Independent University, Bangladesh
Department of Computer Science & Engineering
CSE 307: System Analysis and Design
(Summer 2019)
Assignment 2 (40 Points)
Statement of Work
Due on July 3, 2019

Instruction:

· Save the file with the naming convention as

A2_CSE307Summer2019_ID_FIRST NAME_LAST NAME.docx

· Submit through Piazza.com under folder assignment2 to the
Instructor as Question.

· In summary please follow the convention: A2, ID, First Name Last
Name

Tasks:

1. Describe briefly three Information Gathering methods used for the
project. (Include activities performed for each method) (3+3+3
Points)

Questionnaires:
We used Questionnaires, or surveys, to collect information from many
people in relatively short amount of time.

When using questionnaires, our questions were focused and
organized by a feature or project objective. Questionnaires were
kept short, to ensure that users would complete them. When
constructing the questionnaire, general guideline we used to
determine the questions were to ask "how, where, when, who,
what, and why."

For how: "How will you use this feature?" "How might we meet this business need?" "How will we know this is complete?"

For where: "Where does the process start?" "Where would the user access this feature?" "Where would the results be visible?"

For when: "When will this feature be used?" "When will the feature fail?" "When will we be ready to start?"

For who: "Who will use this feature?" "Who will deliver the inputs for the feature?" "Who will deliver the outputs of the feature?"

For what: "What do I know about this feature?" "What does this feature need to do?" "What is the end result?" "What must happen next?"

We hosted the questionaire as an online form and contacted the stakeholders over phone, and enlightened them about the purpose of our online form and sent the link to our form over the mail.

The form is made using Google Forms.

Below are some of the questions we included:

Which role best describes you? (- List of stakeholders)

If the role is a medical professional -

What pieces of information you need to suggest a diet plan for a patient

How many different diet plans

If it is a grocery staff -
What groceries do they sell

If it is a cook -

What meals can they prepare

One-on-One Interviews:
We used one-on-one interviews to gather the requirements. To help
get the most out of the interview, we planned them out and
prepared before sitting with the interviewee. We identified the
stakeholders to be interviewed (which consists of the users, food
joint owners, grocery stores, doctors, cooks). We asked them
open-ended questions (to obtain valuable information, based on
various individuals and the way the different way they interact with,
or view, the system), as well as closed-ended questions. Open
ended questions require the interviewee to explain or describe
their thoughts, and cannot be simply answered with a "yes" or "no".
We asked the interviewee how they would use our solution.

These types of questions provide us with information to further probe
for more detail with follow up questions, in order to get more
details.

An example open-ended question would be "What are some of the
problems you face on a daily basis?"

Close-ended questions will also be asked to get a specific answer.
We provide specific answers for the interviewee to choose from, in
formats including true or false or multiple choice. Although
close-ended questions do not provide as much detail as

open-ended, they can be useful to cover more topics in a less amount of time.

An example of a close-ended question would be "How many telephone orders are received per day?"

Once the questions have been established, it is a good practice to provide the questions to the interviewee prior to the interview, in the event that the interviewee needs to prepare. During the interview, the interviewer should obtain permission from the interviewee that recorders may be used, to ensure that if details are missed while taking notes can easily be retrieved. At the end of the interview, the results should be provided to the interviewee, for confirmation of their responses.

Group Interviews:

Group interviews are similar to one-on-one interview, except there is more than one person being interviewed. Group interviews work well when the interviewees are at the same level or position. A group interview also has an advantage when there is a time constraint. More thoughts and discussion can be generated, as someone in the group may state or suggest an idea that may have been overlooked by others, which in turn can lead to a discussion or provide more information on a particular issue. We could gauge which issues are more generally agreed upon, and which are which issues differ. A major disadvantage was scheduling the interview. When more than one person are involved, it may be difficult, or become time consuming, in establishing date and time that works well for all parties.

Prototyping:

Prototyping is another form a contemporary requirement gathering method. Prototyping is iterative process that heavily involves the users to complete. The user provides the requirements, in which the analyst can plug in directly and show the user the outcome. Prototyping is dependent on user interaction and cannot be utilized as its own method of gathering requirements. The analyst must interview or perform some other form of requirement gathering to perform before they begin prototyping. However, prototyping is very effective in specifying requirements, because of how heavily involved the user is. The user will still be sitting side by side with the analyst, providing them requirements as the analysts enters them into a working system. This will allow the user to instantly see the outcome of their requirements. At this point the user may change some of their requirements. They may see that what they provided was not what they had in mind. A form may appear cluttered with information; at this point the user can go back and adjust their information. This may also be the case in when the user forgets important information; they may not realize it until they actually see a working version of the system. The user and analyst will continue to go through different iterations, until all specifications are complete. The last prototype will be used as a model to build the actual system. Some of the disadvantages of prototyping is the user will pay too much attention to details on the screens, rather than what the prototype is meant to communicate. Executives can grow impatient as they see a complete prototype, but will not understand why the finished system takes so long to complete.

2. Draw the Use Case Diagram of the Software. (6 Points)

Key Points:
> Users go to site

> Give personal information

> Sends to server

> Database matches users info with doctors recommendation
> Finds meal plans, and dishes from database with doctors, and
  cooks recommendation.

> Finds restaurants near the user where dishes can be bought.

> Finds recipes of dishes.

> Shows the user the output.

> User use recipe to cook food.

> Can buy groceries online.

> Can buy dish online.

> Pay using bKash, debit card, credit card

> Can find location to restaurants or grocery close by.

> Go and buy groceries if needed.

> Go out to eat.

Use Case Diagram in File Use Case - 2.jpg

3. Draw Normal Scenario for 2 Use Cases. (3 * 2 = 6 Points)

Normal Scenario			
Use Case Name:	Input and send personal information	**Unique ID:**	Input_Initiation_1
Area:	User form		
Actor(s):	Health Concerned User		
Description:	Allow User to input information (age, diet preferred, weight, height, ingredients preferred, dishes preferred) in online form using a secure web site		
Triggering Event:	User visits the website and from the home page navigates to the link to find diet information. Then they input the information in the form and clicks the submit button to send it to the server.		
Trigger Type:	External		
Steps Performed (Main Path)	Information for Steps		
1 User visits site/ opens application.	Site URL / Application button		
2 User navigates to page to input personal information on the online form	Clicking Button or Link on User Interface		
3 User submits the form	Information: Age, Weight, Height, Preferred Diet Plan, Preferred Weight Goals, Preferred Dishes, Preferred Ingredients		
4 Form received by server	Form received over encrypted connection		
5 Server processes form	Process form with information in Database to match to required information		
6 Server responds to form with diet related information	Renders the correct information on the UI		
Preconditions:	User is on the web or mobile app,		

	User inputs accurate information		
Postconditions:	User is provided with accurate diet information based on requirements		
Assumptions:	The information User enters is accurate based on themselves		
Requirements Met:	Show diet plans, dishes, grocery and restaurant locations, recipes, nutritional information		
Outstanding Issues:			
Priority:	High		
Risk:	Low		
Use Case Name:	Processing User Form	**Unique ID:**	Input_Processing_2
Area:	Cloud Database Backend		
Actor(s):	Programmers		
Description:	The program processes the User form to show the desired and required appropriate health related output.		
Triggering Event:	The Request from the User to the server to get the required Response.		
Trigger Type:	External		
Steps Performed (Main Path)	Information for Steps		
1 Information is grouped and matched with Database	Cleaned information from form		
2 Information from the Database is retrived and shown on the UI	Dishes, Nutritional Facts, Recipes, Restaurants, Groceries, Time for preperation, Time taken to go to location		
Preconditions:	The User has entered correct information.		
Postconditions:	The User is given accurate information		

	based on their responses.		
Assumptions:	There is sufficient information from user to process, there is sufficient data on Database to give output		
Requirements Met:	Mapping and processing information to accurate suggestions		
Outstanding Issues:			
Priority:	High		
Risk:	Medium		

4. Draw Alternative Scenarios for the Use Cases. (3 * 2 = 6 Points)

Alternative Scenario			
Use Case Name:	Purchase Online and Home Delivery	**Unique ID:**	Purchase_Home _Deliv_3
Area:	Food, or Ingredients Details Page		
Actor(s):	Health Concerned User		
Description:	User choses the option to have their Food or Ingredients delivered to them to a desired location rather than going out to eat.		
Triggering Event:	Clicking of the Purchase Online button		
Trigger Type:	External		
Steps Performed (Main Path)	Information for Steps		
1 User navigates to the details page of the dishes/ingredients	Details hyperlink		
2 User clicks on the Purchase Online button	Clicking Button on User Interface		
3 User fills purchase form	Information: Delivery Location, Amount, Payment Method, Payment Details		
4 User clicks Confirm Purchase	Clicking Button on User Interface		
5 Purchase is confirmed and processed	Process the details, send the information to the appropriate people		
6 Show user final page	Show user the delivery date and delivered status of product, Show Purchase Confirmed page		
Preconditions:	User has enough balance in account, User has selected at least 1 quantity		

Postconditions:	The grocery/food store sends item to the User		
Assumptions:	The payment method information is accurate		
Requirements Met:	Online easy purchase of items.		
Outstanding Issues:			
Priority:	Medium		
Risk:	High		
Use Case Name:	Leave Reviews	**Unique ID:**	Item_Review_4
Area:	Food, or Ingredients Details Page		
Actor(s):	Health Concerned User who has purchased		
Description:	Users who have already purchased item(s) can leave a review and rating for those.		
Triggering Event:	Have completed purchase and clicking review page		
Trigger Type:	External		
Steps Performed (Main Path)	Information for Steps		
1 User navigates to the details page of the dishes/ingredients	Details hyperlink		
2 User clicks on the Review link	Clicking Link on User Interface		
3 User fills review form	Information: Review text, Rating		
4 User clicks Done button	Clicking Button on User Interface		
5 Review is processed and sent to the server	Process the details, send the information to the server		
6 Show user updated review page	Show user updated review page with their review		

Preconditions:	User is on review page.		
Postconditions:	Updated review page with the User's review		
Assumptions:	User has purchased item.		
Requirements Met:	Leaving reviews for other users to view.		
Outstanding Issues:			
Priority:	Low		
Risk:	Low		

5. Identify Functional Requirements. (8 Points)

- Take User input in form:
  The inputs will be used by the application to provide the applicable diet plan.
- Clean User input:
  This will make sure that the data entered is accurate and the inputs are processable by our application.
- Take input from various stakeholders:
  This will be the data used by our program to provide the user their required information.
- Store information in Database:
  This will allow data maintenance.
- Database on Cloud:
  This will allow seamless access over any device connected to the internet.
- Multiple platform for Application (Web, Mobile):
  Users can access via any device platform.
- Efficient algorithms to quickly process input information with those on database to show required output
- Allow stakeholders to create accounts

6. Identify at least five Non-Functional Requirements. (5 Points)

- Responsive User Interface (UI):
  UI which supports responsive viewing on multiple platforms / devices.

- Good User Experience from UI:
  UI which is friendly and intuitive.

- Allow Users to leave comments, ratings, and reviews
  Allows User interaction with each other

- Allow online payment methods
  Payments can be made online for purchase

- Show popular options and what other Users with similar tastes preferred