



Arab International University

Faculty of Informatics and Communication Engineering

Expert Systems Project Report on

Software projects consultant

Submitted to

Department of Informatics Engineering

in partial fulfillment of the requirement for the Degree of Bachelor in

Informatics Engineering

Submitted by

AbdAlrahman Almalah

Alhassan Shannar

Loay Alkhayat

Under the Supervision of

Dr.Waed khwies

Jan 9,2023

© AIU Arab International University

All Rights Reserved

Jan 9, 2023

Abstract

The project aims at suggest Pricing strategies and average price for start-up companies and freelancers, It has a group of questions about software type, platform and experience that allows the user to know how to start development.

In return, the software automatically suggests the answer based on previous experience from engineers, doctors and internet references, allowing the user to save time on searching and giving him automated results to know his first steps.

Contents

Chapter 1: Introduction.....	1
1.1 Background	1
Chapter 2: Data acquisition	1
2.1 Knowledge Gathering:.....	1
2.2 Questions types:.....	1
2.3 Asked questions:	1
Chapter 3: System Analysis.....	2
3.1 Logical order of questions:.....	2
3.2 Block diagram:.....	2
3.3 Flowchart:.....	3
3.4 Decision tree samples:	4
3.4.1 1 Freelancer: Mobile:	4
3.4.2 Freelancer: Local web app/No experience:	5
3.4.3 Freelancer: Web app on server:.....	5
3.4.4 Company	6
Chapter 4: Implementation & Results	6
4.1 Implementation:.....	6
4.2 Results:	6
4.2.1 Freelancer: Mobile:	7
4.2.2 Freelancer: Local web app/No experience	7
4.2.3 Freelancer: Web app on server:.....	7
4.2.5 Company: Ecommerce :	8
4.2.6 Company: Mobile:.....	7
Conclusion and Future Works	9
Difficulties	9
References.....	10

Abbreviations

AIU	Arab International University
EXP	Expert Systems
SRS	System Requirements Specification
BRS	Business Requirements Specification

Keywords

Knowledge base

Inference engine

Working memory

Chapter 1: Introduction

1.1 Background

Software Project Consultant is an expert system that will help developers and companies to pick the best Strategy to Set the price of their products, based on simple questions that will help to have a good look about the project and the pricing strategies.

Worldwide, many freelancers and companies are looking out for advices to set a price for their projects.

Chapter 2: Knowledge acquisition

2.1 Knowledge Gathering:

This Expert System gathered knowledge from different kind of resources such as articles , websites and engineers. In general the knowledge base was gathered and organized in a way that can help the system be as comprehensive as possible with that huge number of bifurcations.

2.2 Questions types:

Yes/No questions

This kind of questions have a function called ask-yes-or-no questions , it makes sure that the user only chooses to enter either yes or no only , otherwise it will loop asking the same question over and over again

2.3 Asked questions:

For freelance

-As a developer what is your most faces problem for pricing?

- Are you familiar with any of pricing strategies?
- What is the most common strategy to set a price for a software product?
- How do you consider your level in freelancing?

For company

- What is the type of the Application do you want to set price for?
- What is the type of software product do you want to develop?
- How many developers the project need?

work-leaders

- How much does it cost adding features to web/mobile application?
- What is the most valuable component while developing Web applications?
- How does the time effects the price of software products?

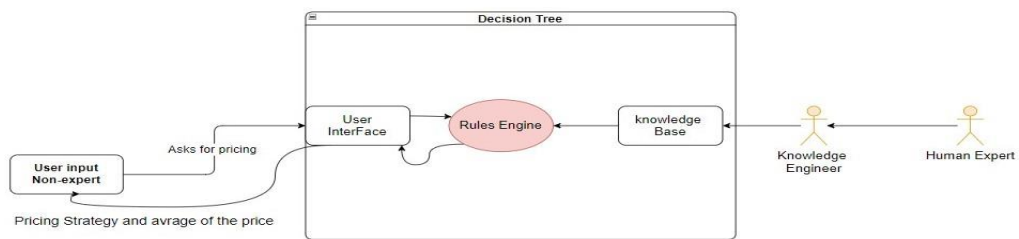
Chapter 3: System Analysis

3.1 Logical order of questions:

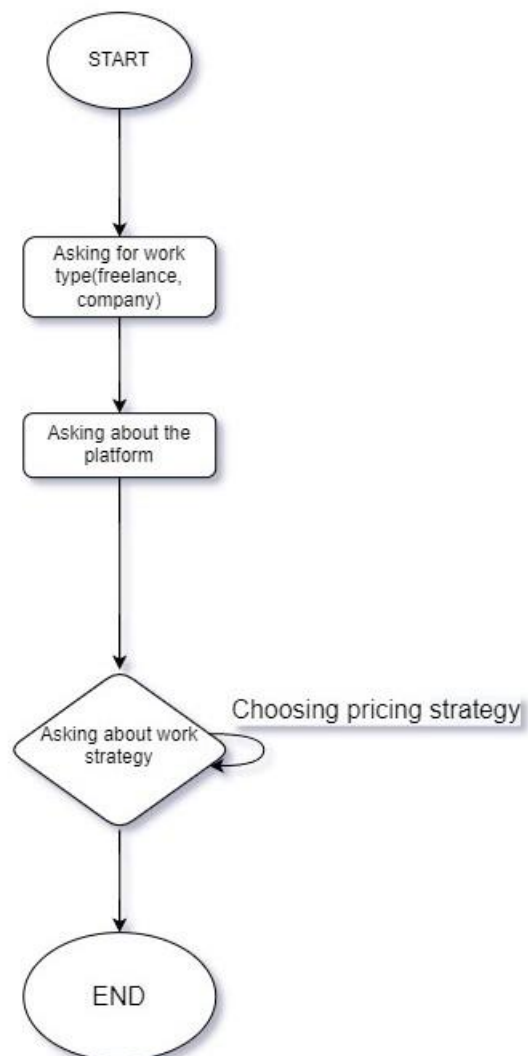
Software projects consultant simulates how the expert can take the right way that can help the user to choose the appropriate decision.

After the preparation of the questions, arranging the questions was depending on making the questions going from the most general down to most specific, generalize the first questions can help the system to ignore the excluded cases.

3.2 Block diagram:

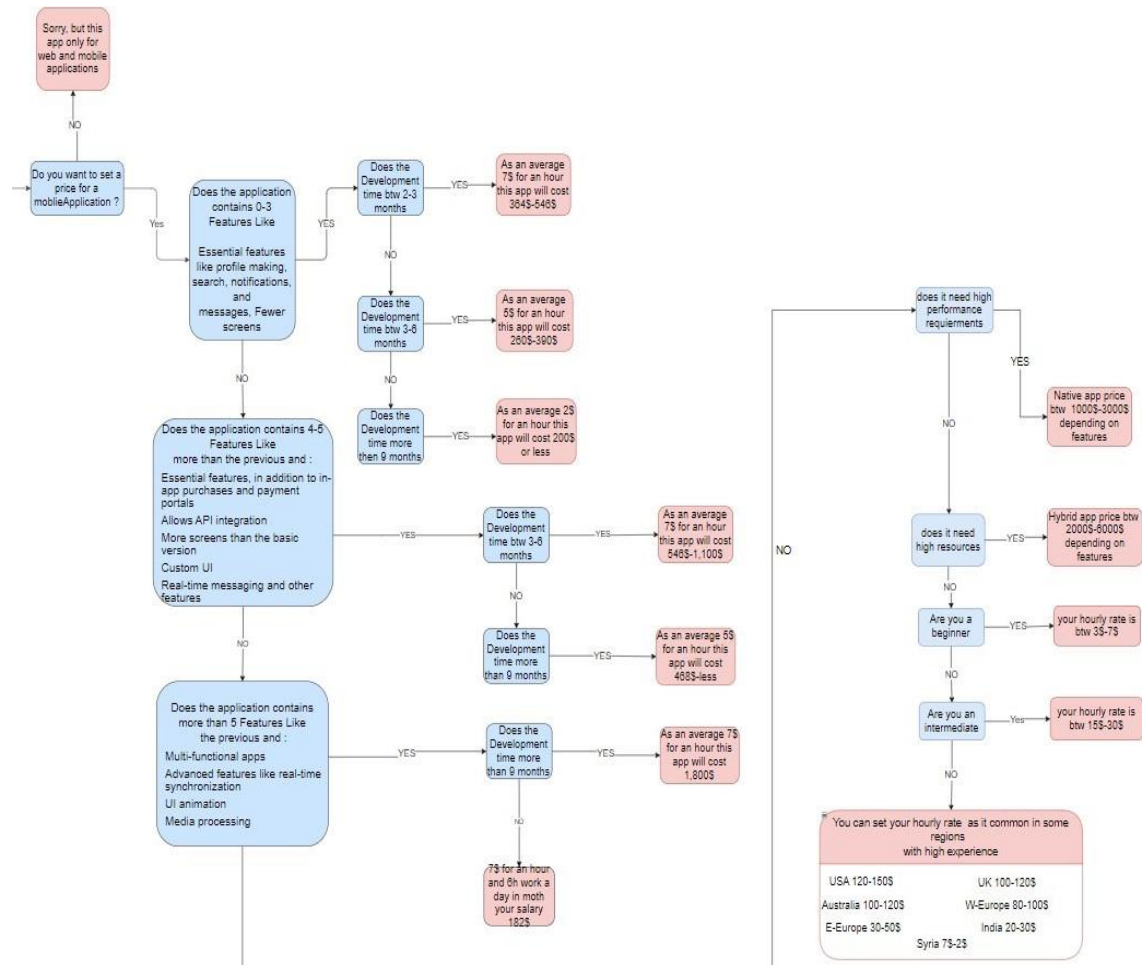


3.3 Flowchart:

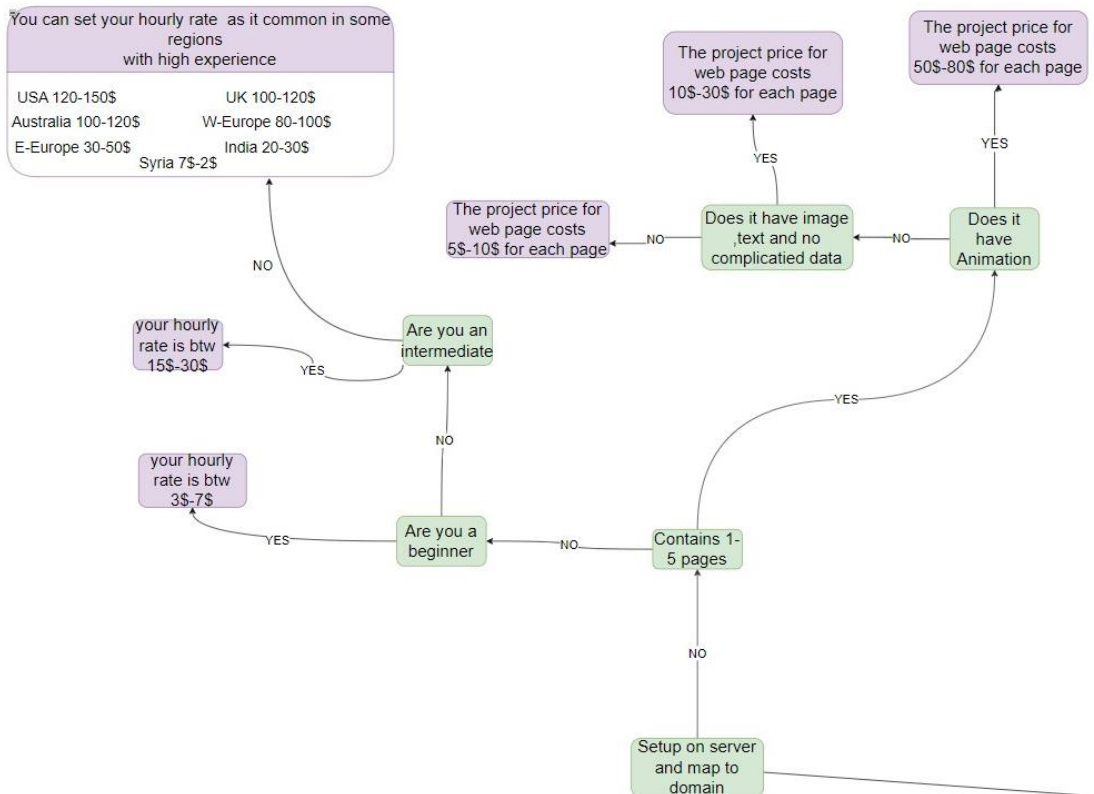


3.4 Decision tree samples:

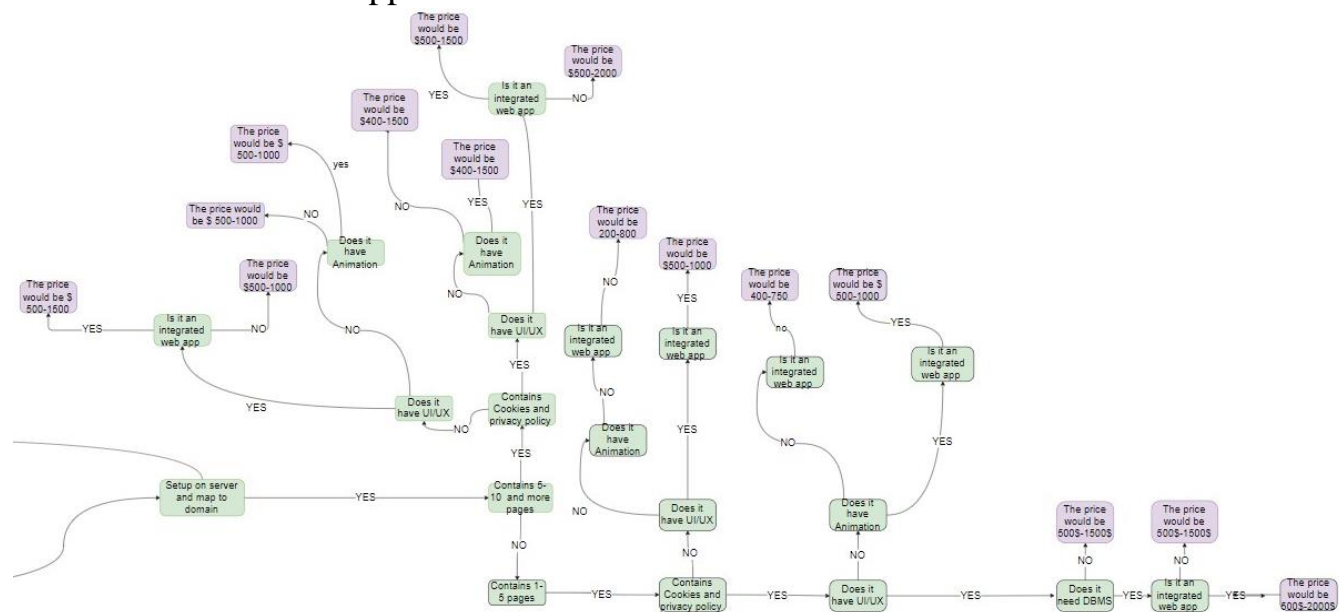
3.4.1 Freelancer: Mobile:



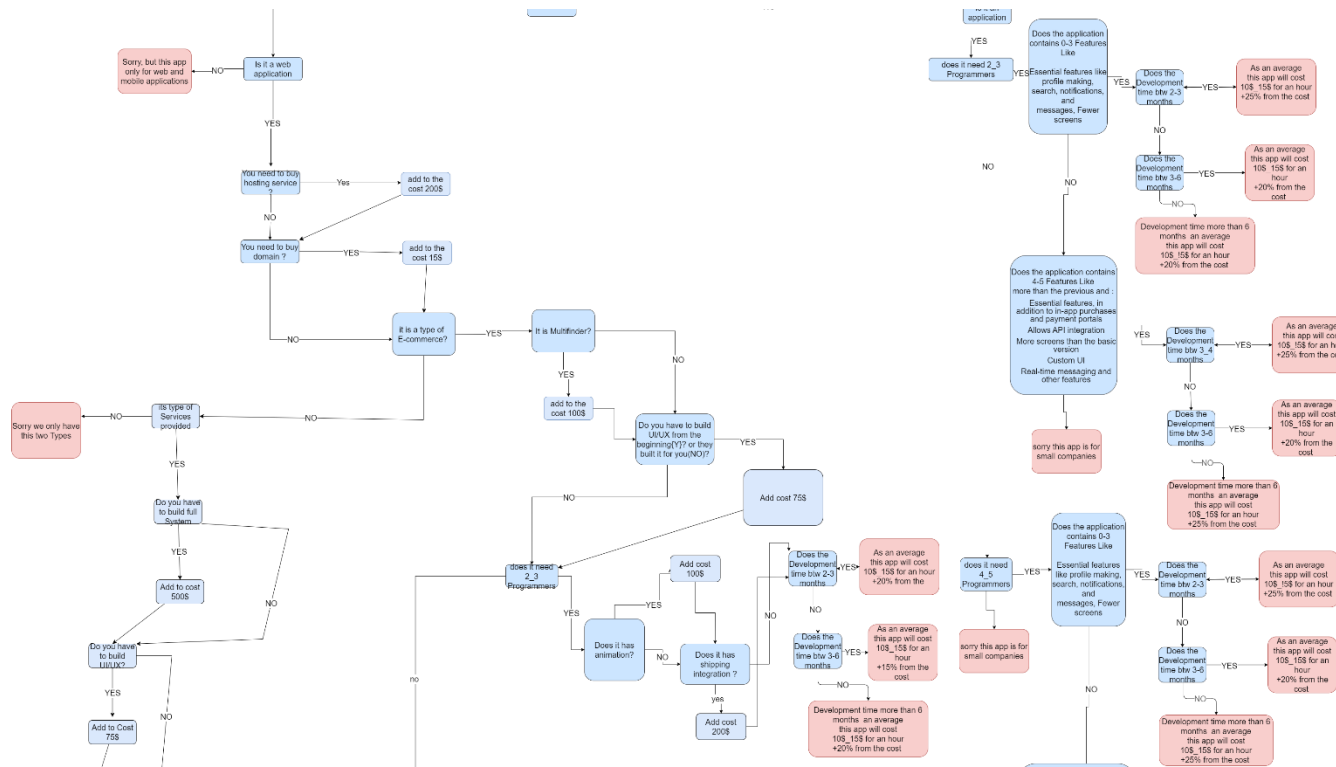
3.4.2 Freelancer: Local web app/No experience:



3.4.3 Freelancer: Web app on server:



3.4.4 Company:



Chapter 4: Implementation & Results

4.1 Implementation:

The actual code was implemented through Python using Experta library that can function the system processes from user-given facts and the flow of events inside the system leading to the correct decision.

4.2 Results:

4.2.1 Freelancer: Mobile:

Are you a Freelancer ? y

Do you want to set a price for a Webapplication ? n

Do you want to set price for a MobileApplication ? y

Does the application contains 0-3 Features Like Essential features like profile making, search, notifications, and messages, Fewer screens ? n

Does the application contains 4-5 Features Like more than the previous and :Essential features, in addition to in-app purchases and payment portalsAllows API integrationMore screens than the basic versionCustom UIReal-time messaging and other features ? y

Does the Development time btw 3-6 months ? n

Does the Development time 9 or more months ? y

As an average 5\$ for an hour this app will cost 468\$-less

4.2.2 Freelancer: Local web app/No experience:

Are you a Freelancer ? y

Do you want to set a price for a Webapplication ? y

Setup on server and map to domain? n

Contains 1-5 pages ? y

Does it need Animation ? n

Does it have image ,text and no complicated data ? y

The project price for web page costs 10\$-30\$ for each page

4.2.3 Freelancer: Web app on server:

Are you a Freelancer ? y

Do you want to set a price for a Webapplication ? y

Setup on server and map to domain? y

Contains 5-10 and more pages ? y

Contains Cookies and privacy policy ? n

Does it have UI/UX ? y

Is it an integrated web app ? y

The price would be \$500-1500

4.2.4 Company: Service provider

Are you a Freelancer ? n
Are you a Start-up company ? y
Does the Customer Needs SRS ? y
Does the Customer Needs BRS ? y
Is it A Wep ? y
Is it A Wep-Application ? y
Do You need to buy to the customer Hosting Service ? y
Do You need to buy to the customer Domain ? y
is it a Type of E-Commerce ? y
is it Multif-Finder ? y
Do you have to Design UI/UX ? y
Does It Need 2--3 programmes ? y
Does It has Animation ? y
Has Shipping Integration ? n
Does Development time between 2-3 months ? n
Does Development time between 3-6 months ? y
THE COAST IS : 9936.0 \$

4.2.5 Company: Ecommerce:

Are you a Freelancer ? n
Are you a Start-up company ? y
Does the Customer Needs SRS ? n
Does the Customer Needs BRS ? y
Is it A Wep ? y
Is it A Wep-Application ? y
Do You need to buy to the customer Hosting Service ? n
Do You need to buy to the customer Domain ? y
is it a Type of E-Commerce ? n
is it a Type of Service Provider ? y
Do You Have to build Full System ? y
Do You Have to Design UI/UX ? n
Do You Have to Build Extra Features ? y
Does it needs 2-3 programmers ? y
Does it has animation ? n
Does it needs 2-3 months ? y
THE COAST IS : 10768.75 \$

4.2.6 Company: Mobile:

Are you a Freelancer ? n
Are you a Start-up company ? y
Does the Customer Needs SRS ? y
Does the Customer Needs BRS ? y
Is it A Wep ? n
Is it A Mobile Application ? y
does it need 2_3 Programmersy
Does the application contains 0-3 Features Like Essential features like profile making, search, notifications, and messages, Fewer screens ? y
Does the Development time btw 2-3 monthsy

The Coast is : 10187.5 \$

Conclusion and Future Works

Software projects consultant developed in a flexible way that accept any new rules or changed rules, that help giving the system more information to grow with that large number of frameworks and IDEs.

Difficulties

Many strategies for pricing.

Most common strategies Deben on hourly rate.

Different price form country to another.

Hard to decide.

References

Online Resources:

www.netsolutions.com

Making Scale-ups & Enterprises Stand Out With Software and Mobile Applications that Matter.

<https://wpmudev.com/blog/web-development-pricing-guide/>

How To Price Your Web Development Services: The Definitive Guide

https://www.brainiuminfotech.com/services/web-development/?gclid=CjwKCAiA5Y6eBhAbEiwA_2ZWISastRRttmem6z84cQ3FUBYRtP4cfpefqlFWPgnzY8B5i6tTB5157xoCt7gQAvD_BwE

Developers' salary

https://software.qarbon.it/?gclid=CjwKCAiA5Y6eBhAbEiwA_2ZWISwA3AjAuMeKKEODEpzLY_Jx4qhu_-KDk3W8ff-DnXwfv-mjZg6GBoC2FoQAvD_BwE

Costs of the products.

https://www.brainiuminfotech.com/services/software-development/?gclid=CjwKCAiA5Y6eBhAbEiwA_2ZWlAaBk4oc1SHjCbf4Gb6aQcjphr7lRZF2Nd9PfVExXcWBEyzsjJYSMMxoCeVQQAvD_BwE

BRS&SRS