SE-16
AAAS
(Application As A Service)

B.S. (CS)/(SE) Final year project proposal

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Batch 2019

Date: 17/10/2022

DEPARTMENT OF COMPUTER SCIENCE
USMAN INSTITUTE OF TECHNOLOGY

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Usman Institute of Technology
Department Of Computer Science

FINAL PROJECT APPROVAL FORM

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The Head of Department,   Date: .
Computer Science Department,   Batch: _____
UIT University,
Karachi.

Subject: **Bachelor of Science in Computer Science/Software Engineering Final Year Project**

Respect Sir,

We, the below listed students of final Year BS _____ class, desire to undertake work on the following project.

.

We request you to kindly grant approval for undertaking the work on the above-cited project. I abide by all terms and conditions mentioned below.

1. I have selected this project on my own.
2. I have no objection working under the supervision of male/female supervisor, or if my project work is evaluated by male/female externals.
3. I am sure I can complete this project till _____.
4. I am eager to work under the supervision of advisor assigned to this project.
5. I understand that FYP committee can modify the scope of the project as and when required.
6. I know that if do not appear in regular project progress presentations/milestones my project will be disqualified.
7. I know that if I do not appear in mid project presentation, whenever it is scheduled, I will not be eligible for final project viva
8. I fully understand that "*cheating*"***** may lead to cancelation of my project.
9. I understand that the decision of the FYP evaluation committee, for all issues, would be final, and no objections will be accepted.
10. I have no objection presenting my project to external or internal examiner assigned by the Head of the Department.
11. Project and Product deliverables at the time of submission of final year project every group is responsible to submit complete running system along with printed reports, source code, hardware (if any) etc to the project coordinator.
12. It would be the responsibility of Project coordinator to keep record of all projects in a system (in running form) as it would help to continue next project in continuation, depends upon the scope and application of project.
13. Proper dressing and way of presentation should be in English during proposal defend session, milestones and final presentations.
14. Marking of milestones and final presentation should be based on individual evaluation of each faculty members and marks would be granted during session.
15. When we go for proposal defends session a list of all previous projects with their brief introduction must be available during session for our reference. (Introduction, Scope of project, tools and technology and batch must be available).
16. I understand that it is my responsibility to update my advisor and FYP committee members with the status of my project and submit reports on time.

- Copying code from any resources
- Using off the shelf components without prior permission
- Outsourcing your project
- Hire a resource for the completing the FYP code or any part of the project.

Yours sincerely,

S.No.	Roll No.	Name	Email	Cell NO.	Signature
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Project overview

Programming has become an essential part of our technological world and software engineers/developers are working really hard to provide feasible solutions to related problems. But the amount of pay they get is not enough compared to the time and energy they spent to provide those solutions.

To make money from their Products (APIs, Templates, logos, Downloadable Software), Developers link their API or upload their Products on a web server. But they will also need to take care of things like targeting and selling their products to related customers, payment gateway, customer support, and client management. This could be a hassle for developers as it requires marketing and management skills and would be very time-consuming. Also, clients who need any Products/APIs, so they have to search many sources to get authentic Products/API for their applications. These problems can be solved by AAAS(Application As A Service). For the API, Developers can define endpoints of their API hosted on a different web server and for the other products, Developers can upload their executable file. then get approved on the AAAS platform for free of cost and the platform is responsible for marketing it on different platforms chosen by the seller. And whenever a Buyer buys a package, the seller will get paid, and the platform will charge a small portion of that transaction.

Project objectives

The AAAS project will meet the following objectives:
- Developers will be able to earn by selling their Products.
- AAAS will be responsible to authenticate and market the seller's Products.
- Buyer will be able to buy and use Products available on the platform.
- Buyers will be able to search for related Products on the platform.
- Developers also get an opportunity to market their products on different platforms and increase their revenue.
- Developers also get an opportunity to use Platform's built-in brochure templates for marketing.
- Developers can view the Similar Product Statistical Analysis for better pricing and package creation.

Project scope

This project provides solutions to both clients and software developers. Developers can earn passive income by selling their products to clients according to the client's selected package and requirements. The payment is done via the payment gateway of the application. There is also customer support and testing functionality in the application. Clients can buy the Product Packages and use them in their applications.

The scope of this project includes and excludes the following items.
In scope:
In this project, our main aim is to provide a platform to developers where they can publish their Products. The user/customer will subscribe/buy the products. In this way, the developer can earn easily. The Developer can select the better package options based on the statistical analysis provided by the platform at the time of package creation.

Our second aim is to provide marketing of Products to developers also and allow developers to use templates-based brochure design facility on our platform for better marketing.

Out of scope:

In this project, we will not cater to any kind of Product issues after it has been validated/authenticated by the customer.

Deliverables produced

● Project Deliverable 1: functionality of both Seller and Buyer in this deliverable. First, both buyer and seller register themselves then the seller will be able to sell his/her Products in different packages and the buyer will be able to buy those packages to the product.

● Project Deliverable 2: complete payment integration is implemented on both buyer and seller end. and test of endpoints with custom data will be also implemented.

● Project Deliverable 3: Sellers will be able to market their Products on pre-selected marketing platforms and view the expert marketing guide which is Statistical Analysis of Similar posted Products on the platform. Seller will be able to use our template-based brochure design for better marketing.

● Product Deliverable 1: complete working of the project is the main goal of this deliverable. The Seller can sell their Products effectively and buyer can buy the Products and use the Products.

Project estimated effort/cost/duration

Estimated Cost:
1) Digital Ocean Database Server(PostgreSQL server) = 15$/months
2) Web server = 5$/months
3) API Server = 10-15$/months
Estimated Duration:
Average Est. duration of the complete project is 7 months.

Sprints:

Each sprint will consist of 2 weeks.
Sprint # 1)
User Actions Feature (login, register, profile)
Database Models.
Video Presentation

Sprint # 2)
Simple Dashboard with Data.
Create API Product Package, Endpoint, and Subscription Packages and submit them for review.
Create Other Products and allow user to upload downloadable executable file and submit for review.
FYP Report Chapter 1, 2

Sprint # 3)
Edit/Delete Product.
For API Product, buyer selects and subscribe the package and for other Product, buyer buys the product and download the executable file.
FYP Chapters 3, 4

Sprint # 4)
Stripe Payment Integration.
Template Based Brochure Design.
FYP Chapter 5,6

Sprint # 5)
API Server to use API product endpoints and track records of API Product Usage.
Buyer will be able to use API Product endpoints with the help of API Server.
FYP chapters 12, 13, 14

Sprint # 6)
Endpoint Testing Functionality with custom data along with throttling.
FYP Chapters 7, 8

Sprint # 7, 8)
Marketing Opportunities will be added. Scripts are required to host their API package on the user-selected platform.

Sprint # 9)
Expert Marketing Guide [NON-AI] [Statistical Analysis]
FYP Chapters 9, 10, 11

Sprint # 10)
Design of Payment withdrawal mechanism for the seller and account statement for payment breakdown.
FYP Chapters 15, 16, 17, 18

Sprint # 11)
Feedback on API Packages from buyers.

Sprint # 12)
Deployment to Production.
Remaining FYP Chapters

Sprint # 13, 14)
Test Cases.

Estimated effort hours:

An estimated effort of each member per week to be mentioned, and estimated time with your supervisor per week.

Members	Estimated hrs per Week
Member 1	*15 hrs*
Member2	*15 hrs*
Member 3	*15 hrs*
Member 4	*15 hrs*
Member 5	*15 hrs*
Discussion/Meeting with Supervisor	*1 hrs*

Estimated duration:

An Estimated completion date of each milestone to be mentioned along with its deliverables. You can take help from FYP 2022 -2023 Tentative Plan

Milestone	Date completed	Deliverable(s) completed
Project planning	*10/10/22*	* *Project definition* * *Work plan*
Milestone 1	*11/15/22*	* *Non-working FYP proto-type* * *Video presentation*
Milestone 2	*01/10/23*	* *Class diagram* * *Object diagram* * *Sequence diagram* * *Both Buyer and seller functionality to buy and sell their Products*
Milestone 3	*03/30/22*	* *API Server to allow buyers to use seller API.* * *Marketing of Products on selected platforms and payment integration on both buyer and seller ends along with test of API Product endpoints.* * *Payment Withdrawal.*
Milestone 4	*06/30/23*	* *Project testing and moving the project to production.*
Project conclusion	*07/30/23*	

Project assumptions

In order to identify and estimate the required tasks and timing for the project, certain assumptions and premises need to be made. Based on the current knowledge today, the project assumptions are listed below. If an assumption is invalidated at a later date, then the activities and estimates in the project plan should be adjusted accordingly.

Assumption #1 All the Products published by the developer on the platform should be highly responsive and 100% working conditions without bugs etc.

Assumption #2 Project costs will stay the same as initially budgeted costs. Project costs will increase if we add servers from different regions.

Assumption #3 Marketing of Products on different platforms will bring more and more buyers to the platform.

Project risks

Project risks are characteristics, circumstances, or features of the project environment that may have an adverse effect on the project or the quality of its deliverables. Known risks identified with this project have been included below. A plan will be put into place to minimize or eliminate the impact of each risk to the project.

Risk Area	Level (H/M/L)	Risk Plan
1. External Hazard Risk	M	**Risk plan activity:** Any external malware/virus can hit the platform. To counter this we will secure our web by HTTPS, automatic backup, up-to date Website.
2. Performance Risk	L	**Risk plan activity:** Design a risk response to reduce the downside and take advantage of the upside potential.
3. Small Delay In Response. There can be a delay in response because the API server is located in a specific region. Users far from any region will experience delays in API response.	L	**Risk plan activity:** In order to reduce the risk, we have to start the platform on a single region for best performance and expand the business by adding servers of different regions.
4. There can be bugs in user API	M	**Risk plan activity:** The API bug in user API affects the user profile in terms of ratings.

Project approach

First, user (Seller/Buyer) registration and login system is to be made then user profile functionality is to be created which enable registered users to view and update their profiles.

For API Product, the different subscription packages will be made for every API (in our case packages are basic, standard and premium) which will require already registered user as a Seller and endpoints of an API.
For Other Products, the single pricing package will be made for every product which will require already registered user as Seller and downloadable executable file of product.

After the Buyer functionality, we have to create another server to allow buyers to use API Products endpoints by requesting the endpoints and receiving the response from the endpoint. After that, the admin functionality will be made to authenticate and approve the Seller's Product. Now related Buyers will be able to view the products.

Now the Buyer will be able to view the Products posted by Seller.

For APIs Product: The Buyer will test the endpoints and if interested, then subscribe to the specific package and proceed to payment.
For Other Product: The buyer will see the product review and if interested, then buyer will proceed to payment.

The buyer will make the payment transaction with payment system implemented in stripe. After successful transaction, Seller will receive the money in their wallet.
There will also be the marketing functionality that enables Seller to post their packages on pre-selected marketing platforms and also ask for the expert marketing guide. Then complete project testing and transition of project to production will be done.

Tools and technologies

Servers: Web Server, API Server, Database Server.

Software(s): Python, Linux (OS), GIT, PostgreSQL, VScode.

Libraries: Django (Web Framework), DJStripe (Stripe payment), Bootstrap (Frontend), Django Testing (Testing).

Algorithms

- Indexing Algorithm.
- Search Algorithm.

Expected Final product

The final product will be a web application that requires an internet connection and a desktop or laptop to show the demonstration. It enables Software engineers/developers as a seller to

earn passively by publishing and market their Products on the platform while buyer get their required Products at same place. There will be 3 types of users: Seller, Buyer, and Admin Staff.

Similar products available

- **Available product #01**
  - link: https://rapidapi.com/hub (16-10-2022)
- similarity factor:
  - Seller posts their API to sell in different packages.
  - Buyer buy their required API.
  - Link-hosted API platform.
  - End-points testing.
  - Payment withdrawal for sellers.

- **Available product #02**
  - link: https://business-software.com/ (16-10-2022)
- similarity factor:
  - Seller lists their products.
  - Buyer buys their required Product.
  - Market sellers product to increase leads.

Project approvals:

Name:
Project Supervisor   Signature

Member, FYP Committee, UIT   Signature