Case Study Part 2: Mobile Banking for All (MBA)

Zaid Abdulaziz, Bhanvi Gupta, Rohit Pandit, Rimsha Rizvi, Bryan Zhu

INF2040 - Project Management

Faculty of Information, University of Toronto

Sunita Guyadeen

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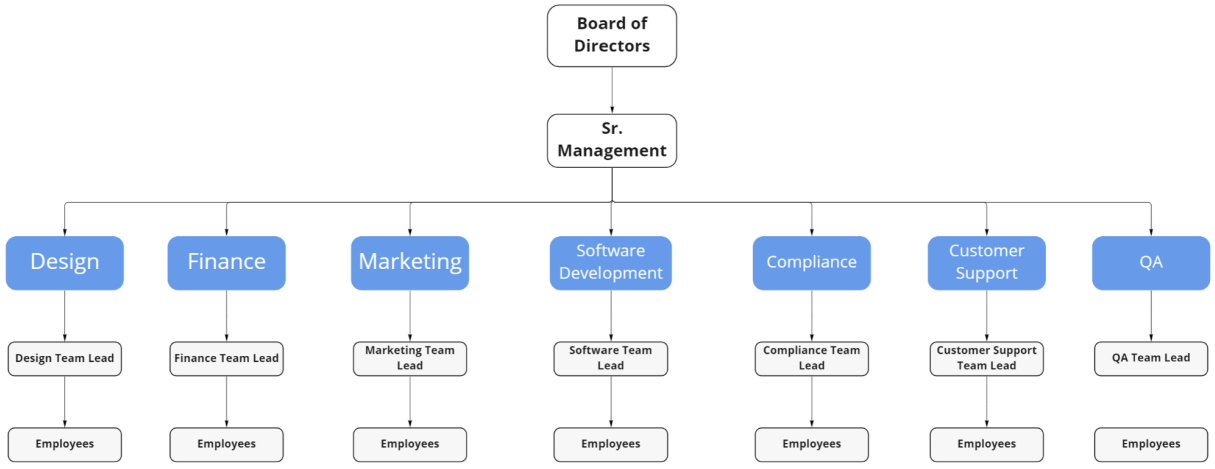
CASE STUDY PART 2: MOBILE BANKING FOR ALL

Part 1: Project Management Organization

Mobile Banking for All (MBA) is a customer-centric mobile banking platform that focuses on addressing the requirements of individuals from all walks of life. Offering a superior user experience by hosting a variety of banking modes that are tailored to different demographics and may be further adjusted. Since we are just a startup with only 50 employees a functional organizational structure would be the optimal choice.

In a functional structure, employees are grouped by their department and functions such as finance, marketing, software, operations, compliance, customer support etc. Each of these departments are responsible for their own core functions and each have their own leader who is responsible for overseeing the execution of said business process. This specific structure will allow for employees to become specialists in their area of work which will boost the teams and company's efficiency as a result. One drawback is the lack of communication between teams which can be solved by establishing clear communication channels and setting clear expectations.



Overall, a functional organizational structure is the best choice for our Mobile Banking App as it allows for clear division of labor and specialization for workers to be as productive as possible.

However as our startup grows and begins to get more users and employees we will have to adapt our business practices and organizational structures to probably a hybrid.

Part 2: Work Breakdown Structure

Work Breakdown Structures are used in project management as a tool to make large projects into more manageable and smaller tasks. Each task will then be broken down into smaller subtasks which will make it easier to assign tasks, track progress, and estimate timelines.

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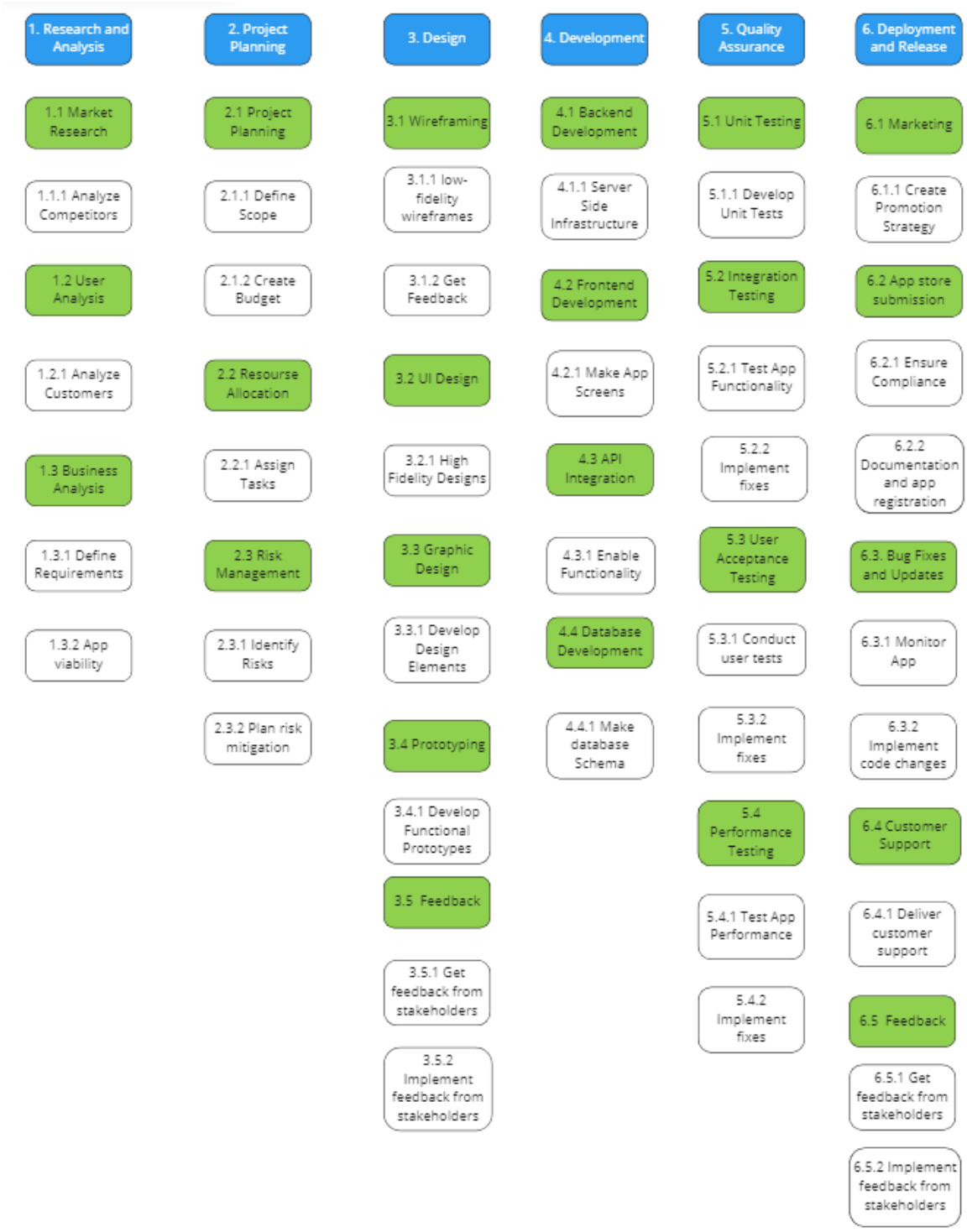

CASE STUDY PART 2: MOBILE BANKING FOR ALL

Level	Description
1. Research and Analysis	
1.1.1 Analyze Competitors	Understand strengths and weaknesses relative to others in banking, identify potential opportunities for growth, and develop strategies to stay ahead of the competition
1.2.1 Analyze Customers	Understand customer needs, preferences, and behaviors, which can inform product development, marketing strategies, and customer service
1.3.1 Define Requirements	Security, user authentication, account, payment processing, alerts, security features etc
1.3.2 App Viability	The viability of our app depends on several factors, such as the market demand for the app, the competition, the app's features and functionality, and the monetization strategy.
2. Project Planning	
2.1.1 Define Scope	Make payments, get customer support, transfer money, highly accessible
2.1.2 Create Budget	Our budget involves involves estimating and tracking income expenses over the duration of our project
2.2.1 Assign Tasks	Delegating specific responsibilities or duties to team members to achieve the completion of app
2.3.1 Identify Risks	Security breaches, technical failures, compliance issues, user errors etc
2.3.2 Plan Risk Mitigation	Implement robust security measures, develop and implement plans to ensure app can recovery from incidents quickly
3. Design	
3.1.1 Low-fidelity wireframes	Create very basic and rough sketches of a proposed design or user interface.
3.1.2 Get Feedback	Get feedback from co workers and crate surveys to get feedback
3.2.1 High Fidelity Designs	Use figma to create High-fidelity design that is more polished and detailed, with a greater level of visual fidelity and interactivity than low-fidelity designs
3.3.1 Develop Design Elements	Create the visuals and interactive components of our MBA app including color schemes, typography, icons, images, and other graphical elements.

3.4.1 Develop Functional Prototypes	Create a working model of the MBA app that can be tested and refined before the final product is developed.
3.5.1 Get Feedback from Stakeholders	Get feedback from all parties involved to see what aspects of the user experience needs to be changed
3.5.2 Implement Feedback from Stakeholders	Assign the appropriate teams for changes that have been gathered from stakeholders
4. Development	
4.1 Server Side Infrastructure	Create the needed hardware and software components that are used to support the operation of MBA app on the server side
4.2.1 Make App Screens	Create all the needed screens such as home page, profile information, send money requests etc.
4.3.1 Enable Functionality	Involves configuring and integrating various software components to support the desired features and functionality of our App
4.4.1 Make Database Schema	Create all needed databases and their appropriate relationships from user information to app server infrastructure
5. Quality Assurance	
5.1.1 Develop Unit Tests	Involves creating automated tests that verify the functionality of individual components, or units, of our app
5.2.1 Test App Functionality	Evaluate the features and functionalities of our app to ensure that it performs as intended and meets the requirements of users.
5.2.2 Implement Fixes	Assign the needed teams to fix any issues that arise
5.3.1 Conduct User Tests	Get feedback from users to evaluate the usability and effectiveness of an application
5.3.2 Implement Fixes	Assign the needed teams to fix any issues
5.4.1 Test App Performance	Evaluate the speed, responsiveness, and scalability of the app to ensure that it can handle expected levels of user traffic and data processing
5.4.2 Implement Fixes	Assign the needed teams to fix any issues

6. Deployment and Release	
6.1.1 Create Promotion Strategy	Develop promotional materials, such as ads, videos, or blog posts, that highlight the value proposition and features of the banking app
6.2.1 Ensure Compliance	Our app will adhere to industry regulations and standards to protect users and their financial information
6.2.2 Documentation and App Registration	Our app will be properly authorized and meet industry standards for security and privacy.
6.3.1 Monitor App	Make sure all app systems are running smoothly and resolving any issues
6.3.2 Implement Code Changes	Involves modifying the code of a banking app to add new features and improve performance
6.4.1 Deliver Customer Support	On call support will assist users with any issues with the app or banking issues
6.5.1 Get Feedback from Stakeholders	Receive feedback from stakeholders from various channels
6.5.2 Implement Feedback from Stakeholders	Assign the needed teams to fix any issues

Part 3: Sequence Diagram, Critical Path & Schedule

PROJECT PLAN

The project plan consists of all the activities which need to be performed as a part of the project and the time required to finish these activities. The Start-end relationship has been defined using the ‘Prerequisite Activity ID’ column and a brief explanation about the dependences and the kind of activities performed has been added in the ‘comments’ section.

Note: The following estimates are based on the assumption that the team will also be working on weekends

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Activity ID	Activity	Prerequisite Activity ID	Estimate in days	Comments
A	Start			Kick-off event
B	Market Research	A	10	Research existing products on the market
C	User Analysis	A	10	Analyze major and minor demographic requirements
D	Business Analysis	A	10	Define business requirements and discuss project vision and viability
E	Project Planning	B, C, D	5	Define scope and budget based on the research
F	Resource allocation	E	6	Assign the days, time and employees in each segment on the basis on project plan
G	Risk management	E	8	Identify and rank risks. Plan risk mitigation strategies and assign budget on the basis on project plan
H	Wireframing	F, G	5	Establish the structure and flow of possible design solutions which reflect user and business needs.
I	UI design	H	8	Build interfaces in software or computerized devices, focusing on looks or style. High fidelity designs based on the designs produced in the previous step

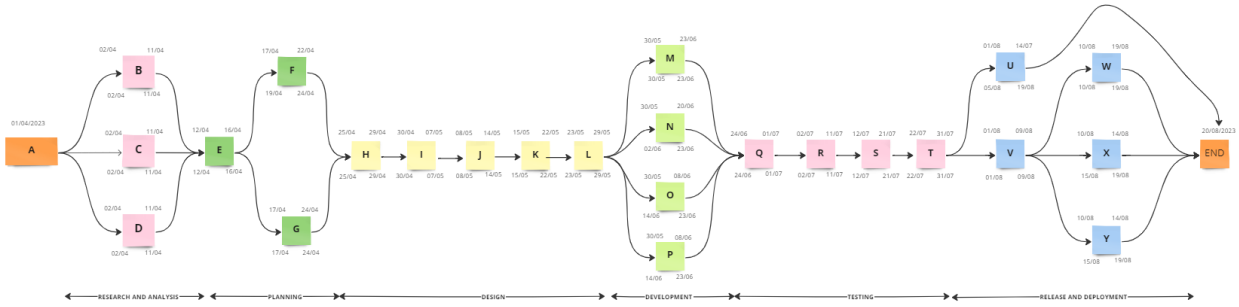
J	Graphic design	I	7	Develop intricate designs based on the input from previous stage
K	Prototyping	J	8	Once the individual design components are ready, the prototype will be produced which will be the base for development
L	Feedback	K	7	Before diving into development, a feedback from key stakeholders especially the customers will be taken and incorporated into the final draft
M	Back-end development	L	25	Using the prototype, the back-end development will start parallelly with the other kinds of development
N	Front-end development	L	22	Using the prototype, the front-end development will start parallelly with the other kinds of development
O	Database development	L	10	Using the prototype, the database development will start parallelly with the other kinds of development
P	API Integration	L	10	Using the prototype, and parallel input from other development the API integration framework will be setup and integrate APIs
Q	Unit testing	M, N, O, P	8	Once the final product is received a comprehensive

				testing will be done starting with testing each component and implementing fixes
R	Integration testing	Q	10	Testing the whole product and it's functionalities interdependencies and implementing fixes
S	User testing	R	10	Users testing the product will provide usability metrics and fixes will be provided by the development team
T	Performance testing	S	10	Non-functional requirements like response time, page load time etc will be recorded and remedied
U	Marketing	T	15	After a finished product is received, the marketing team and legal team will start working in parallel. But since marketing does not have any impact on the release it will keep going at it's on rate and will not be a precondition for any other phase
V	App store submission	T	10	Once a high quality product is produced the legal team will start looking into the compliance and legalities and file paperwork to make the product available to users
W	Bug fixes and updates	V	10	The on market product will encounter bugs which will be prioritized and fixed. High priority bugs fixes will be delivered as soon as possible

				and low priority ones will be delivered as a patch/update
X	Customer support	V	5	In case users need help, customer service representatives team will take up and answer queries
Y	Feedback	V	5	App store reviews will be collected and implemented

SEQUENCE DIAGRAM

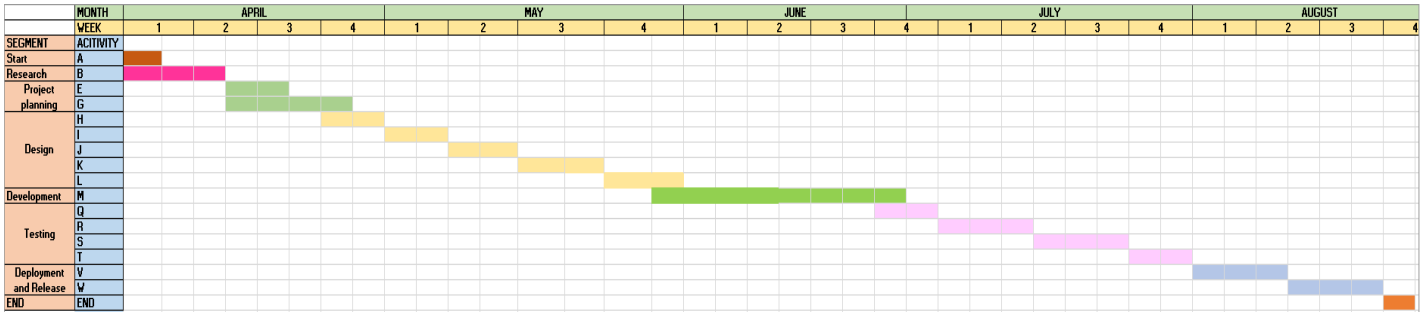
The start date of the project has been taken as: 01/04/2023. The project passes through the various product development phases and the timeline has been estimated using the table of activities and timelines mentioned above. The forward and backward passes have also been elucidated and have further been used to find the critical path in the project execution.



CRITICAL PATHS

1. A,B,E,G,H,I,J,K,L,M,Q,R,S,T,V,W,END
2. A,C,E,G,H,I,J,K,L,M,Q,R,S,T,V,W,END
3. A,D,E,G,H,I,J,K,L,M,Q,R,S,T,V,W,END

GANTT CHART FOR CRITICAL PATH 1



Part 4: Project Budget

To successfully complete a project, it is important to consider all the expenses that fall under direct and indirect costs. Direct costs refer to expenses that are directly associated with the project and are necessary for its completion. These costs can be traced directly to the project, and typically include items such as labor costs (salaries for employees working on the project), material costs (such as software, hardware, and equipment), and contingency expenses. Indirect costs, on the other hand, refer to expenses that cannot be traced directly to the project, but are still necessary for its completion. These costs can include things like office rent, utilities, and administrative expenses.

According to the Association for Project Management (APM), it is essential to understand the difference between direct and indirect costs in project management. By accurately identifying and categorizing expenses into these two categories, project managers can more effectively allocate resources and manage the project budget (APM, 2022).

In the case of the project at hand, the budget has been calculated using a bottom-up approach and consists of 6 phases that are expected to be completed within 8 months. To determine the salaries for various positions, average salaries from Glassdoor were used as a benchmark. By taking into account both direct and indirect costs, project managers can create a more accurate budget that accounts for all the expenses necessary for the successful completion of the project.

Table 1 — 2023 Salary Data from Glassdoor Canada

Job Position	Salary/hr
Customer Support Representative	$18.00
Market Strategist	$33.74
UX Researcher	$36.59
Business Analyst	$38.52
Product Manager	$45.00
Project Manager	$41.35
UX Designer	$43.55
Graphic Designer	$24.00
Backend Developer	$48.60
Frontend Developer	$34.35
Integration Specialist	$40.00
DB Developer	$38.00
SQA Engineer	$34.90

The final labor cost calculations shown in Table 2 may be affected by certain positions that require multiple individuals.

The labor hours required for the project are calculated based on a typical 8-hour workday, taking into account holidays and weekends as project days. This means that the project's labor cost calculations are based on a 7-day work schedule.

Table 2 — Cost breakdown for Mobile Banking for All Application.

PROJECT COST/BUDGET								
PHASE	**TASKS**	**TIME (days)**	**EMPLOYEES**	**TOTAL LABOR (Hrs/Person)**	**MATERIALS & SOFTWARE/OTHER COSTS**	**TOTAL LABOR COSTS**	**CONTINGENCY (20%)**	**TOTAL COST (per task)**
Research & Analysis	Market Research	10	**Market Strategist, UX Researcher, Business Analyst, Product Manager**	80	$500.00	$2,699.20	$639.84	$3,839.04
	User Analysis	10		80	$500.00	$2,927.20	$685.44	$4,112.64
	Business Analysis	10		80	$500.00	$3,081.60	$716.32	$4,297.92
	SUBTOTAL	**30**		**240**	**$1,500.00**	**$8,708.00**	**$2,041.60**	**$12,249.60**
Project Planning	Project Planning	5	**Project Manager, Product Manager**	40	$500.00	$1,654.00	$430.80	$2,584.80
	Resource Allocation	6		48	$500.00	$2,160.00	$532.00	$3,192.00
	Risk Management	8		64	$300.00	$2,880.00	$636.00	$3,816.00
	SUBTOTAL	**19**		**152**	**$1,300.00**	**$6,694.00**	**$1,598.80**	**$9,592.80**
Design	Wireframing	5	**UX Designers, Graphic Designers, Project Manager**	40	$500.00	$1,742.00	$448.40	$2,690.40
	UI Design	8		64	$500.00	$2,787.20	$657.44	$3,944.64
	Graphic Design	7		56	$500.00	$1,344.00	$368.80	$2,212.80
	Prototyping	8		64	$500.00	$2,787.20	$657.44	$3,944.64
	Feedback	7		56	$500.00	$2,315.60	$563.12	$3,378.72
	SUBTOTAL	**35**		**280**	**$2,500.00**	**$10,976.00**	**$2,695.20**	**$16,171.20**
Development	Back-end Development	25	**Backend Developers, Frontend Developers, Integration Specialists, DB Developers**	200	$2,000.00	$9,720.00	$2,344.00	$14,064.00
	Front-end Development	22		176	$2,000.00	$6,045.60	$1,609.12	$9,654.72

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	API Integration	10		80	$2,000.00	$3,200.00	$1,040.00	$6,240.00
	Database Development	10		80	$2,000.00	$3,040.00	$1,008.00	$6,048.00
	SUBTOTAL	**67**		**536**	**$8,000.00**	**$22,005.60**	**$6,001.12**	**$36,006.72**
Quality Assurance	Unit Testing	8	**SQA Engineers**	64	$500.00	$2,233.60	$546.72	$3,280.32
	Integration Testing	10		80	$500.00	$2,792.00	$658.40	$3,950.40
	User Acceptance Testing	10		80	$500.00	$2,792.00	$658.40	$3,950.40
	Performance Testing	10		80	$500.00	$2,792.00	$658.40	$3,950.40
	SUBTOTAL	**38**		**304**	**$2,000.00**	**$10,609.60**	**$2,521.92**	**$15,131.52**
Deployment & Release	Marketing	15	**Market Strategist, Product Manager, Development Team, Customer Service Reps**	120	$30,000.00	$4,048.80	$6,809.76	$40,858.56
	App Store Submission	10		80	$2,000.00	$3,600.00	$1,120.00	$6,720.00
	Bug fixes and updates	10		80	$2,000.00	$3,888.00	$1,177.60	$7,065.60
	Customer Support	5		40	$500.00	$720.00	$244.00	$1,464.00
	Feedback	5		40	$500.00	$1,654.00	$430.80	$2,584.80
	SUBTOTAL	**45**		**360**	**$35,000.00**	**$13,910.80**	**$9,782.16**	**$58,692.96**
							TOTAL	**$147,844.80**

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Mobile Banking for All uses Microsoft software which costs approximately $17,000 annually for their 50 employees. The bank's overhead expenses are around $80,000 per year, and security costs are expected to reach $100,000 per year. For this project, it is assumed that the bank undertakes about 700 projects a year, and the costs of various items such as software, hardware, and printing are listed in Table 2 under "material & software & other costs."

The project's contingency costs are estimated to be 20% of the projected budget.

The PERT estimate for the project is about **$929,298.06**, while the most likely cost is **$147,844.80** based on the task-based bottom-up approach. Table 3 outlines the overall cost of risks and estimates an increase of approximately **$55K**, resulting in a pessimistic cost of around **$200K**. Conversely, the optimistic cost of the project is calculated by assuming that 50% of the contingency costs will not be required, resulting in an optimistic total cost of roughly **$135,000** as seen in Table 4.

Table 3 – Pessimistic Cost

Pessimistic Cost			
Task(s)	**Calculated Task Cost**	**Overall Risk**	**Subtotal**
Design Functionality Feature	$16,171.00	$3,881.08	$3,881.08
Research & Analysis	$12,249.60	$6,002.30	$18,251.90
Regulatory violation	$2,584.80	$361.87	$2,946.67
Security breach	$38.00	$1,030.32	$1,068.32
Quality Assurance	$15,131.52	$2,118.41	$17,249.93
User Testing	$7,065.60	$1,978.00	$9,043.60
Application maintenance	$1,464.00	$644.16	$2,108.16
		Total	**$54,549.66**
		Pessimistic Cost	**$202,394.46**

Table 4 -- Optimistic Cost

	Cost without Contingency	50% of Contingency	Subtotal
Research & Analysis	$10,208.00	$1,020.80	$11,228.80
Project Planning	$7,994.00	$799.40	$8,793.40
Design	$13,476.00	$1,347.60	$14,823.60
Development	$30,005.60	$3,000.56	$33,006.16
Quality Assurance	$12,609.60	$1,260.96	$13,870.56
Deployment & Release	$48,910.80	$4,891.08	$53,801.88
		Total Optimistic Cost	**$135,524.40**

Part 5: EVM Analysis

During the deployment & release phase of our project, we assume that the project started tracking a month behind schedule. Specifically, we are assuming that the marketing task took longer than anticipated and ended up taking 30 days longer than we originally planned. The assumption is that the previous tasks up until this point were completed on time, and thus the marketing task of our project ended up taking 45 days to complete instead of the planned 15.

Planned value (PV) will be calculated by summing up the value of the work of all tasks to be done up until (and including) the marketing task.

Planned value (PV) = Research & Analysis + Project Planning + Design + Development + Quality Assurance + Marketing

= 12,249.60 + 9,592.80 + 16,171.20 + 36,006.72 + 15,131.52 + 40,858.56

= 130,010.04

The **planned value (PV) = $130,010.04** and the tasks were scheduled to be completed in a total of 204 days. This means that by the end of day 204 we should have completed $131,010.04 worth of work.

By day 204, we only completed one-third of the marketing task (since we would be on day 15 of the now 45 days needed to complete marketing).

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Earned value (EV) = Research & Analysis + Project Planning + Design + Development + Quality Assurance + Marketing/3

= 12,249.60 + 9,592.80 + 16,171.20 + 36,006.72 + 15,131.52 + 40,858.56/3

= 102,771

The **earned value (EV) = $102,771**, which means that by the end of day 204 we actually accomplished completing $102,771 worth of work.

We have completed one-third of the marketing task by day 204, so our original assumption that marketing would take 15 days and $40,858.56 is not holding true. Instead, the marketing task is taking 45 days/15 days = 3 times longer than anticipated, and will cost $40,858.56 x 3 = $122,575.68.

Actual cost (AC) = Research & Analysis + Project Planning + Design + Development + Quality Assurance + New Marketing Cost/3*

= 12,249.60 + 9,592.80 + 16,171.20 + 36,006.72 + 15,131.52 + 122,575.68/3

= 130,010.04

*divide new marketing cost by 3 because we completed ⅓ of marketing task

The **actual cost (AC) = $130,010.04**, which indicates the total actual cost incurred at the end day 204.

Our **budget at completion (BAC) = $147,844.80**, which was the amount of money originally budgeted for the total project.

Cost variance (CV) = EV - AC

= 102,771 - 130,010.04

= -27,239.04

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Our **cost variance (CV) = -$27,239.04**, which is a negative number that means our project is over budget by $27,239.04.

Cost performance index (CPI) = EV/AC

= 102,771/130,010.04

= 0.79

Our **cost performance index (CPI) = 0.79**, so we are getting $0.79 value for every $1.00 put into the project by day 204.

Schedule variance (SV) = EV - PV

= 102,771 - 130,010.04

= -27,239.04

Our **schedule variance (SV) = -$27,239.04** which is negative so our project is behind schedule.

Schedule performance index (SPI) = EV/PV

= 102,771/130,010.04

= 0.79

Our **schedule performance index (SPI) = 0.79** so we are progressing at 79% of the rate planned as of day 204.

Estimate at completion (EAC) = BAC/CPI

= 147,844.80/0.79

= 187,145.32

The **estimate at completion (EAC) = $187,145.32**, which is the new total cost of the project due to the 30 day delay.

Estimate to completion (ETC) = EAC - AC

= 187,145.32 - 133,010.04

= 54,135.28

Our **estimate to completion (ETC) = $54,135.28** which is the amount of money needed after day 204 to complete the project.

Variance at completion (VAC) = BAC - EAC

= 147,844.80 - 187,145.32

= -39,300.52

Our **variance at completion (VAC) = -$39,300.52**, so we expect to be $39,300.52 over budget by the time the project is finished.

Part 6: Stakeholder Register

Stakeholder	**Stakeholder Interest in Project**	**Assessment of Interest**	**Assessment of Influence**	**Potential Strategies for Gaining Support or Reducing Obstacles**
Board of Directors	Vision	Medium	High	Inform of project goals and outcomes
Senior Management	Financials, Schedule	High	High	Weekly status updates
Project Manager	Schedule, Budget, Scope	High	High	Collaboration, weekly status updates
Financial Advisor	Financials, Budget	Medium	Medium	Keep informed of project budget costs, if over/under budget, etc
Marketing Director	Scope, Usability, Effectiveness, Vision	Medium	Low	Keep informed
Developers	Schedule, Scope, Usability, Requirements, Effectiveness	Medium	High	Collaboration, weekly team meetings
Compliance Team	Requirements	Low	Medium	Keep informed

Customer Support	Usability, Effectiveness	Low	Low	Make sure they are familiar with the product
Users	Scope, Usability, Requirements, Effectiveness	Medium	Medium	Keep informed of product rollout, any updates, any new features

Channels of Communication: can be calculated with n(n-1)/2, where n = the number of people communicating. There are 9 stakeholders, so 9(9-1)/2 = **36 channels of communication**.

Part 7: Communication Matrix

We have listed down the items to be communicated in our project in the following communication matrix.

Item/Delivery	**Accountability**	**Objectives**	**Recipients**	**Frequency**	**Method**
Project Initiation Meeting	Senior Manager	● Introduce the project to all the department team leads and team members. ● Impart a clear understanding of collective goals & objectives, and also the roles & responsibilities of each department. ● Promote a positive working relationship between the stakeholders. ● Develop the plan of action for the project.	All Stakeholders	Once, before the project starts	In-person meeting
Weekly Team Meetings	Design, Development, QA Functional managers	● Track progress of each team and ensure it aligns with the project timelines. ● Ensure effective interdepartmental collaborations. ● Gather feedbacks from the team leads and discuss a plan of action.	Design, Development, QA Team leads	Weekly	In-person

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Team Stand up meet	Design, Development, QA Team leads	• Gather quick status update from each team members. • Ensure effective contribution of each resource. • Segregate and priotize the tasks. • Gather feedback and resolve conflict if any.	Design, Development, QA Team members	Daily	In-person meeting, Conference calls /videoconferencing
Weekly Status Reports	Design, Development, QA Team leads	• Describe the progress of the project. • Highlight any recurring problems or issues	Design, Development, QA Functional managers	Weekly	Email
Performance review meeting	Design, Development, QA Functional managers	• Discuss the performance of each team lead and team member. • Ensure constructive feedback and discuss scope for change/improvement if any.	Design, Development, QA Team members	Bimonthly	In-person meeting, Conference calls /videoconferencing
UX/UI Monthly Design Review	Design Functional Manager	• Gather feedback and suggestions on the initial design and review monthly progress with the client.	Project Sponsor	Once in the beginning and end of each month	In-person meeting, Conference calls /videoconferencing
Pre-Integration Meeting	Design, Development, QA Functional managers	• Ensure the pre-requisite functionalities are developed and tested to oversee successful integration.	Design, Development, QA Team leads	Once	In-person meeting
Post Integration Meeting	Design, Development, QA Functional managers	• Test the functionality of integrated application. • Ensure that the application complies all the business requirements. • Evaluate application	Design, Development, QA Team leads	Once	In-person meeting

		performance. ● Report bugs, issues and vulnerabilities. ● Discuss scope for performance improvement.			
Follow-up meeting	Design, Development, QA Functional managers	● Ensure that all the reported issues have been resolved. ● Ensure all the security procedures have been adhered to.	Design, Development, QA Team leads	Once	In-person meeting
Pre-Launch meeting	Senior Manager	● Ensure that the marketing strategy is in-place with the business specifications. ● Ensure that the application related documentation is completed. ● Review the strategy to interpret and implement feedback received from customer support.	All stakeholders	Once	In-person meeting, Conference calls /videoconferencing
Project closing meeting	Senior Manager	● Review the journey of the project. ● Discuss about the project support follow up plan. ● Gather feedback and discuss scope for improvement. ● Express gratitude and celebrate success.	All stakeholders	Once	In-person meeting, Conference calls /videoconferencing

Part 8: Status Report

The status report is an overall project review document which highlights the current status of the project and helps the team gauge if everything is going as expected or not. It is generally sent out by the project manager. It highlights any potential risks, change of plans, change in needs (budget, time and other resources) and roadblocks which are encountered during a project.

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For the purpose of this report, we have used a traffic signal format and have sent out this status report right after the design phase milestone has been achieved and the team is about to move into the development phase.

RISKS / ROADBLOCKS

POTENTIAL RISKS

ON TRACK

PROJECT NAME	MBA: Mobile Banking for all
PROJECT MANAGER	Maria Lopez
PROJECT CODE	MBA101
DATE OF STATUS ENTRY	30/05/2023
PERIOD COVERED	Design phase

PROJECT STATUS THIS WEEK

OVERALL PROJECT STATUS	ON TRACK	NOTES	Despite going 2 days beyond schedule for planning, the design team was able to finish up 2 days early, making sure project remains on track

PROJECT COMPONENTS

COMPONENT	STATUS	OWNER / TEAM	NOTES
BUDGET	POTENTIAL RISKS		Due to extensive design and feature list, we might need more developers on front-end
RESOURCES	RISKS / ROADBLOCKS		New developers hired would further need resources like software subscriptions, infrastructure costs like computers, desks etc
TIMELINE	POTENTIAL RISKS		Due to extensive design and feature list, we might need more time on front-end
SCOPE	ON TRACK		
RISKS	ON TRACK		
ROADBLOCKS	RISKS / ROADBLOCKS		Feature DEF105: Making banking for blind users- The design team did not approve of the plan, will have to be scoped in as an update. Might impact user appeal

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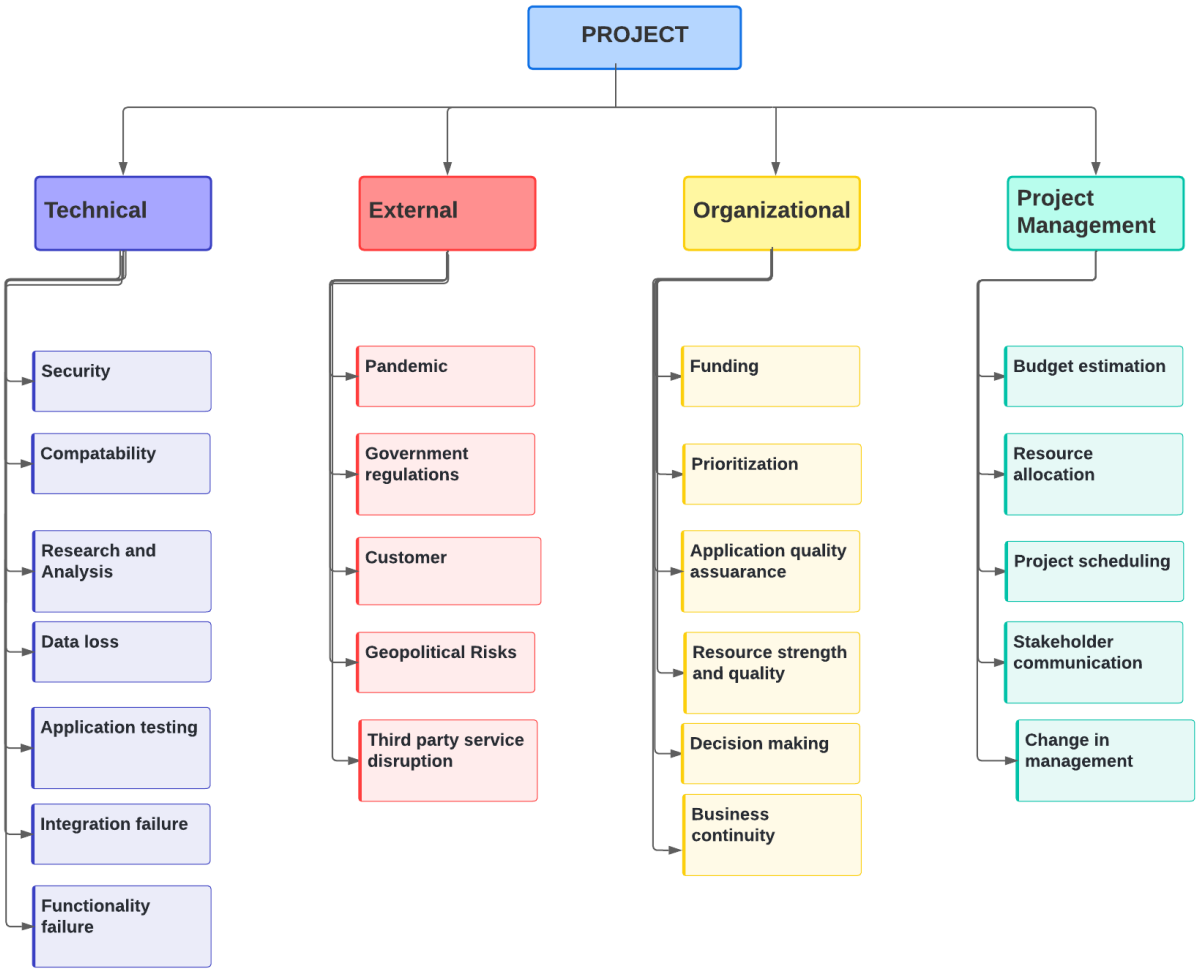
Part 9: Risk Breakdown structure

Our risk breakdown structure comprises technical, external, organizational and project management categories.



We identified and listed the following risk's from the risk breakdown structure in the risk register. Design functionality failure (Technical- Functionality failure), Research and Analysis (Technical- Research and Analysis), Regulatory violation (External- Government regulations), Security breach (Technical- Security), Quality Assurance (Organizational - Application quality assurance), User testing (Technical- Application testing), Application maintenance (External - Customer).

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Risk Register

WBS	**Risk Event**	**Probability**	**Impact**	**Overall Risk**	**Risk Response Plan**	**Risk Owner(s)**
Design functionality failure	Customer is unable to execute a particular action.	20%	Moderate Impact 16171.20 x 0.2 = 3234.24 3234.24 + 16171.2 = **$19,405.44**	19,405.44x 0.2 = **$3881.08**	**Mitigate-** The design team will collaborate with the development team to resolve the issue while following the set standard procedures which may involve more research and additional tests.	Design Functional manager, Development Functional manager.
Research and Analysis	Customers might provide vague responses to the surveys/interviews resulting in irregularities in collected data.	35%	High Impact 12,249.6 x 0.4 = 4899.84 4899.84 + 12,249.6 = **$17,149.44**	17,149.44 x 0.35 = **$6,002.30**	**Avoid-** Gather large sample sizes of data for every broad spectrum to overcome biased/redundant responses.	Marketing/ Research Functional manager
Regulatory violation	The released application might not comply with the latest regulatory policy released.	10%	High Impact 2584.8 x 0.4 = 1033.92 1033.92 + 2584.8 = **$3,618.72**	3,618.72 x 0.1 = **$361.87**	**Avoid-** Stay updated with the compliance requirements by conducting audits frequently.	Compliance Functional manager
Security	User	15%	High Impact	6868.8 x 0.15	**Mitigate-**	Developme

breach	information can be retrieved by hackers.		3816 x 0.4 = 3052.8 3052.8+ 3816 =**$6868.8**	= **$1030.32**	Regularly update security procedures and conduct routine security tests.	nt Functional manager, QA Functional manager.
Quality Assurance	Application might contain unidentified bugs before release.	10%	High Impact 15,131.52 x 0.4 = 6052.6 6052.6 + 15,131.52 = **$21,184.12**	21,184.12 x 0.1= **$2118.41**	**Avoid-** Adopted continuous integration and testing methodology to identify and eliminate bugs at every stage of development.	QA Functional manager
User Testing	Applications may face some runtime issues which will be reported by the users.	20%	High Impact 7,065.6 x 0.4 = 2826.24 2826.24 + 7,065.6 = **$9891.84**	9891.84 x 0.2 = **$1978**	**Mitigate-** Critical new issues will be reported to the design/development team and the security patches to fix the bugs will be released. **Enhance-** If product performance is good, new upgrades including additional features can be launched.	Design Functional manager, Developme nt Functional manager, QA Functional manager.
Application maintenance	Some customers may not be able to access every	40%	Low Impact 1,464 x 0.1 = 146.4 146.4 + 1,464	1610.4 x 0.4 = **$644.16**	**Mitigate-** Make customer support more accessible to	Customer support Functional manager.

	feature of the application.		= **$1610.4**		users in addition to the already released user-friendly application usage tutorials.	

We calculated the overall risk by considering each work breakdown structure's cost-per-task values from the project budget. We then calculated the impact of each risk relative to the cost per task.

1. Design functionality failure:

   The application has undergone several test cases by the QA engineers. So, we considered the risk probability as 20%. Some new run time functionality issues which were not tested in the scope of the project might arise affecting certain users. Hence, the risk impact considered was moderate (0.2).

2. Research and Analysis:

   We often gather information for analysis, feedback from interviews, and surveys and the responses received are not conceivable for large sample sizes. So the risk probability was assumed to be 35%. As research impacts design and in turn the users, the risk impact is high (0.4).

3. Regulatory violation

   We considered the compliance of application with the government's regulation within the project planning and hence listed the risk probability as 10%. However, if the risk occurs, it will have adverse impact on the project. Hence the risk impact is high (0.4).

4. Security breach

   We have adhered to several safety and precautionary measures and conducted several

tests before launching the application. However, the project is prone to unprecedented and innovate cyberattacks out of scope. The risk probability was estimated to 15% and since it will have a severe impact on the user base, the risk impact is very high (0.8).

5. Quality Assurance-

   Eventhough the released product has undergone several tests, some issues might be unidentified. Hence the risk probability is 10%. This risk directly affects the customers hence the risk impact is high (0.4).

6. User testing-

   Larger volume of application usage might affect the applications performance. Regular application maintenance reduces the probability of this risk to 20%. As users are directly affected the risk impact is high (0.4).

7. Application maintenance-

   Performing banking transactions using a mobile application can very often draw challenges to customers. Hence the risk probability is 40%. The application comprises of user friendly tutorials and the customer queries would be assisted by customer support team, hence the risk impact is low (0.1).

Part 10: Test Cases

A set of ten comprehensive test case scenarios are developed with the aim of measuring the quality of a Mobile Banking for All (MBA). These test cases are designed to consider various factors that impact the system's performance, including functionality, performance, unit, and security. The primary objective of these tests is to analyze the system's quality in terms of customer experience.

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To ensure that the quality standards are met, the testing methodology used is both manual and automated. The tests are designed to be rigorous and cover all aspects of the system to ensure that it is reliable, scalable, and maintainable. Additionally, the testing methodology takes into consideration the security of the system to ensure that all vulnerabilities are identified and addressed.

Test Case	**Description**
User registration and login	Test the process of user registration and login to ensure that it works smoothly and securely. Verify that users can register for an account, activate it, and login securely without any issues.
Account and transaction management	Test the functionality related to managing accounts and transactions. Verify that users can view account balances, transaction histories, transfer funds, and pay bills with ease.
Customization and personalization	Test the customization and personalization features of the app. Verify that users can customize their accounts, manage preferences, and personalize the user interface to their liking.
Security and encryption	Test the security and encryption features of the app. Verify that user data is encrypted and secure, and that users can safely perform transactions without any risk of fraud or data breaches.
Accessibility and usability	Test the app's accessibility and usability features. Verify that users with disabilities can use the app easily and that the user interface is intuitive and easy to navigate.
Performance and scalability	Test the app's performance and scalability features. Verify that the app can handle a large number of users and transactions without slowing down or crashing.
Notifications and alerts	Test the app's notification and alert features. Verify that users receive notifications and alerts for important events, such as account balance changes or transaction confirmations.
Cross-platform compatibility	Test the app's compatibility with different mobile platforms and devices. Verify that the app works seamlessly across different platforms, devices, and operating systems.
Offline mode	Test the app's offline mode feature. Verify that users can perform transactions and manage their accounts even when they are not connected to the internet.

Support and customer service	Test the app's support and customer service features. Verify that users can contact customer support easily, get help with their issues, and receive timely and helpful responses.