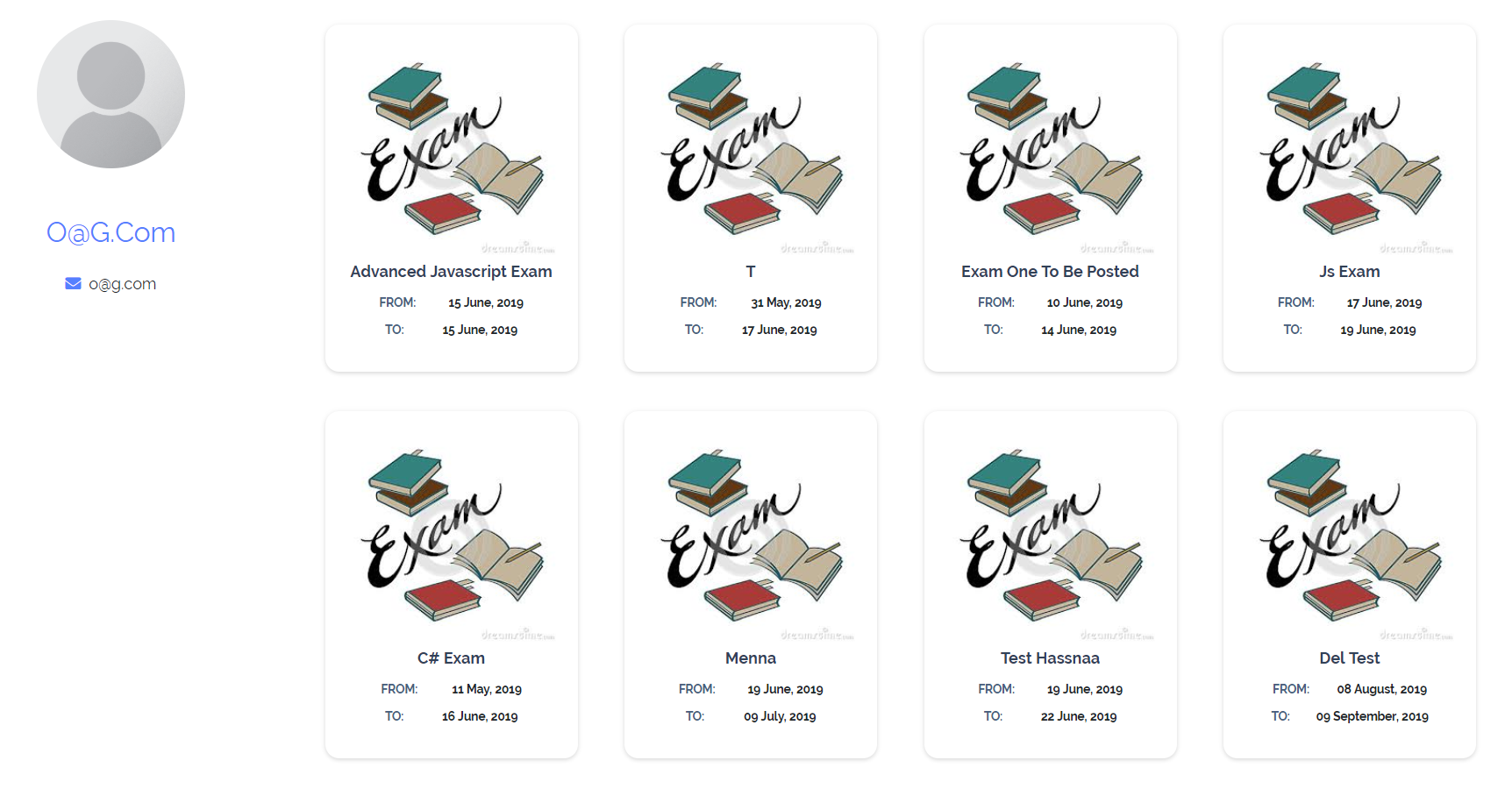


**3.5. Examinee**

3.5.1. Edit Profile.

3.5.2. Take Exams.



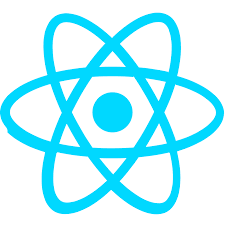


**CHAPTER 4**

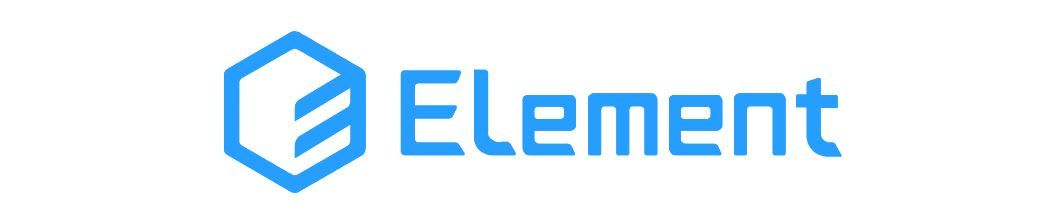
**TECHNICAL DESIGN**

**4.1. Backend**

* Structure:
  + Project is separated into 2 parts Model and API to leverage usability and OOP.
* Design/Architectural Pattern:
  + Model: Repository with Unit Of Work DP.
  + API: ASP .NET Core API.



**4.2. Frontend**

* React JS:
  + Create React App (CRA).
  + React Router Dom.
  + Element UI.

**CHAPTER 5**

**TECHNICAL TOOLS**

**5.1. Backend**

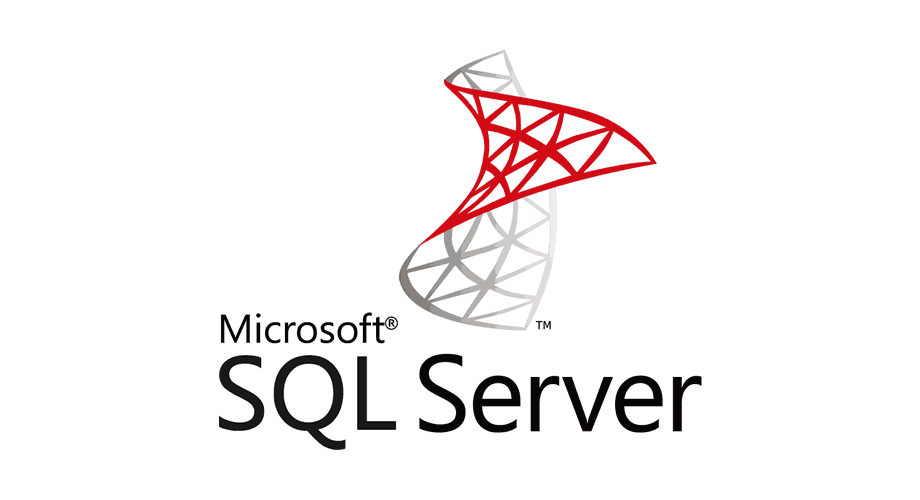
Development Tools:

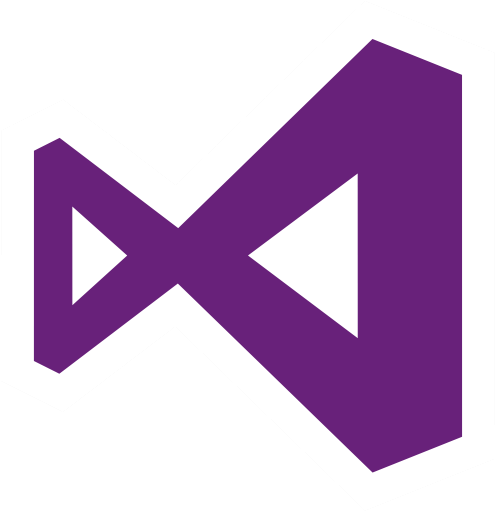
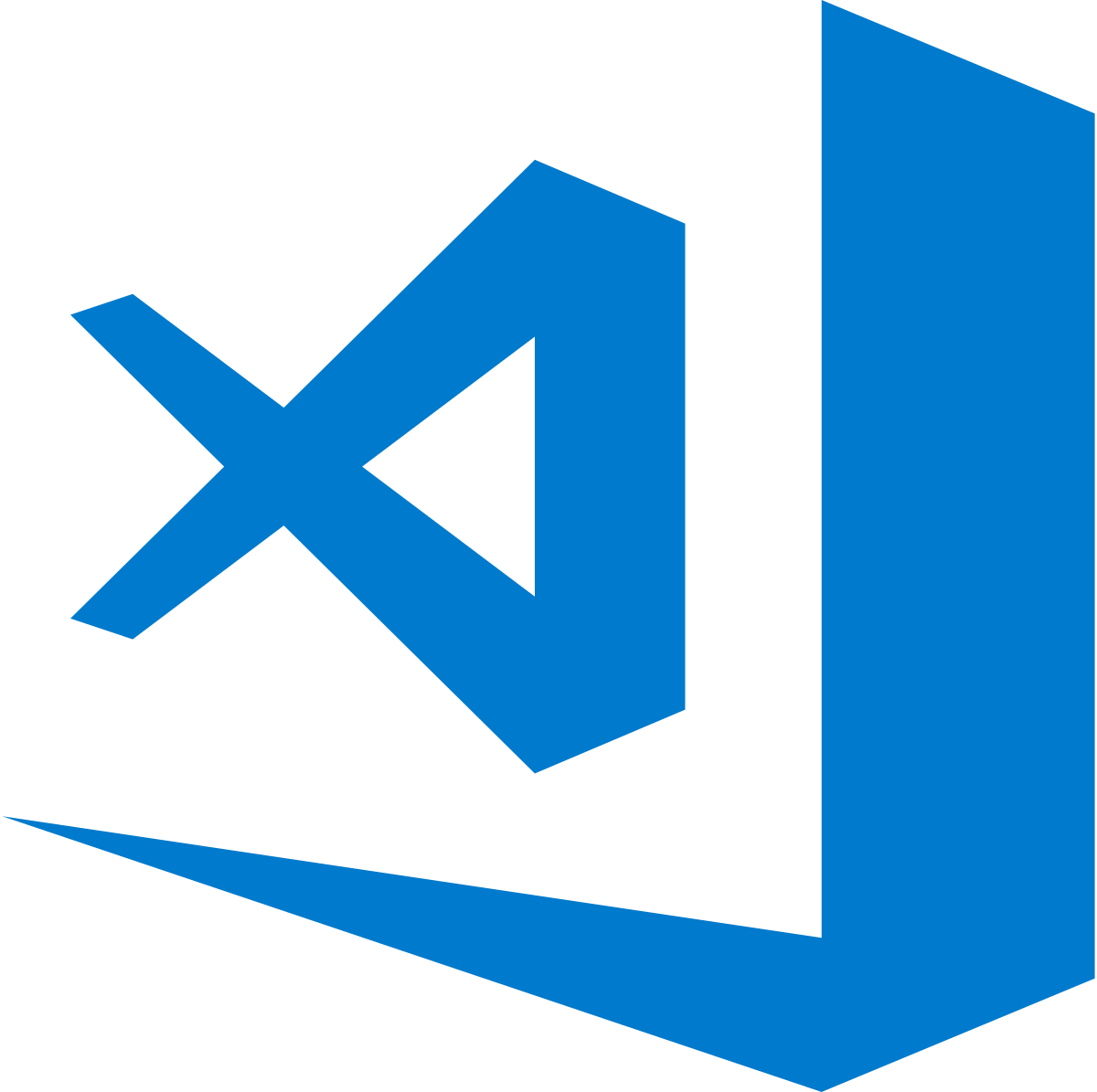
* Visual Studio 2017.
* SQL Server Management Studio.
* Visual Studio Code.

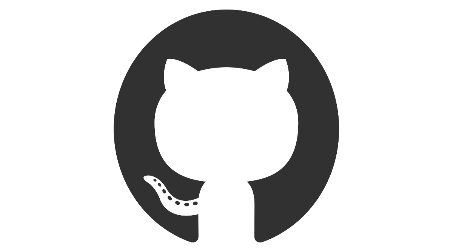
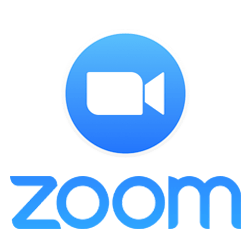
**5.2. Frontend**

For Communications:

* GitHub.
* Zoom Meeting.
* Trello (Agile).





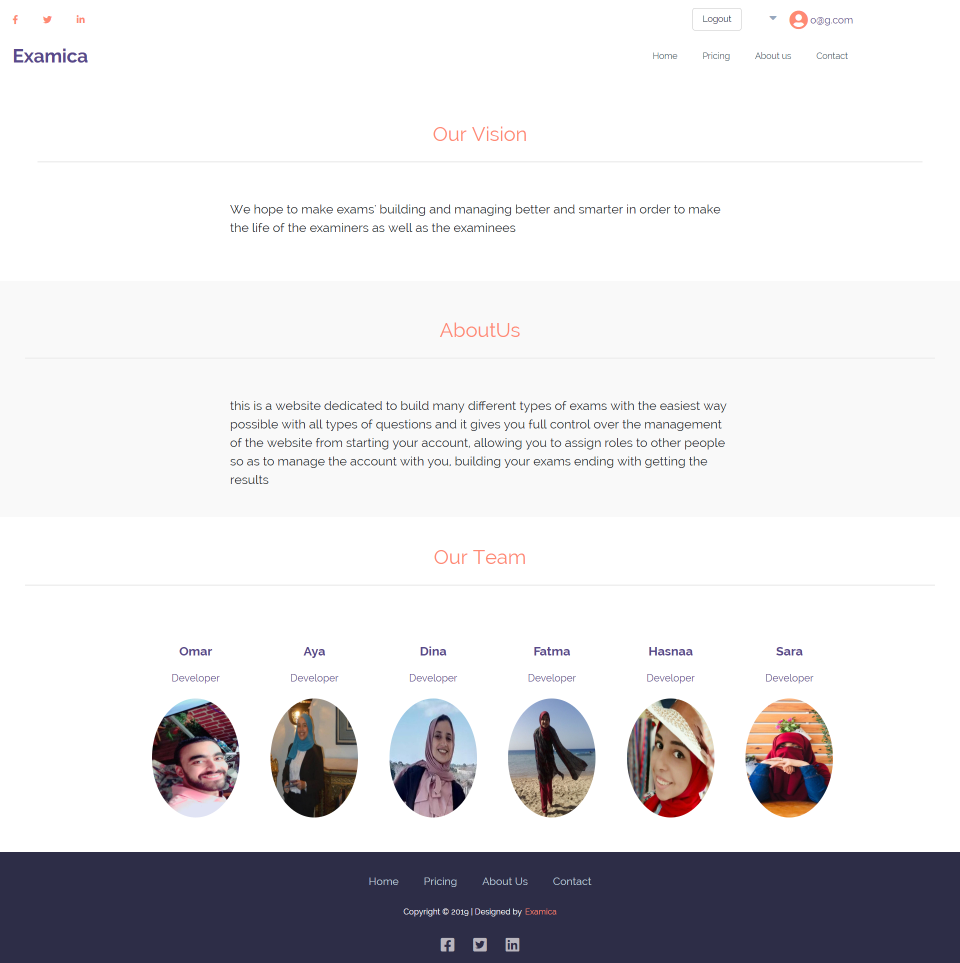




**CHAPTER 6**

**FUTURE WORK**

* Add more question types with images titles along with texts.
* Generate Reports.
* Auto generated exams with random questions.
* Add Observer role to correct the essay questions.



Org

