

**National University of Computer & Emerging Sciences, Karachi**

**Spring -2023**  
**CS3009-Software Engineering**  
**Assignment 01**

**Name: Kashif Ali**

**Roll No: 20P-0648**

**Section: 6B**

### Question 01:

- A) In our project we are creating a doctor patient application called **Hello Doctor** using Flutter. It will help patients to book their concern Dr through an application.
- B) Goals and Objectives:
- Booking for Doctor will be easier
  - Searching for Doctor will be efficient
  - Will create an ease for patients to look their concern Doctors
- C) Scope: This project will be a benefit for both doctors as well as for the patients. Doctors can easily check their booked appointment and timing so they can easily manage their schedule. On the other hand patients can book their appointments through Applicationm, for this they don't need to go to a Doctor's clinic or Hospital. It will reduce time wastage as well as increase productivity.
- D) Following is the breakdown structure of our project:
- Project Management
    - Project planning
    - Project execution
    - Project control
    - Project closure
  - Research and Analysis
    - Identity target users
    - Analysis potential competition
    - Developing users and actors
    - Defining users requirement
  - Design
    - Application architecture
    - Developing Application's UI and UX
    - Maintaining all documentation
  - Development of Application
    - Developing all the UI for the application
    - Creating easy booking and notification reminder
  - Deployment and Maintainance

- 0 Deployment on Playstore and AppStore
- 0 Testing before deployment
- 0 Future planning and it's

Q No 2.

# Work Breakdown Structure (WBS) for Easy Travel App Development.

## 1. Project Planning & Analysis

- (a) Conduct market research and Analysis
- (b) Develop Project Scope Statement
- (c) Define Project objectives and goals.
- (d) Identify Project deliverables.
- (e) Analyze user requirements and needs.
- (f) Evaluate Project feasibility and risks.

## 2. Design and Development.

- (A) Develop User Interface Design
  1. Design onboard screen with basic features.
  2. Develop Driver's Interface
    - a. Create vehicle selection option.
    - b. Design home screen with selected vehicle display
    - c. Develop change vehicle option
    - d. create start journey option
    - e. Design automatic arrived feature
    - f. develop attendance feature
    - g. create absent marking option
    - h. Develop ride complete feature
    - i. Design occasional call option



### 3. Develop Commuter's interface

day / date:

- a. Create passenger selection option
- b. Design home screen with selected passenger display.
- c. Develop change passenger option.
- d. Create tracking services feature.
- e. Design pop-up successful ride message.
- f. Develop ride history feature
- g. Create delay and cancellation option
- h. Develop passenger no-show notification feature.

### B. Develop Software Architecture and Database

1. Develop software design and structure.
2. Create Database design and structure.
3. Integrate user interface design with Software Architecture.

### C. Develop Mobile Application.

1. Create front-end and back-end development.
2. Develop mobile App testing and debugging.
3. Integrate database with Mobile Application.



### ③ Quality Assurance and Testing

- A. Develop test-plane and test-cases.
- B. Conduct unit testing and Integration testing.
- C. Conduct System and Acceptance testing.
- D. Conduct usability and Security testing.

### ④ Deployment and Maintenance

- A. Deploy the mobile application on App Store.
- B. Monitor Application performance and user feedback.
- C. Conduct Software Maintenance and Updates.
- D. Provide Customer Support and Assistance.

Q No 3

(3)

15

day / date:

a) Weighted estimator for each estimator.

$$\frac{P+O+4B}{6}$$

$$Ali = \frac{87 + 62 + 4(70)}{6} = 71.5$$

$$Zain = \frac{91 + 72 + 4(80)}{6} = 80.5$$

$$Shah = \frac{88 + 50 + 4(70)}{6} = 69.67$$

$$Hassan = \frac{97 + 88 + 4(85)}{6} = 94.17$$

b) Average joint Estimate

$$\frac{71.5 + 80.5 + 69.67 + 94.17}{4}$$

$$= 78.96$$

c) 95 % Confidence level.

$$\bar{E} \pm 1.96 \times SE$$

$$SE = \frac{|\bar{O} - \bar{P}|}{6}$$

$$|\bar{O}|$$

$$\frac{62+72+50+88}{4}$$

$$= 68$$

$$|\bar{P}|$$

$$\frac{87+91+85+97}{4}$$

$$= 90.75$$

$$SE = \frac{|68 - 90.75|}{6}$$

$$= 3.792$$

Average of all estimated (joint)

$$= 78.96$$

$$\bar{E} \pm 1.96(3.792)$$

$$78.96 \pm 1.96(3.792)$$

$$71.52 - 86.39$$