King Saud University
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كلية علوم الحاسب والمعلومات
قسم تقنية المعلومات

Sprint-0
RUH-tainment

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Table of Contents

1   Introduction

The general industry we are addressing in this project will be "The Entertainment Industry in Riyadh". In our role, we will implement a software that enables visitors to review Riyadh's entertainment spots from their own accounts, where they can both share their personal experience and view other people's reviews .

Nowadays, Riyadh has been witnessing lots of entertainment places. Yet, people have no clear guide to follow for the latest spots and people's experience from it. For that reason, they will be spending lots of time deciding where to go. Although there are platforms that give reviews about restaurants/cafes in Riyadh, however, the entertainment sector, despite its importance, is not tackled in these platforms.

Therefore, the best solution to the struggle we all face would be implementing a website that provides people with an overview of Riyadh's entertainment places along with visitors' reviews; this would simplify their decision-making process.

*Our software has various objectives, which includes providing a **sort feature** for the places, **location services, place description**, **search bar**, **age category** for each activity, a section for **time-limited places**, the ability to give **reviews** (photos, comment, rating out of 10), and **follow other users**.*

In this document, we will be providing the essence for building our software which involves three main steps: domain analysis, requirements engineering, and system architecture.

2   Domain Analysis

The domain we are targeting in this project is "Entertainment in Riyadh". To develop our software, we will need to be looking further into the entertainment industry as well as places for entertainment purposes in Riyadh, especially with today's evolutions and "Riyadh Season", these places are growing rapidly and need careful analysis. To analyze the domain, we will gather information via different sources including domain experts like the "general Entertainment authority", along with online websites that provide an overview about the Entertainment sector, and lastly existing softwares that serve our purpose such as the "Riyadh season" application. By analyzing the domain thoroughly, this will aid us in developing the software efficiently.

2.1   Terminology

There were no special terminologies used, all terminologies are part of our everyday language.

2.2   General Domain Knowledge

Entertainment plays an important role in ensuring that people have an improved quality of life. As we can see in Saudi Arabia, the development of entertainment places is rising rapidly; since entertainment is a key element of the goals set out in Saudi Arabia's 2030 Vision.Therefore, Saudi Arabia established the General Entertainment Authority (GEA) as an entity responsible for overlooking and expanding the entertainment industry. In its role, GEA worked to establish various entertainment places, specifically in Riyadh; since it is the capital of Saudi Arabia.

According to a report, the Saudi entertainment sector is forecast to be worth $1.17 billion by 2030 and grow by a massive 47.65 percent per year.[1] The Saudi Arabia entertainment market includes theme parks/amusement parks, festivals, and concerts, as well as earnings from other sorts of entertainment, such as "Riyadh Season". Riyadh Season is one of the biggest projects aiming to boost the entertainment sector; since it is held in an area of 5 million+ square meters and brings together more than 7,500 events, concerts and adventures all around Riyadh.[2]

Thus, it can be said that the focus on enhancing the entertainment sector is a step that will push the country as a whole to greater levels of advancement in the years ahead.

2.3   Customers and Users

The software can be used by anyone who wants to get reviews about entertainment places to visit in Riyadh, this may include both tourists and the people of Riyadh themselves. The potential users of the software may vary widely, from a parent to a working woman to a teenager. Thus, our software targets users aged 12 and above who may be interested in finding out about the newest entertainment places in Riyadh.

In addition, the General Entertainment Authority(GEA) and the Ministry of Tourism(MT) may buy or support the software along with any company dedicated for entertainment purposes or tourism services. Our software would be beneficial since it combines all the entertainment places under one platform, which aids in promoting the GEA's efforts in entertainment and helps the MT by attracting tourists to the latest spots. Moreover, companies intended for entertainment purposes could use our software to promote their own services or view other competitors. Furthermore, tour guides might be interested in using this software; as it will help them find out about new entertainment places faster so they can organize a trip to these places for upcoming tourists.

2.4   The Environment

Our software is a web-based system that works in browser and mobile platforms, and it provides visitors reviews of various entertainment places in Riyadh.

2.5   Tasks and Procedures

Nowadays, individuals tend to ask about entertainment places in multiple ways, for instance:
- *social media influencers and bloggers.*
- *applications offering suggestions of places to visit along with people's reviews.*
- *recommendations for places to go to from a connection (relative/friend).*
- *search online browsers such as Google.*
- *individual's past experience of visiting an entertainment place.*

2.6   Competing Software

Although there are several competitors with systems similar to ours, yet each and every one of them might lack something important; making people avoid using that system. In implementing our software, we began to research the market's competitors , which included softwares such as foursquare , Riyadh Season , and Sawah. Two of these softwares are locally used in Saudi Arabia which are Riyadh Season and Sawah, whereas foursquare is globally used around the world. We compared our software to the others by applying different features, which showed the similarities and differences that lie between them.

Comparison between similar competitors of "RUH-tainment"

Feature	Riyadh Season	Sawah	Foursquare	RUH-Tainment
Location of the event/place	*YES*	*YES*	*YES*	*YES*
Details about the event/place	*YES*	*YES*	*NO*	*YES*
User can add reviews and rate events/places	*NO*	*YES*	*YES*	*YES*
Advice before visiting	*YES*	*YES*	*NO*	*YES*

Follow people	NO	YES	YES	YES
Recommended events/places	YES	YES	NO	YES
Upcoming events/places	YES	NO	NO	YES

2.7 Similarities Across Domains and Organizations

The similarities between the domains are enabling visitors to review Riyadh's entertainment spots and provide their locations. What distinguishes "RUH-tainment" from the others is that it focuses solely on the entertainment section, not restaurants or cafes. It guides people towards the latest entertainment places based on visitors' reviews and ratings. Additionally, a visitor can share about the overall experience of visiting the place and even follow people who share the same interests.

3 Requirements Engineering

To elicit the requirements for our software, we will collect information that helps us understand users' needs, the market's strengths, and its weaknesses. This information will be collected by conducting interviews, questionnaires, and writing user stories. Furthermore, we will search for similar competitors and compare their features to our software, guiding us to determine what features to add that would make our software stand out.

Online Interview	
Interviewee: Wed	*Interviewer: Shaden*

Location/Medium: Phone Call	*Appointment Date : 10 March*
	  Start Time: 8:00 pm
	  End Time: 8:40pm

Objectives:
  - *Collect information about people's resources for finding new Entertainment places.*
  - *Gain an idea about what people focus*
	Reminders:
	The interviewees were using a lot of apps to get information and reviews about new places.

Online Interview

on when visiting a new place.	

Agenda:	*Approximate Time :*
Introduction	*5min*
Background in Project	*3 min*
Overview of Interview	
Topic to be covered	*3 min*
Permission to Record	
Question 1	*3 min*
Question 2	*4 min*
Question 3	*4 min*
Question 4	*3 min*
Question 5	*2 min*
Summary of Major Points	*3 min*
Questions from Interviewee	*6 min*
Closing	*3 min*

General Observation:
During the interview, the interviewee showed interest and was excited to share her point of view in multiple questions. In addition, she fully agreed with the idea of developing this application.

Unsolved Issues, Topic not covered :
We didn't talk about details of the application with the interviewee, since there wasn't enough time.

Interviewee: Wed	*Date: 10 March 2022*
Questions:	*Answers and Notes:*
Q1: Which resource are you using to know about new places and get reviews about them, especially the Entertainment places?	*According to me, I always use Google maps because it's easier to find places and view people's reviews with updates of the place, whether it is busy right now or not.* *Observation:* *Nothing to mention .*
Q2: What is the important information that you want to know before going to a new place?	*The type of services it provides, opening hours and when it is usually crowded.* *Observation:* *She mentioned new information that didn't cross our minds.*

Online Interview

Q3: What difficulties are you facing in looking for a new Entertainment place?	*If the place is new, sometimes I can't find details about it such as reviews, How to book , the services it provides, or how far the place is from the gates.* *Observation:* *She seems like she always faces these difficulties and she was so upset about it.*
Q4:Did you prefer to have an app that helps you in finding new Entertainment places with reviews? and what features do you want to have in the app ?	*Yes, the features that I want to have would be showing if the place is crowded or not, providing the fastest route to reach the place, giving the best options in the services provided, along with the number of people allowed to enter the place at the same time, and the evaluation of workers.* *Observation:* *She was so excited and supportive about the idea and she raised some interesting points.*
Q5: What is the benefit of an app that gives you people reviews and their experience about Entertainment places?	*For sure it will make it very easy for me to find the information I need about any place, so it saves my time and effort.* *Observation:* *She was hopeful and optimistic towards having an app like this.*

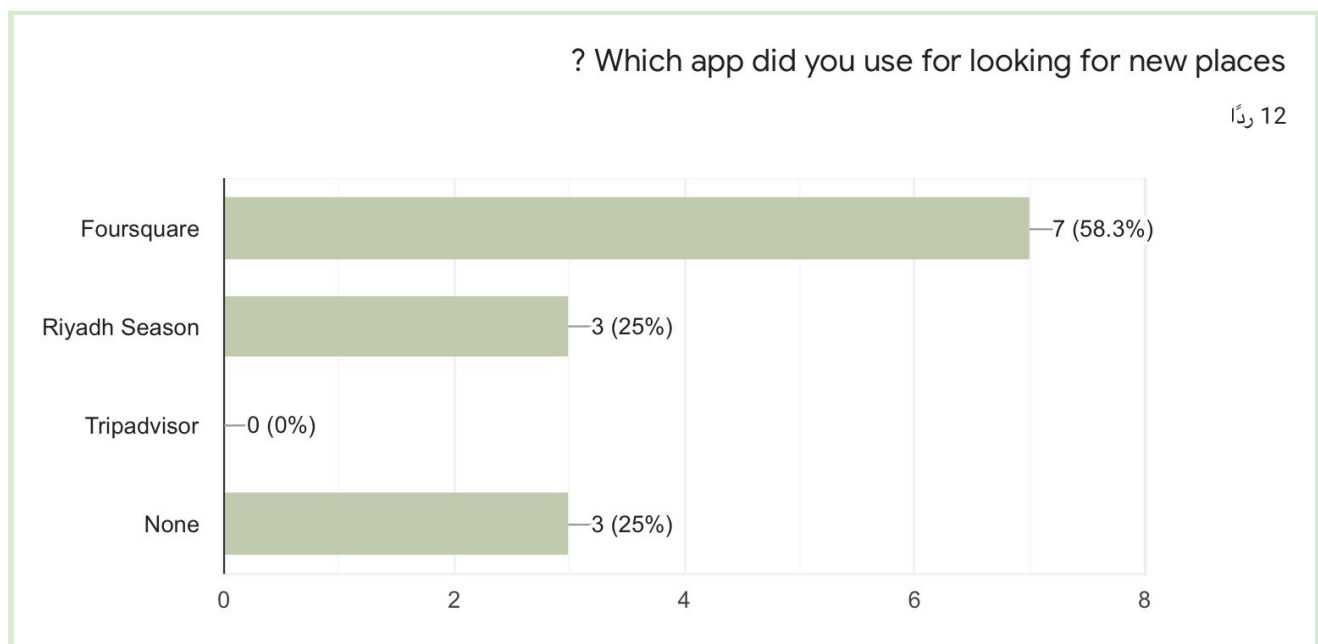|	
Interviewee: Kayan	*Date: 11 March 2022*
Questions:	*Answers and Notes:*
Q1: Which resource are you using to know about new places and get reviews about them, especially the Entertainment places?	*Mostly, I use applications such as Riyadh Season and Foursquare to look for new places. However, sometimes I use google maps to look for reviews telling people's experiences, also I take recommendations from my friends and family.* *Observation:* *Initially, she seemed a bit confused about which resources she always used, however she answered well after mentioning the first*

	resource.
Q2: What is the important information that you want to know before going to a new place?	*I would like to know about the location of the place, its prices, and its opening times. I also want to know if a place needs a ticket, if so, where can I buy it from. Additionally, I would like to hear other people's experiences and their overview of the place.* *Observation:* *She seems to have in mind many points that she looks for before visiting a place*
Q3: What difficulties are you facing in looking for a new Entertainment place?	*I always struggle in finding fun entertainment places that are suitable for me and my family/friends. Even if I found a good choice, I wouldn't be able to know its price or location. I also tend to be a person that relies on people's recommendations, yet I rarely find reviews and ratings about entertainment places.* *Observation:* *She took a little time to think of the question and then she answered fluently.*
Q4:Did you prefer to have an app that helps you in finding new Entertainment places with reviews? and what features do you want to have in the app ?	*Of course! It's a great idea that will save a lot of time while looking for new places. It will be quick and efficient. The features I want to have are location services, price description, opening/closing times, and a brief description of each place.* *Observation:* *She seems so enthusiastic about the idea, and she is more than eager to use an app like this.*
Q5: What is the benefit of an app that gives you people reviews and their experience about Entertainment places?	*It will save a lot of time and effort that is wasted looking for new places and asking about people's recommendations. This app will provide an insight about the place before going; making the decision of where to go smoother and easier.* *Observation:* *She is extremely on board with the idea of the project.*

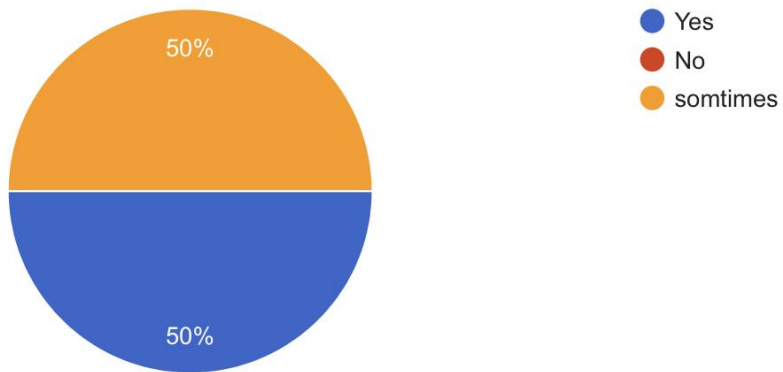## Results and Findings of interviews:

According to the interviews' answers, we found out that interviewees are facing a lot of difficulties when trying to find reviews or details about new entertainment places, leading to a waste of time and effort for them. As a consequence, they were frustrated with this constant struggle.From that struggle, an idea came into place. The idea is to develop a software that provides users the ability to post and view reviews of an entertainment place along with a brief description about it. The interviewees were more than enthusiastic and supportive about the software as using it would be extremely helpful to them; since there isn't a single application focused solely about entertainment places in Riyadh providing all our features where people can review and view entertainment places all under one platform.
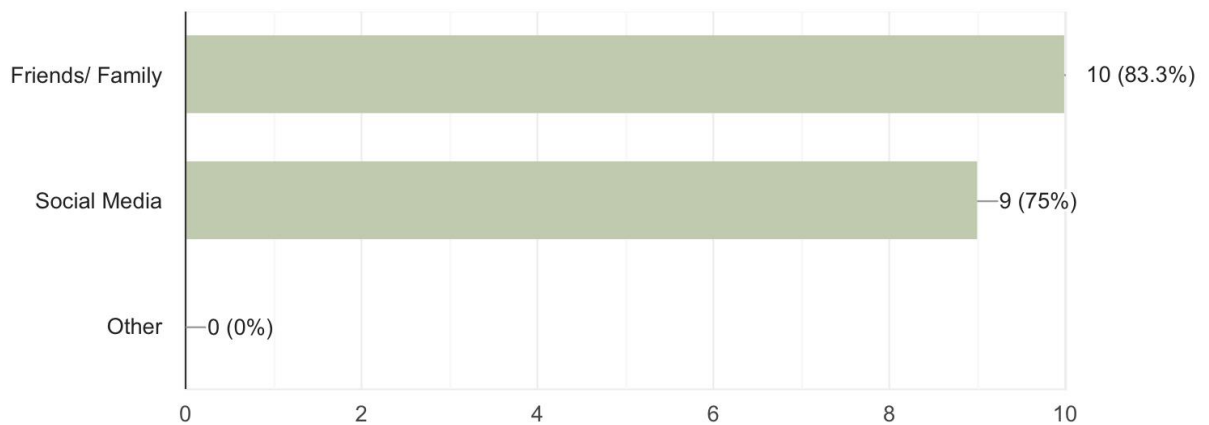
Questionnaires :

? Which app did you use for looking for new places

12 ردًا

App	Responses
Foursquare	7 (58.3%)
Riyadh Season	3 (25%)
Tripadvisor	0 (0%)
None	3 (25%)

? Did you look for reviews before going to a new places

12 ردًا

- Yes
- No
- somtimes

50%

50%

? From where did you get a recommendation for Entertainment places

12 ردًا

Friends/ Family — 10 (83.3%)

Social Media — 9 (75%)

Other — 0 (0%)

? Are you interested in Entertainment places

12 ردًا

- ● Yes
- ● No , don't care
- ● Sometimes

25%

75%
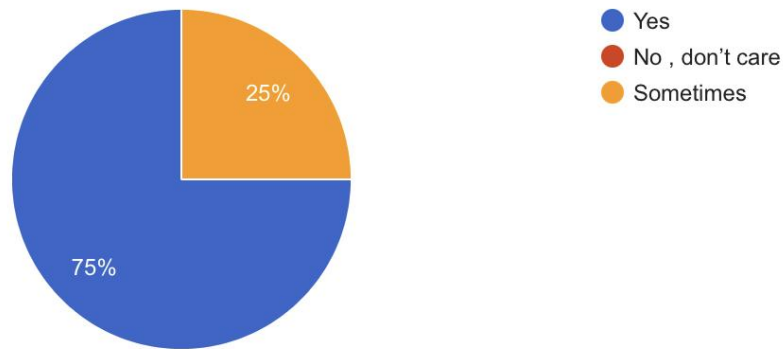
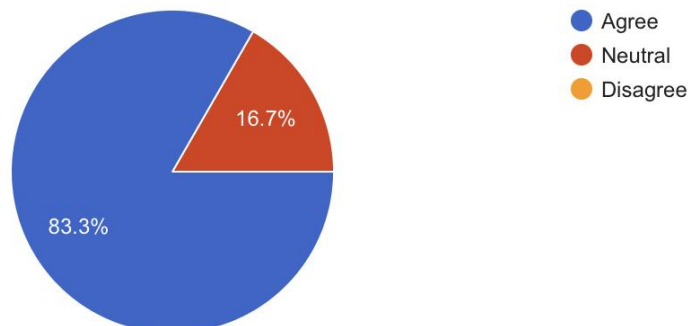## Would you like to have an application that gives you people reviews and experince of the ? Entertainment places

12 ردًا

- ● Yes , definitely
- ● Don't care
- ● No

8.3%

83.3%
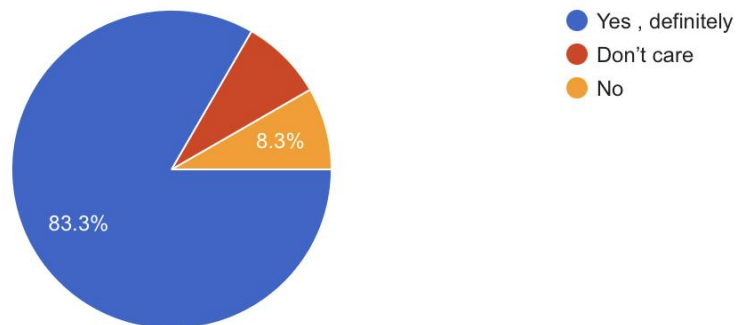
? Do you think the app can be use as a guide for tourists

12 ردًا

- ● Agree
- ● Neutral
- ● Disagree

16.7%

83.3%

Results and Findings of Questionnaires:

As a result, we found out from the questionnaire that most of the responses agree to a specific answer.Thus, we will try to make our system based on users' needs such that it fulfills all what they want. Firstly, we found out that people prefer to use applications like foursquare to look for new places rather than not using any application. Secondly, we saw that 50% of people always look for reviews before going to new places and the other 50% sometimes do that, implying that almost everyone checks for reviews of new places before visiting it. Thirdly, the result showed that everyone takes recommendations for new places either from friends/family because they are considered more credible or through social media since it is the fastest way to get recommendations. Additionally, in the fourth question, the result indicated that entertainment is of huge importance to every person, since 75% are interested in entertainment places and the other 25% sometimes show an interest in it. Moreover, in the fifth question, the result highlights that most people (83.3%) would like to have an app like ours that will provide visitor reviews about entertainment places; because it will save both the time and effort required for finding a suitable place to visit. Lastly, most people agree on the fact that implementing an app like this could be a great tool for tourists that need a guide; as it will help them in finding Entertainment places and reviews about them efficiently. In conclusion, after collecting people's responses, we will try to design our software to match most people's desires so that it is to their utmost satisfaction.

__To summarize__, in order to elicit the requirements, we collected information about our users' needs by undergoing online interviews with 2 individuals, where we got to ask them 5 different questions that depended on each user's point of view. Moreover, the collection of information was further completed by sharing a questionnaire composed of 6 questions that reached a number of 12 responses. By doing these steps, we concluded our findings from the interviews and questionnaire. These findings will be beneficial in knowing our target users even more and understanding what they like and dislike regarding current softwares.

3.1   System Users

Our system targets people who struggle in deciding where to go or any person who seeks for amusement in Riyadh's entertainment places. The users are expected to be familiar with mobile phones and applications and to have basic technical skills. Their educational level is from Intermediate school and above.

3.2   Use Case Diagram
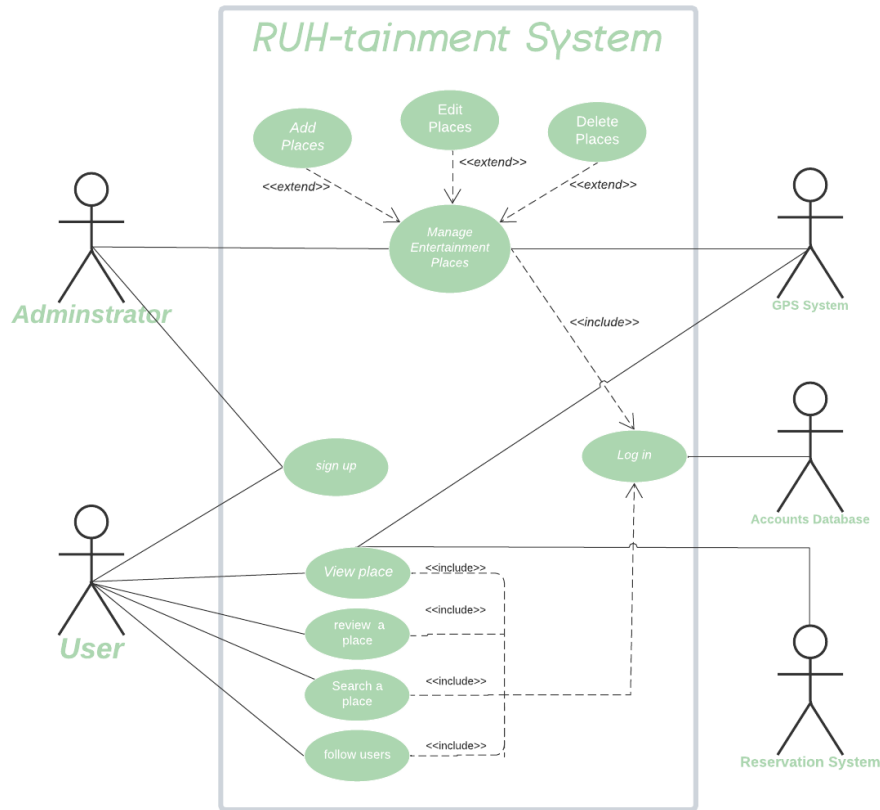
3.3   Product Backlog

In this section, we will provide the definition of ready and the Product backlog. The definition of ready defines the conditions that must be satisfied so that the items at the top of the backlog are ready to be moved into a sprint. On the other hand, the product backlog is composed of both functional and non-functional requirements, The PB will be written down by prioritizing the user stories , or product backlog items, and is considered the building block of the software implementation process, thus, it is important to carefully write it down.

Example Definition of Ready
☐ Business value is clearly articulated
✓ Details are sufficiently understood
✓ Dependencies are identified; no blocking dependencies exist
☐ Team is appropriately staffed relative to the PBI
✓ Estimated and small enough to be completed during sprint
✓ Acceptance criteria are clear and testable
☐ Performance criteria, if any, are defined and testable
☐ Team understands how to demo the completed PBI

| PBI (user story)	Size (Story points)	Type (Feature, defect, technical work, knowledge acquisition)	Acceptance Criteria The conditions of satisfaction that must be met for that item to be accepted.
As a user, I want to register by using a username and password so I can write reviews about places I visited.	*3*	*Feature*	*As a new user, if I go to the sign up page then I have to enter a username, email, password.* *As a user, if I go to the login page then I have to enter my username and password.*
As a user, I want to be able to review an entertainment place, so that people can know my overall experience.	*2*	*Feature*	*As a user, If I want to review an entertainment place, then my review could be text, picture, and a numeric rating.* *As a user, If I want to review an entertainment place, then my review should appear in the comment section of the place and my own profile.*
As a user, I want to view the entertainment places based on their ratings so that I can figure out the best place to visit.	*1*	*Feature*	*As a user, If I click sort by ascending, then the lowest rated places will appear first.* *As a user, If I click sort by descending, then the highest rated places will appear first.*

As a user I want to be able to follow people so that I can view their latest reviews.	3	Feature	As a user, If I follow another person, then that person must accept my request if the account is private. As a user, if I follow another person, then that person must show in my following and I can view all the person's reviews.
As a user, I want to search for a specific place, so that I can find its reviews easily.	5	Feature	As a user, If I write the first word of a place, then the search bar should automatically complete the name of the place.
As a user, I want to get the location of each place , so that I don't get lost on my way.	1	Feature	As a user, If I get the location of a place, then it must redirect me to the location service provider.
As a user, I want to have a description of each entertainment place, so that I can have an overview about it.	5	Feature	As a user, If I get a description of a place, then it must include a brief about it, it's prices, and a link for reservations , if any.
As a user, I want to view seasonal and time-limited places, so that I could visit it before it ends.	2	Feature	As a user, If a place is time-limited, then it must be shown at the top of the page with its ending date.
As an administrator , I want to be able to add entertainment places, so that I can put on any upcoming events.	3	Feature	As an administrator, If I add an entertainment place, then it must include the name of the place, its description, prices, location, along with photos of the place.
As a user, I want the system to have a fast response not exceeding 5 seconds so that I could use the system efficiently.	3	Feature	As a user, If the system is not responsive, then the system must show a message that the internet connection is poor.
As a user, I want the website to be available all the time except 2 hours on Fridays for maintenance.	5	Feature	As a user, If a system is unavailable, then it must provide a message that the system is experiencing a downtime for a while.
As a user, I want the system to be easy to use, so that I can figure out how to review a place in less than 10 minutes.	5	Feature	As a user, If the system shows a complex interface, then there must be a help button/ system walkthrough that guides users.

4   System Architecture

Our system is integrated with three subsystems so it interacts with the reservation system to let the users make a reservation by redirecting them to specific entertainment places websites, also it redirects users to a GPS to get the location of places, and it interacts with the Account database to save users' usernames and passwords so that they can log in to the system.

Context diagram:
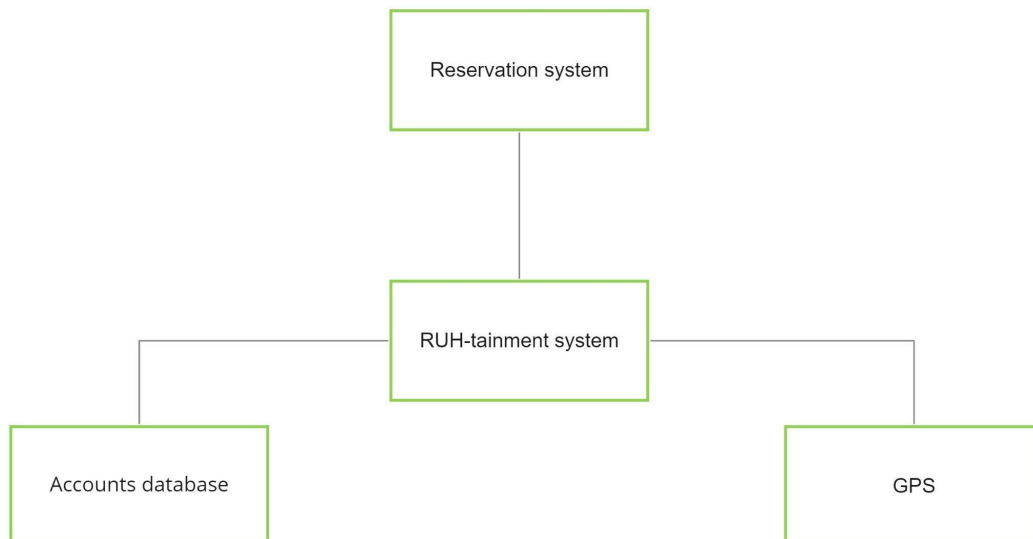
5 References

Appendix A: Interview

- Interview Questions
  - *Which app did you use for looking for new places?*
  - *Did you look for reviews before going to new places?*
  - *From where did you get a recommendation for entertainment places?*
  - *Are you interested in entertainment places?*
  - *Would you like to have an application that gives you people reviews and experience of the entertainment places?*
  - *Do you think the app can be used as a guide for tourists?*

- Interviews' Transcriptions

Answer 1: *According to me, I always use Google maps because it's easier to find places and view people's reviews with updates of the place, whether it is busy right now or not.*

Answer 1: *Mostly, I use applications such as Riyadh Season and Foursquare to look for new places. However, sometimes I use google maps to look for reviews telling people's experiences, also I take recommendations from my friends and family.*

Answer 2: *The type of services it provides, opening hours and when it is usually crowded.*

Answer 2: *I would like to know about the location of the place, its prices, and its opening times. I also want to know if a place needs a ticket, if so, where can I buy it from. Additionally, I would like to hear other people's experiences and their overview of the place.*

Answer 3: *If the place is new, sometimes I can't find details about it such as reviews, How to book , the services it provides, or how far the place is from the gates.*

Answer 3: *I always struggle in finding fun entertainment places that are suitable for me and my family/friends. Even if I found a good choice, I wouldn't be able to know its price or location. I also tend to be a person that relies on people's recommendations, yet I rarely find reviews and ratings about entertainment places.*

Answer 4: *Yes, the features that I want to have would be showing if the place is crowded or not, providing the fastest route to reach the place, giving the best options in the services provided, along with the number of people allowed to enter the place at the same time, and the evaluation of workers.*

Answer 4: *Of course! It's a great idea that will save a lot of time while looking for new places. It*

will be quick and efficient. The features I want to have are location services, price description, opening/closing times, and a brief description of each place.

Answer 5: *For sure it will make it very easy for me to find the information I need about any place, so it saves my time and effort.*

Answer 5: *It will save a lot of time and effort that is wasted looking for new places and asking about people's recommendations. This app will provide an insight about the place before going; making the decision of where to go smoother and easier.*

Appendix B: Questionnaire

- Questionnaire questions
  - *Which app did you use for looking for new places?*
  - *Did you look for reviews before going to a new place?*
  - *From where did you get a recommendation for Entertainment places?*
  - *Are you interested in Entertainment places ?*
  - *Would you like to have an app that gives you people reviews and experience of an Entertainment places?*
  - *Did you think that the app can be a guide for tourists?*

References for this guide

[1] *"Saudi Entertainment, Amusement Sector to Be Worth $1.17 Billion by 2030." Arab News, 6 June 2021, https://arab.news/4r2gb.*

[2] *Travel, Wego. "Riyadh Season 2021: Everything You Need to Know *Updated January 2022*." Wego Travel Blog, 11 Oct. 2021, https://blog.wego.com/riyadh-season/.*