Zariya

Final Project Report
MGMT-321
18.05.2022

Team Members

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Project Definition

Project Introduction:

Zariya - The application is designed to provide a platform where food surplus/leftovers can connect to food-insecure and allow them to consume quality and nutritious food. Restaurants, wedding halls, and other businesses with surplus food can use Zariya to sell their last-minute food waste to people in need of food at low prices. The escalating food crisis and the lack of a centralized regulatory body capable of dealing with such societal problems are the driving forces for this application project. For the sake of community service, we want to make food rescue and sharing very easy and efficient.

Objective

The objective of this project is to create an easy-to-use application with a simple user interface that establishes a link between any location with surplus food and a needy person. This project intends to benefit the community by encouraging people to share their food rather than wasting it. Interestingly, this concept has the potential to benefit both the food producer and the consumer as local community users eat great food and businesses get additional revenue. This point is discussed in greater detail in the later section.

With the growing food crisis and shrinking access of impoverished people to nutritious food, we believe that this application project is long overdue, as it will assist the community socially and economically. Our society has faced numerous financial hardships in the previous two to three years as a result of the pandemic. While most individuals are doing their best to adjust to the changes in society, some of us are struggling to meet basic necessities of life such as food. On a daily basis, we come across several people who have lost their jobs and are experiencing severe food shortages. Besides the employment factor, our Pakistani community is facing a steep rise in inflation which is another factor in the food crisis. On the other side of the picture, we observe that a lot of food is wasted or abandoned each year. For example, due to the busy lifestyle and pandemic situation, fewer people opt to attend social events and dine in a restaurant. This results in waste of both untouched and touched food. Instead of dumping the food, we may use it to help someone in need.

Project Motivation

According to the World Food Program, around 811 million individuals, across the globe, do not get enough food. As expressed by The World Counts, until now in 2022, around 9 million individuals have died of hunger and appetite-related illnesses, out of which 3.1 million were children. Every single day, around 25,000 people die from malnourishment and related issues. Conversely, U.N expresses that an adequate amount of food is produced to channel everybody all over the planet. The unevenness in the food produced, and starvation among a gigantic populace is the consequence of an excessive amount of food being squandered. The U.N Environment Program states “Roughly one-third of the food produced in the world for human consumption every year - approximately 1.3 billion tons - gets lost or wasted”. Out of this food waste, 12% comes from the hospitality industry, including cafes, restaurants, retail stores, etc.

If we particularly refer to the effects of food shortage in Pakistan, WFP stated that around 20.5% of the total population (207.7 million) is undernourished and about 40% of children are stunted, meaning that their height does not corresponds to their weight and is below the “Child Growth Standards” defined by WHO. The key reason for the food shortage in Pakistan is similar to any other country, i.e. the huge quantity of food being wasted. According to DAWN News, around 36 million tons of food are wasted every year.

Targeted Audience

In 2018, the Pakistani government vowed to eradicate hunger by the year 2030 which is the Second Sustainable Development Goal (SDG), also referred to as Zero Hunger. For the mentioned purpose, the government officials should not only focus on crop diversification or increasing crop yield by introducing innovative methods, but it should also take measures to reduce food waste. The ones suffering the most due to food disposal are the people belonging to the lower class. These people are mostly dependent on NGOs which are further reliant on donations from the government and the elite class. Therefore, the focal point of our application will be designated towards associating the hotels/restaurants with the NGOs. It would depend on the restaurant owner, either to take a small amount of money (NGOs will use the donations to pay for the food), or to donate the leftovers to the NGOs. The connected NGOs will then

distribute the food items among the underprivileged. Hence, this application can serve as a one-way, as well as a two-way benefit in terms of cost-efficiency.

Solution Design/ Implementation

The high-level design of our product is an android application that will centralize the system of food donation. Our restaurants/wedding halls will select the number of items of a leftover available of a certain food item and then NGOs can reach out to the restaurant for the timely delivery of these items.

Following are the functional requirements of our product:

- Registration option for restaurants and wedding halls.
- User Registration option (NGOs and even local people)
- Once a restaurant/wedding hall has registered, everyday it can put up the quantity and type of food that can be sold/donated as leftovers.
- The NGO can then select if they want to have those food items.
- The application will provide the NGO users an option to search for specific restaurants nearest to their location so that transportation costs can be saved.
- The application will have an option to support urdu as well as English language.

Deliverables

Our project deliverables are listed as follows:

- Market Research: This would include surveys being conducted to check if our application is a need for the current market. We would keep in consideration our competitors as well as the requirements of the target audience. By conducting the analysis we would know which new features to introduce into the already existing systems (competitors).
- Requirements Specification: Once we have analyzed the market needs, we will specify and document the requirements of our application. This will comprise functionalities, possible interactions, key stakeholders, etc.

- Prototype Designing: This will provide the basic demonstration of the mobile application. During this phase, we will convert sketches/wireframes of the User Interface into a prototype which will help the developers to get an idea of the intended UX.
- Application Design and Development: During this time period, the developers will work on the frontend and backend design as well as implement the listed features (written in the SRS documentation of the project).
- Marketing and Launch: This phase will execute the marketing strategies which were initially planned by the marketing team. In this phase, the application will be launched and marketed.
- Monitor and Maintenance: The time period of this phase cannot be specified as it is based on the application's functioning and customer feedback. The team of data analysts, along with the developer's team will try to incorporate features based on customers' demands and will try to minimize the system errors.

Milestones

The table below lists the phases of our project along with its estimated duration.

PHASES	START DATE	END DATE
Market Research	April 01, 2022	May 01, 2022
Requirements Specification	May 01, 2022	May 25, 2022
Prototype Designing	May 25, 2022	June 30, 2022

Application Design and Development	June 30, 2022	September 15, 2022
Launch and Marketing	September 15, 2022	November 15, 2022
Expansion (all over Karachi)	November 15, 2022	December 31, 2022

Scalability

We have scaled the execution of our project idea in three phases.

Phase 1:

This is the initial phase, which is planned to begin immediately following step 4 in the milestones discussed above. We intend to launch the "Zariya" application in limited areas of Karachi. By limited areas, we mean areas which come under the central district of Karachi. We will test for system errors encountered by stakeholders once the application is launched. During this phase, frequent feedback from stakeholders will be collected and used to improve system features and resolve any technical issues that may arise.

Phase 2:

The second phase consists of further expansion in Karachi. By the end of this phase, we hope to have achieved maximum reachability in Karachi. With further expansion, we will be

encountering more feedback from local end users. We will improve the application in response to feedback and results.

Phase 3:

The third phase is the final phase in which we shall launch Zariya application in another city i.e. Lahore. This phase will be iterated back to the maintenance phase by responsible team members. It is expected that this phase shall pave the way for future works which are discussed in later sections.

Technical Requirements

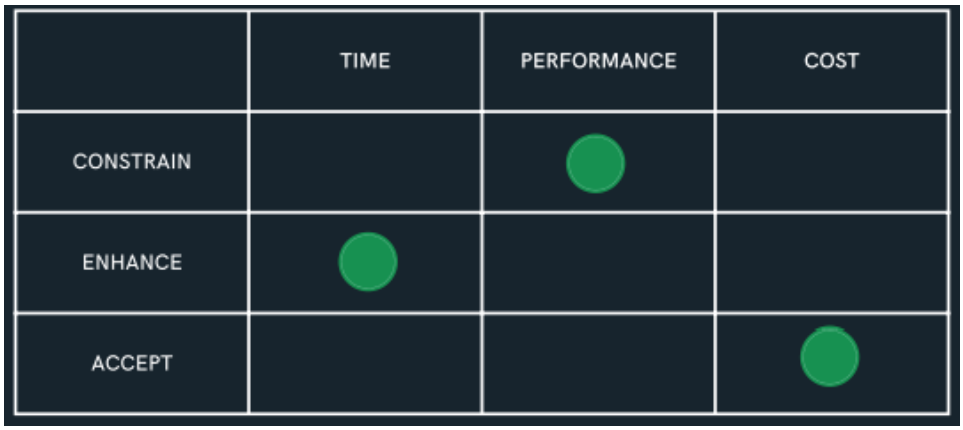
- The system will maintain availability of 99%.
- The system shall ensure responsive interface. The system will have an average page load time of less than 2 seconds. Moreover, the response time of a single click should be less than 1 second.
- The system will handle 500 concurrent users while meeting performance objectives.
- Changes and upgrades to the system will not require total outages or shutdown.
- The application shall be supported by Google app store and Apple play store while ensuring comprehensive compatibility with both Android operating system and Ios.
- The user interface will not allow end users to access information stored in the database. The system shall assure privacy and database security.
- The data stewards in the team can only access the highly classified data with the permission of higher officials.
- The Software Design Team and Software Development Team will consist of 5 and 7 members respectively.
- The Software Testing Team will be based on 4 members and the Data Analysis Team will consist of 3 members.
- A dedicated marketing team will consist of 4 members with allocated budget and resources.

Limits and Exclusions

- Internet access required.
- Limited number of stakeholders will be taken on board (restaurants / wedding halls and NGOs)
- No transportation service for food delivery.
- We cannot monitor the food quality that will be delivered to NGOs.
- We may face issues of false price commitments i.e. violating the objective of reduced price for this project.

Project Priorities

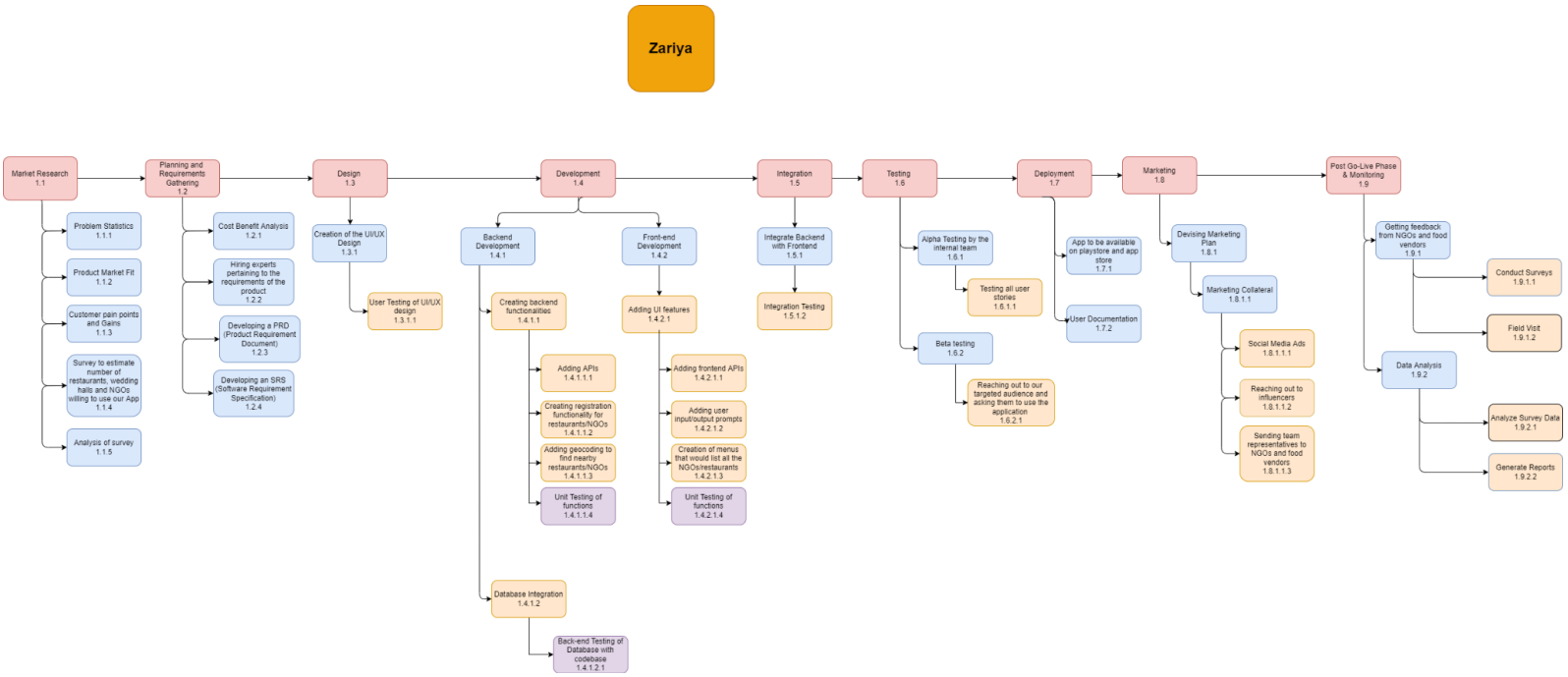
Following is the project priorities matrix,



As the motivation behind this project is based on a major social cause, we have decided to not to compromise on the performance of the application. Thus this has to be a constrained entry in the project priority matrix mentioned above. In order to meet this constraint the technical requirements mentioned above highlights the requirement of dedicated teams which will work towards successful implementation of our project idea, Zariya.

Furthermore, the time shall enhance with the progress of the project as we expect to shrink i.e. optimize the decided time frames for each milestone. The cost is acceptable which may not meet the original parameters.

Work Breakdown Structure



Link: https://drive.google.com/file/d/1JTbfVGzW98vLoGbj774iWycqHpg-5UGs/view

Coding WBS for the Information System

1.1 Market Research

1.1.1 Research on the Problem Statement

1.1.2 Product Market Fit

1.1.3 Customer Pain and Gain Points

1.1.4 Survey to estimate number of restaurants, wedding halls and NGOs willing to use our App

1.1.5 Analysis of the Survey

1.2 Planning & Gathering Requirements

1.2.1 Cost-Benefit Analysis

1.2.2 Hiring experts pertaining to the requirements of the product

1.2.3 Developing a PRD (Product Requirement Document)

1.2.4 Developing an SRS(Software Requirement Specification)

1.3 Design

1.3.1 UI/UX Designing

1.3.2 User Testing of UI/UX Testing

1.4 Development

1.4.1 Back-end Development

1.4.1.1 Creating back-end functionalities

1.4.1.1.1 Adding back-end APIs

1.4.1.1.2 Creating registration functionality for restaurants/NGOs

1.4.1.1.3 Adding geo-coding to find nearby restaurants/NGOs

1.4.1.1.4 Unit Testing of functions

1.4.1.2 Database Integration

1.4.1.2.1 Back-end Testing of Database with the codebase

1.4.2 Front-end Development

1.4.2.1 Coding the UI Features

1.4.2.1.1 Adding front-end APIs

1.4.2.1.2 Adding user input/output prompts

1.4.2.1.3 Creation of menus that would list all the NGOs/restaurants

1.4.2.1.4 Unit Testing of functions

1.5 Integration

1.5.1 Integration of the Back-end with the Front-end

1.5.2 Integration Testing

1.6 QA Testing

1.6.1 Alpha Testing

1.6.1.1 Testing all user stories

1.6.2 Beta Testing

1.6.2.1 Reaching out to our target audience and ask them to use our application for testing purpose

1.7 Deployment

1.7.1 App to available on play store/ App Store

1.7.2 User Documentation

1.8 Marketing

1.8.1 Devising Marketing Plan

1.8.1.1 Marketing collateral

1.8.1.1.1 Social Media Ads

1.8.1.1.2 Reaching out to influencers

1.8.1.1.3 Sending team representatives to NGOs and Food Vendors

1.9 Post Go-Live phase and Monitoring

1.9.1 Feedback from NGOs and food vendors

1.9.1.1 Conduct Surveys

1.9.1.2 Field Visit

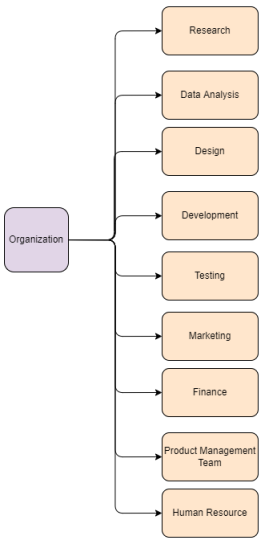
1.9.2 Data Analysis

1.9.2.1 Analyze Survey Data

1.9.2.1 Generate Report

Integration of WBS with OBS

According to our Priority matrix, performance is a constraint while time can be enhanced, hence a dedicated project team is represented in our Organizational Breakdown structure.



Market Research	Planning and Requirements Gathering	Design	Development	Integration	Testing	Deployment	Marketing	Post Go-Live Phase & Monitoring
1.1.1 1.1.2 1.1.3 1.1.4	1.2.1				1.6.2.1			1.9.1.1 1.9.1.2
1.1.5								1.9.2.1 1.9.2.2
		1.3.1						
1.6.1.1	1.2.4		1.4.1.1 1.4.1.1.1 1.4.1.1.2 1.4.1.1.3 1.4.2.1.1 1.4.2.1.2 1.4.2.1.3	1.5.1		1.7.1		
		1.3.1.1	1.4.1.2.1 1.4.1.1.4 1.4.2.1.4	1.5.1.2	1.6.1 1.6.2 1.6.1.1			
							1.8.1.1.1 1.8.1.1.2 1.8.1.1.3	
	1.2.1							
	1.2.1 1.2.3					1.7.2		
	1.2.2							

Project Responsibility Matrix:

Deliverables	Sana	Areesha	Shalin	Rabeea
Market Research	R	S	S	S
Requirements Specifications (SRS)		R	S	
Finance / Budget Finalization			S	R
Awareness	S	R		
Architectural Requirements			R	S
Testing Strategies			S	R
Feedback	R	S		
Application Development			R	S
Testing	S	R		S
Launch and Marketing	R			S
Customer Feedback	S	R		

key	
R	Responsible
S	Support

Project Communication Plan

The table below depicts the project communication plan. The subject in the table indicates all of the required reports for effective project execution monitoring.

Subject	Audience	Timing	Method of Communication	Responsible Department
Milestone report	Managers and Executives	Bimonthly	Meeting	Project manager
RND report	Senior Managers	Weekly	Email and Meeting	RND department
Accepted change requirements	Project manager, staff, RND, senior managers	Anytime	Email	Development department
Escalation report	Staff	When needed	Email	Project manager
Project status report	Staff	Monthly	Email	Project manager
Scrum meeting	RND, Project Manager	Daily	Meeting	Design, development and Testing department
Financial Report	Senior Managers	Bimonthly	Email and Meeting	Finance department
Team status report	Project manager	Weekly	Email	Project manager
Marketing report	Senior Managers	Bimonthly	Email	Marketing department

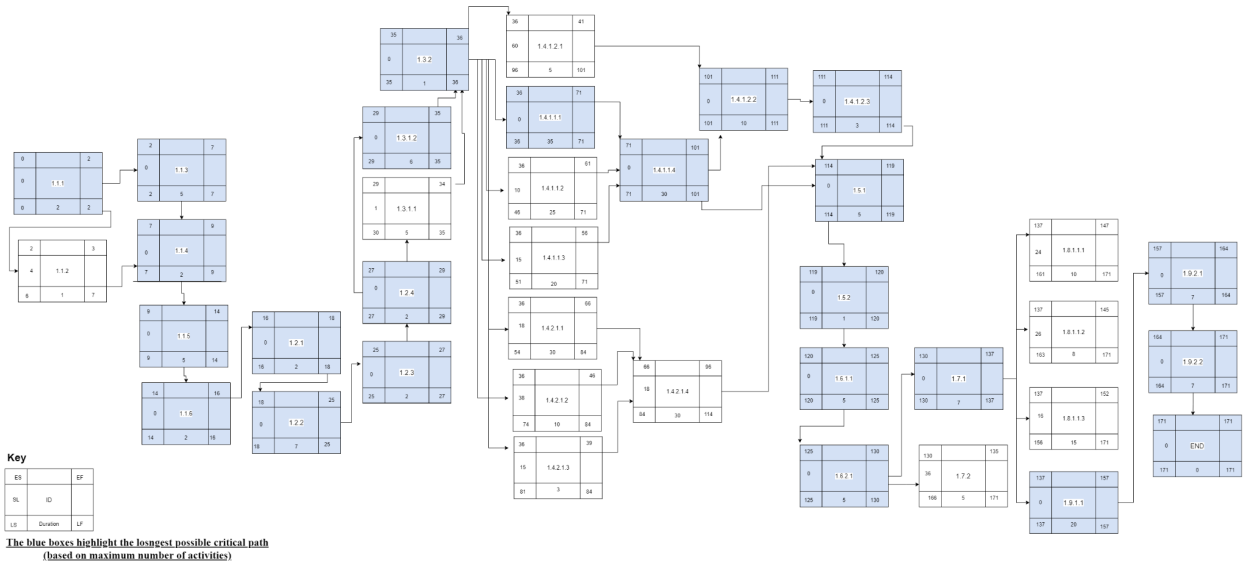
Project Plan

We performed project planning for Zariya in two steps. In the first step, the project network diagram for Zariya was created. Then, following PND, gantt charts were made. In order to plan Zariya, at first we decided the time expected for completion of each activity. Once these were decided, we then moved towards the next step.

Project Network Diagram (PND):

A project network diagram is used to visualize the sequential and logical relationship between decided tasks in a project. This visualization provides a clear expression of the chronology of tasks which helps in highlighting and resolving the logical inter-dependencies of tasks.

Following is the network diagram attached. You may view it online, the link is mentioned below.



Link: https://app.diagrams.net/#G1JTbfVGzW98vLoGbj774iWycqHpg-5UGs (prefered to open in draw.io)

From the PND attached above we can see that 171 time units (days in our case) is required for project completion. The boxes highlighted in blue are forming the critical path which comprises a total 23 activities. Note that the key is mentioned on the left bottom corner which indicates the ES, EF, LS, LF and slag (SL) fro each activity.

Gantt Chart:

Gantt charts provide a clear overview of the project schedule. They help in knowing the information about the completion time of the project, the resources needed, and the sequence in which the activities should be planned to avoid any dependencies.

Keeping in mind the purpose, we have designed a Gantt chart such that the activities can only begin once their predecessors have been executed. Each activity is scheduled in a way that it begins on the next day of the complete execution of its predecessors. For convenience purposes, we have constructed the Gantt chart with respect to the calendar dates. According to it, we have started our project on 14 March 2022, and we expect to end on 24 September 2022. Following the defined schedule, we are half the way through the development phase (considering the calendar date of today: 18th May 2022).

Link for Gantt chart:
https://habibuniversity-my.sharepoint.com/:x:/r/personal/ra04419_st_habib_edu_pk/_layouts/15/guestaccess.aspx?email=muhammad.wamiq%40sse.habib.edu.pk&e=aoR3Hn&CID=88da870c-0baa-92f2-6104-487546bd713f&share=EcO04v-3JUxGnMjYGrSiDWsBBBiIMWDFGMpTkNFyfU0wAA

Risk Register

Risk Register.xlsx

Risk Identification (Sheet 01):

We have performed risk identification on sheet 01 of the attached excel notebook. You may notice that initially, we have divided this task into 3 levels.

- Level - 1: categorizes the risks as technical, project management, external and organizational.

- Level - 2: Each category identified in level 1 is then divided into subcategories like sub-contractor, customer, market and regulatory were identified as subcategories of external risks.
- Level - 3: This is the last level which presents the brief description of what type of unwanted issues can come under a particular risk category.

Note that we have presented risk breakdown structure (RBS) in tabular format.

Risk Assessment(Sheet 02):

The risks (mentioned in risk identification stage) are assessed by predicting its likelihood of occuring and its impact on the overall project, both ranging 1-5 (1:lowest, 5:highest). Alongside, the difficulty of identifying the risk is also predicted, 1 being the lowest and 5 being the highest. The last column of the table states the phase the risk could occur in e.g. design phase, development phase, testing phase, etc.

Risk Severity Matrix (Sheet 03):

A severity matrix basically helps prioritizing risks that should be addressed first. The cells of the matrix are filled using the likelihood and impact of that risk (from the risk assessment module). The cells colored red have the highest priority, followed by the cells colored beige. The risks filled in the green cells are ignored until the status changes.

Risk Response Plan (Sheet 04):

Most of the responses to the possible risk events pertained to mitigating the risk. We used to retain risks in certain instances where the risk could not have been avoided, for example if the market demand for the product changes, we have to settle for it because this is something we cannot predict. We used to avoid risk where we knew that an instance of the particular risk occurring can incur heavy losses like for eg, having unreliable tech experts can cost impact the overall product launch and the performance of our application.

Contingency Funds Estimate (Sheet 05):

Activity	Budget baseline	Budget Reserve	Project Budget
Market Research	60000	10000	70000
Planning and Requirements gathering	40000	5000	45000
Design	300000	100000	400000
Development	900000	100000	1000000
Integration	400000	100000	500000
Testing	200000	50000	250000
Deployment	50000	10000	60000
Marketing	600000	250000	850000
Monitoring	50000	10000	60000
Sub Total	2,600,000	635,000	3,235,000
Management Reserve	-	-	200000
Total	2600000	635000	6670000

In our contingency funds estimate, we estimated the values according to the current market of Pakistan. Most funds are allocated to Developers because they are paid the most. We assigned the least funds to planning gathering and requirements because it

PERT (Sheet 07):

All the required steps for PERT (Project Evaluation and Review Technique) are mentioned on sheet 07 (*PERT-Static*) of the attached notebook.

- From our project network diagram, we calculated that the expected project duration is 171-time units i.e. T_E. Then, T_S is the scheduled project duration which we kept as 174 (can be any other value) - a few days more than our critical path duration.
- The standard deviation for each activity is calculated using equation 7.2 in the coursebook.
- Using the obtained values, our standard deviation for the project turned out to be 3.81.
- We put the values of T_s, T_e, and standard deviation in our Z-score equation. This yielded 0.78 as a z-score.
- This value was then mapped to the probability table that yielded 0.788 which implies that there is a 78.8% percent chance of completing the project on or before 174-time units.

Standard deviation of the project
3.811532209

T_s	T_e
174	171

Z score
0.787085045

Probablity
0.788

$$Z = \frac{T_S - T_E}{\sqrt{\Sigma \sigma_{t_e}^2}}$$

Here, t_e is the average activity time along the critical path.

Project Performance Evaluation

For the performance evaluation of the project, we first created a baseline plan. The baseline plan was made according to the following steps:

1. For all the major work packages, through the network diagram, we got the duration, ES (earliest start time), LF (latest finish time), and the slack.
2. The total PV for each work package was found through the contingency funds estimate that we established in our previous assignments.

   The outcome of step 1 & 2 is the following table:

Schedule Information						
ACT/Work Package	**DUR**	**ES**	**LF**	**LS**	**SL**	**Total PV**
Market Research	16	0	16	0	0	60000
Planning and Requirements gathering	13	16	29	16	0	40000
Design	7	29	36	29	0	300000
Development	78	36	114	36	0	900000
Integration	6	114	120	114	0	400000
QA Testing	10	120	130	120	0	200000
Deployment	7	130	171	164	34	50000
Marketing	15	137	171	156	19	600000
Monitoring	34	137	171	137	0	50000

3. According to the Gantt Chart, we then plotted the budget values for our time intervals.
4. We then found out the Total PV by period and cumulative PV by period by summing over the respective time-periods values.

   The outcome of step 3 & 4 is the following table:

Schedule Information			Baseline Budget Needs								
			Time Period								
ACT/Work Package	**Total PV**	**16**	**29**	**36**	**75**	**114**	**120**	**130**	**137**	**152**	**171**
Market Research	60000	60000									
Planning and Requirements gathering	40000		40000								
Design	300000			300000							
Development	900000				500000	400000					
Integration	400000						400000				
QA Testing	200000							200000			
Deployment	50000								50000		
Marketing	600000									600000	
Monitoring	50000									30000	20000
Total PV by period		60000	40000	300000	500000	400000	400000	200000	50000	630000	20000
Cumulative PV by Period		60000	100000	400000	900000	1300000	1700000	1900000	1950000	2580000	2600000

The above table is called the project baseline plan. For every interval, we used this baseline plan to compare our progress and generate status reports. For the purpose of this assignment, we have assumed that our project has reached day 75 so all our estimates are for the days before that. The following table is a depiction of the performance report at the time period 75:

Most Recent Status Report - Time Status 75						
Task	%Complete	EV	AC	PV	CV	SV
Market Research	100%	60000	70000	60000	-10000	0
Planning and Requirements gathering	100%	40000	30000	40000	10000	0
Design	100%	300000	220000	300000	80000	0
Development	50%	450000	470000	500000	-20000	-50000
Cumulative Totals		850000	790000	900000	60000	-50000

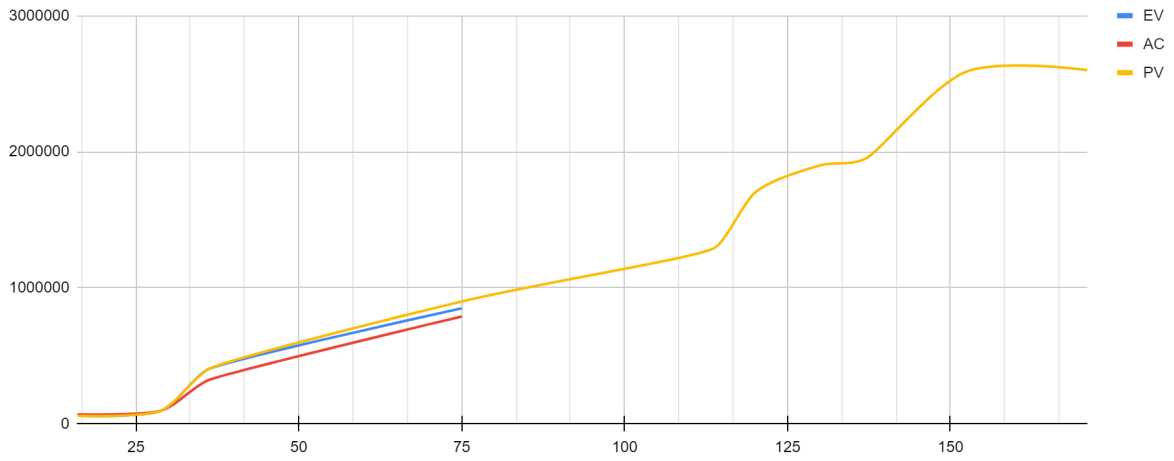
Cost Performace Index(EV/AC)	1.076
Scheduling Performance Index(EV/PV)	0.944

We see that till the time period 75, our market research, planning requirement, and Design are complete. Our CV, which is the difference between our Earned Value and Actual cost, is negative for our market research phase and our development phase and this is because we have spent more budget on them contrary to what we decided in our contingency funds estimate. For planning requirements and the design stage, our CV is +ve indicating that we managed to complete our tasks in less than our allotted budget.

Our cost performance index turned out to be 1. 076 shows that 1.076 pkr worth of work planned to date has been completed for each pkr 1.00 actually spent—a favorable situation indeed! Our CPI > 1 hence we can say that we under cost.

The scheduling performance index indicates pkr 0.944 worth of work has been accomplished for each pkr 1.00 worth of scheduled work to date. Our SPI < 1, which indicates that we are behind schedule.

Summary Graph till interval 75:

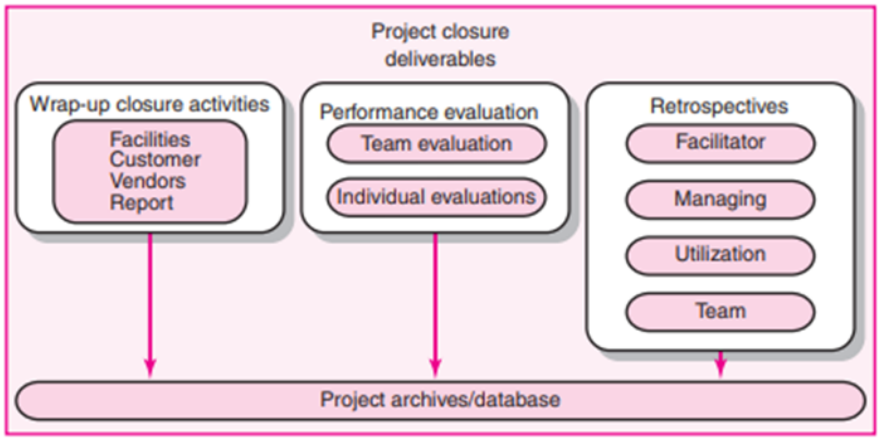


The cumulative actual costs (AC) to date and the earned value budgeted costs to date (EV) are plotted against the original project baseline (PV).

- The cumulative AC to date is PKR 790000;
- The cumulative EV to date is PKR 850000.
- The cost variance (CV = EV - AC) is +ve 6000 (850000 -790000 = 60000)
- The SV = EV - PV = -50000

Project Closure

Project closure is the last phase of wrapping up the project. This phase benefits in effectively archiving the project-related information, completion of scheduled work, remaining organizational resources are transferred to another project. It also helps in identifying the collective effort done by the team and the lessons learned during the project.



Reference: Figure 14.1 (Chapter 14 of course book)

It can be seen in the Figure, that the project closure is divided into three parts:

1. Wrap-up closure activities
2. Performance Evaluation
3. Retrospectives

Wrap-up closure activities:

One of the key wrap-up tasks is to ensure that the project is approved and accepted by the client. Other tasks include giving out the payments, transferring remaining equipment, looking for another project, documenting a final report, etc. People tend to make checklists to ensure none of the activities are left unnoticed. Below is the checklist which we would have used to evaluate our project:

	Task	Completed? Yes/No
	Team	
1	Was the team able to meet all the requirements/deliverables of the project?	
2	Are all the outstanding tasks completed?	
3	Is the project review done and are all the issues resolved?	
4	Have the staff performance evaluations been completed?	
5	Are adequate arrangements for handing over the project been made?	
6	Are the final project reports complete?	
	Users/Clients	
7	· Is the project authorized by all the stakeholders?	
8	Are all the deliverables closed down by the clients?	

8	Have all the clients used the application developed once?	
10	Are all the queries of the clients answered?	
11	Was the manual good enough for the clients to help them use the application?	
	Equipment and facilities	
12	Are all the project-related contracts and processes terminated?	
13	Have the facilities used for the project closed down?	
14	Have all the materials and equipment used been discarded?	
15	Completion of storage for all the project files?	
16	Are all the remaining equipment transferred to the upcoming project?	
	Vendors	
17	Are the performance reviews for vendors done?	
18	Have the billings/payments of all the vendors been done?	

Performance Evaluation:

Once the checklist is done, the next step is to carry out individual and team evaluation. For this, we will be using the survey below:

Individual Evaluation:

Element	Performance Level	Rating
1. Dependability	Absent more than once or absent, no call/no reason	1
	Absent once, but called with a valid reason (overtime, illness, etc.)	2
	Always present, but sometimes stayed for less than half of the team meeting	3
	Always present, and stayed for most of the team meeting	4
	Always present for the entire team meeting	5
2. Preparation	No apparent effort made to prepare for the team meeting	1
	Occasional incomplete preparation, no valid reason	2
	Occasional incomplete preparation due to a valid reason (overtime, illness, etc.)	3
	Generally completes all assigned work	4
	Consistently completes all assigned work + able to explain concepts clearly to others	5
3. Contributions	Sometimes behavior actually hinders a successful team meeting	1
	No individual contribution to promote a successful team meeting	2
	Minimal individual contributions to promote a successful team meeting	3
	Significant individual contributions to promote a sucessful team meeting	4
	Significant individual contributions + actively involved fellow team members	5
4. Attitude	Vocally rude, mean-spirited	1
	Shows non-vocal, but critical attitude toward fellow team members	2
	Cooperative, but not really focused on learning	3
	Cooperative, focused, works hard	4
	Not only meets assigned responsibilities but encourages and motivated fellow team members to succeed	5

Reference: https://www.sampleforms.com/team-evaluation-form.html

Team Evaluation:

Decision Making	Collaborative				Unilateral
	1	2	3	4	5
Cooperation	Members Help Others Out				Members Do Only Their Own Work
	1	2	3	4	5
Ability to work through conflicts / differences	Explore and Solve Conflicts				Avoid or Ignore
	1	2	3	4	5
Balance of Participation	Balanced Workload				A Few Do Most of the Work
	1	2	3	4	5
Focus / On Schedule	Focused / On Schedule				Off Topic / Off Schedule
	1	2	3	4	5
Communication	All Members Informed at All Times				Members Unaware of Others Work
	1	2	3	4	5
Accountability	Team Holds Members Accountable				Shortcomings Are Ignored
	1	2	3	4	5
Support	Members Support and Appreciate Others				Only Individual Work Appreciated
	1	2	3	4	5
Commitment	Common Values				Group of Individuals
	1	2	3	4	5

Reference: https://studylib.net/doc/9718174/final-team-evaluation-form

After the evaluation, the final report is to be documented.

Final report is divided into four subsections:

1. Executive Summary:

   Summarizes the entire project by identifying the key findings and facts related to the project.

   - Name of Project: Zariya
   - Aim: To reduce food crisis
   - How: By creating a mobile application that can link restaurants/wedding halls with the NGOs to scale up the existing systems
   - Completion time of the project
   - Total Cost required
   - Monetization techniques: advertisements, subscription fees from wedding halls/restaurants

2. Review and Analysis:

   The review and analysis section comprises factual review statements of the project. It states the mission and objective of the project and lists down the procedures and systems used. The resources utilized in the project are also considered in this part. The data required for this section of the report will be taken from the answered questionnaires from the retrospectives.

3. Recommendations:

   These represent improvements or solutions to the problems faced during the project. Some recommendations from our project experience are listed below:

   a. Problem: Requirements are not met

      Preventive measure: Create detailed work plan

   b. Problem: Activities are not completed within the time limit

      Preventive measure: Track progress regularly

c. Problem: Team member is unsure if he/she has implemented the task in the correct manner.

   Preventive measure: Take feedback from your peers and try to improve

d. Problem: Lessons learnt into blame sessions

   Preventive measure: Monthly workshops and one-on-one meetings

e. Problem: Can't seek advice from senior managers

   Preventive measure: Maintain a friendly environment

4. Lesson Learned:

   This section lists down the lessons learnt during the project. It helps in recognizing what should or should not be done. Projects following a similar structure to our project (Zariya) can also benefit from this section.

   a. How to identify ways to approximate the cost and time closest to the realistic values
   b. How to set priorities and resolve dependencies among different activities
   c. How to manage time to meet all the deadlines
   d. How to identify ways to minimize the number of resources used

Retrospectives:

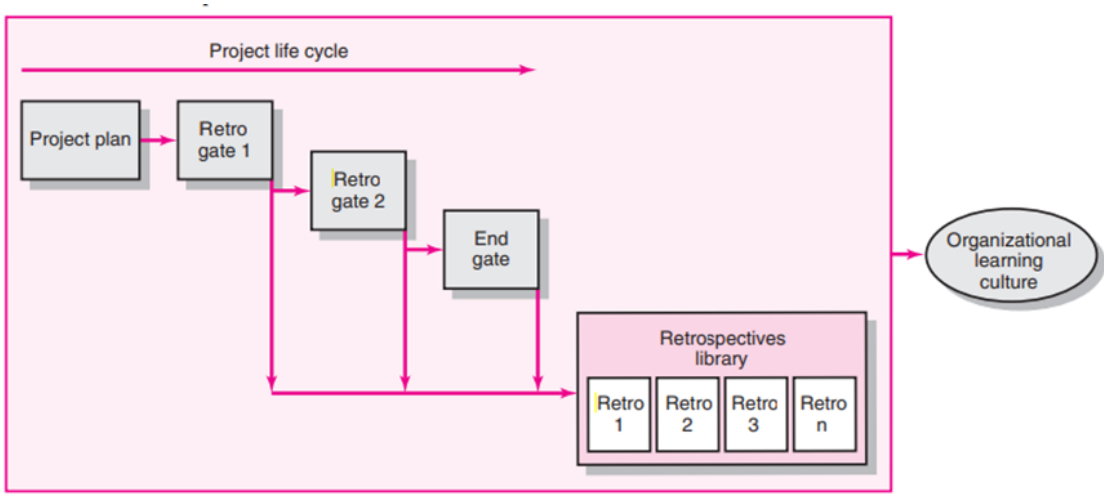
To begin this part, consider the words of an executive: "Lessons learned are worth their weight in gold. I do not understand why we don't do a better job nurturing, dispersing, and implementing lessons learned." These words emphasize the significance of the lessons learned. Many businesses fail to properly harvest the lessons learned from previous projects, resulting in disappointment. Some common challenges to creating and implementing lessons include a lack of time, a lack of realization of the significance of lessons, and lessons learned that turn into blame sessions that damage the organizational culture.

These barriers underline the necessity for the importance of a methodology that can overcome these barriers, leading to retrospectives. A retrospective is a process that analyses a previous project event to identify what worked and what didn't, develops lessons learned, and makes an action plan to guarantee that lessons gained are used to improve project management in the future. The basic two goals of retrospective are to reuse solutions and stop repetitive mistakes across the organization..

Considering the distinguishing characteristics of retrospectives taught in the course, we'll be hiring a project facilitator as per the selection criteria, responsible for conducting retrospectives for project Zariya. The selection criteria includes following,

- The person should show willingness to listen.
- The person should not have direct involvement in the project
- The person should have professional experience of 2-3 years
- The person should be independent and have authority to report review results without any hindrances and fear.

As per our plan, ideally we prefer to have a facilitator at the start of the project to ensure that lessons learned should be gathered during the project and get utilized for the improvement of the rest of the project. In order to manage the retrospectives process, we will use a minimum of three gates during the project Zariya's life cycle to collect the lessons learned and utilize them to self-correct the remaining project execution (see the figure attached below, taken from course book).



For now, we have designed the basic questionnaire to be used by the facilitator to collect the reviews. These questionnaires may change as per the facilitator's choice. You may notice that we have targeted particular areas specifically through the suggested questions (text boxes on right specify these areas). Let us first have a look at questionnaires.

- **Project Process Review Questionnaire:**

Item	Comments
Were the project objectives abd strategic intent of the project clearly and explicitly communicated?	
Were the role of every team and the time scale followed were clear?	
Were time estimates reasonable and achievable? If not then specify the area.	
Were the process and practices (documentation, reportimg etc) appropiate for this type of project? Can this project layout be used further in future for similar projects?	
Was a Risk Management process applied adequately and dependencies solved?	
Were project resources adequate for this project?	
Were people with the right skill set assigned to this project?	
Were the external and internal communication properly managed?	
Did outside contractors (for marketing, testing etc) perform as expected? Explain briefly.	
Were the schedule, budget and scope standards met?	
Were the stakeholders satisfied with the startegic intent of project delivery?	
Is there any one important area that needs to be reviewed and improved upon? Can you identify the cause?	

Reviewing strategic intent, project objectives and project charter

Reviewing selection and allocation of resources.

Experiences and feedback (communication, external influences and suggestions).

- **Organizational Cultural Review Questionnaire:**

Item	Comments
Did the project have a clear link to organizational objectives?	
Were the efficient management activities were performed?	
Were right people hired and assigned?	
What makes you proud to work with us?	
Is risk-taking encouraged, and what happens when people fail?	
To what extent you found your seniors supportive?	
Did working with us added value in your proffessional growth?	
How conflicts in development processes are resolved?	
What is one thing you would change about organization, if you could?	
How would you describe "organizational politics" at this stage, related to us?	
When and how do relevant people like to give and receive feedback?	

Focusing on day to day culture, proffessional growth of team, and working atmosphere.

Note that both the questionnaires are supposed to be filled by the main leads of each team (marketing, design etc.) on behalf of their team, and also by sub leads (if any). The project process review questionnaires are intended to suggest required improvements in project planning and defining. The organizational culture questionnaire, on the other hand, is meant to identify necessary modifications to the company's working environment and regulation of the team.

Next, we have a step of utilization of retrospectives in which the facilitator is supposed to design an efficient process in order to analyze the reviews and extract lessons from them. It would be assured that the end product of analysis is kept simple and easy to read for others. Coming to archiving of retrospectives, for Zariya we plan to have a centralized repository shared among all the main stakeholders of the project, where the reports and retrospective/lessons learned will be saved.

After project closure, we plan to make this repository public so that projects similar to Zariya can utilize the lessons learned from Zariya.

Future Works

In future, we are looking forward to incorporating some new features within the currently proposed system along with expansion discussed above (refer to scalability). One of them is a

price negotiation feature, which will essentially allow NGOs to offer their own price for ordered food. This feature is an inspiration from the InDriver application which is currently being used by millions of users. Another long-term goal is to include supermarkets as end users. This inclusion will enable them to sell off products in their marts that are about to expire at a reduced price.