Toytastic

Where Toys Find New Friends

MIS5060

Fall 2023

Team Toytastic:

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- Charter
- Scope
- Work Breakdown Structure
- Cost Analysis
- Risk Analysis
- Project Kickoff
- Project Plan & Schedule
- Project Closure
- Q&A

Team Charter

- **Project Description:**

To develop a mobile application - Toytastic, that revolutionizes the way children and families share toys and games. The primary objective of this project is to create a user-friendly, secure, and efficient platform that connects parents and caregivers, allowing them to share toys and games among their children. The app will target iOS and Android platforms, ensuring accessibility for a wide user base in the US. The ToyShare app aims to make toy-sharing a convenient and sustainable option for parents, while also promoting social interactions and reducing the environmental impact of toy production and waste. As we move forward with this project, our team is committed to creating a robust, user-friendly, and secure app that fulfills our mission of making playtime more enjoyable, affordable, and eco-friendly for families in the US.

The project is estimated to take 15 months, starting from project initiation to the official launch of the app in app stores. This timeline includes requirements gathering, design, development, testing, and the launch phase.

- **Team Members:**

  - Rana Hamdan - Project Manager and Marketing Specialist
  - Soundarya Bachu - App Developer/Software Engineer
  - Aswini Sivakumar - User Experience (UX) Designer

- **Code of Ethics Established:**
  - Integrity, Accountability, and professionalism

Project Scope

Objective

Develop a mobile app that transforms how communities share toys. Users can list their pre-owned toys or games for sale, allowing others to purchase them.

Deliverables

Working prototype mobile device application with features such (User Registration, toy listing, search, filter, schedule, book, message, pay,, upload photos, review and rating)

Milestones

Initiation Phase

- Gathering Requirements - 12/28/23
- Obtain necessary approvals 1/11/2024

Planning Phase

- Developed WBS 1/31/2024
- Project kickoff 2/5/2024

Design Phase

- Wireframes & Mock-up- 3/18/2024
- UX/UI Design 4/22/2024

Execution phase

- iteration 1 Development 7/29/2024
- iteration 2 Development 9/9/24
- iteration 3 Development 10/21/2024
- QA and User acceptance Testing 11/8/2024
- soft Launch 12/6/2024

Closure Phase

Project completion 2/20/2025

Technical Requirements

Smartphone compatibility with Android and Apple iOS with security multi-factor Authentication, 99.99% availability .

Risks

User Privacy and Security, User Adoption, User Trust, Supply and Demand Balancing, Scalability, Technological Challenges, Resource Constraints, Operational Challenges.

Work Breakdown Structure (WBS)

- Project split into major categories and milestones.
- WBS coded in MS Project.

WBS	Task Name
1	**intiation Phase:**
1.1	Define project scope, goals, and objectives
1.2	Gathering Requirements
1.3	Develop a business model and revenue strategy
1.4	Obtain necessary approvals
2	**Planning Phase:**
2.1	Develop work breakdown structure
2.2	Risk analysis
2.3	Cost analysis
2.4	Technical requirements analysis
2.5	Project plan & schedule finalized
2.6	Project kickoff
3	**Design Phase**
3.1	Define application architecture
3.2	Wireframes and Mock-ups Creation
3.3	UX/UI Design
4	**Prototype Development**
4.1	Prototype Creation
4.2	Prototype Testing and Feedback

WBS	Task Name
5	**Application Development**
5.1	Database Creation
5.2	**Full-scale Development**
5.2.1	iteration 1 Development and testing
5.2.2	iteration 2 Development and testing
5.2.3	iteration 3 Development and testing
5.2.4	Payment Gateways integration testing
5.3	QA and UA Testing and Bug Fixing
6	**Deployment**
6.1	Soft Launch
6.2	Feedback Collection and Adjustments
6.3	Full App Launch
7	**Clousre Phase**
7.1	Performance Monitoring
7.2	Evaluation against Goals and Objectives
7.3	Future Enhancements Planning
7.4	Project Shutdown
7.5	lessons learned
7.6	project close-out checklist
7.7	Project completion

Cost Analysis

Cost Breakdown		
Procuring software	$	25,000
Procuring Hardware	$	10,000
Obtaining server for hosting the app	$	10,000
Database setup and maintenance	$	5,000
Digital Marketing and advertising Expenses	$	5,000
Salary for 3 project members for 1 year	$	225,000
Rental Office space for 1 year	$	12,000
Customer support expenses	$	5,000
Total Cost outflow	**$**	**297,000**

Yearly Maintenance costs	Year 1	
App maintenance and feature updates	$	5,000
Server maintenance Costs	$	2,000
Payment partnering costs	$	1,000
Commision Fee on App Store(of overall Revenue)		15%
Total Commision	$	31,500
Total maintance cost	**$**	**39,500**

Cost Inflow per year	Year 1	
Subscription Fees (per month)	$	2.5
Total Number of Users		5000
Total Subscription fee (per year)	$	150,000
Transaction fee for successful toy exchange(of txn		5%
Average # exchanges (per Year)		60000
Average Transaction value per exchange	$	20
Revenue from transactions (per year)	$	60,000
Total Revenue	**$**	**210,000**

Cost Analysis

Yearly Maintenance costs	Year 1	Year 2	Year 3	Year 4	Year 5
App maintenance and feature updates	$ 5,000	$ 5,500.0	$ 6,050.0	$ 6,655.0	$ 7,320.5
Server maintenance Costs	$ 2,000	$ 2,200.0	$ 2,420.0	$ 2,662.0	$ 2,928.2
Payment partnering costs	$ 1,000	$ 1,100.0	$ 1,210.0	$ 1,331.0	$ 1,464.1
Commision Fee on App Store(of overall Revenue)	15%	15%	15%	15%	15%
Total Commision	$ 31,500	$ 42,174	$ 54,886	$ 69,957	$ 87,758
Total maintance cost	**$ 39,500**	**$ 50,974**	**$ 64,566**	**$ 80,605**	**$ 99,471**

Cost Inflow per year	Year 1	Year 2	Year 3	Year 4	Year 5
Subscription Fees (per month)	$ 2.5	$ 2.75	$ 3.03	$ 3.33	$ 3.66
Total Number of Users	5000	6000	7000	8000	9000
Total Subscription fee (per year)	$ 150,000	$ 198,000	$ 254,100	$ 319,440	$ 395,307
Transaction fee for successful toy exchange(of txn	5%	5.25%	6%	5.75%	6%
Average # exchanges (per Year)	60000	72000	84000	96000	108000
Average Transaction value per exchange	$ 20	$ 22.0	$ 24.2	$ 26.6	$ 29.3
Revenue from transactions (per year)	$ 60,000	$ 83,160	$ 111,804	$ 146,942	$ 189,747
Total Revenue	**$ 210,000**	**$ 281,160**	**$ 365,904**	**$ 466,382**	**$ 585,054**
Net Income (per year)	**$ 170,500**	**$ 230,186**	**$ 301,338**	**$ 385,777**	**$ 485,583**

Cost Analysis

Required Discount rate	10%					
Metrics	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Cost outflow	$ (297,000)	$ (39,500)	$ (50,974)	$ (64,566)	$ (80,605)	$ (99,471)
Cost inflow	0	$ 210,000	$ 281,160	$ 365,904	$ 466,382	$ 585,054
Net income	$ (297,000)	$ 170,500	$ 230,186	$ 301,338	$ 385,777	$ 485,583
Cumulative cash balance		$ (126,500.0)	$ 103,686.0	$ 405,024.4	$ 790,801.4	$ 1,276,384.8
Annualized ROI		157%	178%	201%	230%	263%
NPV Formula	$1,136,636.36					
NPV	**$839,636.36**					

Payback Period	
Last year where cumulative balance is negative	1
Cumulative cash balance of the above period	$ 126,500.00
PV of the follo	$ 230,186
Payback Period	**1.55**

Risk Analysis

- Overall 10 risks were identified
- Created a Risk Response Matrix to define a response strategy to handle if any risks arise

Risk Assessment Form				
Risk ID	Risk Description	Likelihood (1-5)	Impact (1-5)	Total (L x I)
1	Scalability Problems	4	4	16
2	Economic Instability	2	3	6
3	Team Attrition	2	4	8
4	Lack of Stakeholder Support	3	3	9
5	Inadequate Project Planning	4	4	16
6	Dependency on External Dependencies	3	3	9
7	Changing User Requirements	3	4	12
8	Low User Engagement	3	3	9
9	Legal/Compliance Issues	2	4	8
10	Technology Obsolescence	4	3	12

Risk Response Matrix		
Risk ID	Risk Description	Response Strategy
1	Scalability Problems	Implement load testing and scalable architecture
2	Economic Instability	Diversify funding sources and financial planning
3	Team Attrition	Cross-train team members and document processes
4	Lack of Stakeholder Support	Engage stakeholders early and ensure regular updates
5	Inadequate Project Planning	Review and update project plan regularly
6	Dependency on External Dependencies	Have contingency plans and alternative options
7	Changing User Requirements	Implement agile development and iterative updates
8	Low User Engagement	Enhance marketing strategies and UX/UI improvements
9	Legal/Compliance Issues	Regular legal reviews and compliance monitoring
10	Technology Obsolescence	Continuous technology evaluation and updates

Project Kickoff

Project Kickoff meeting -

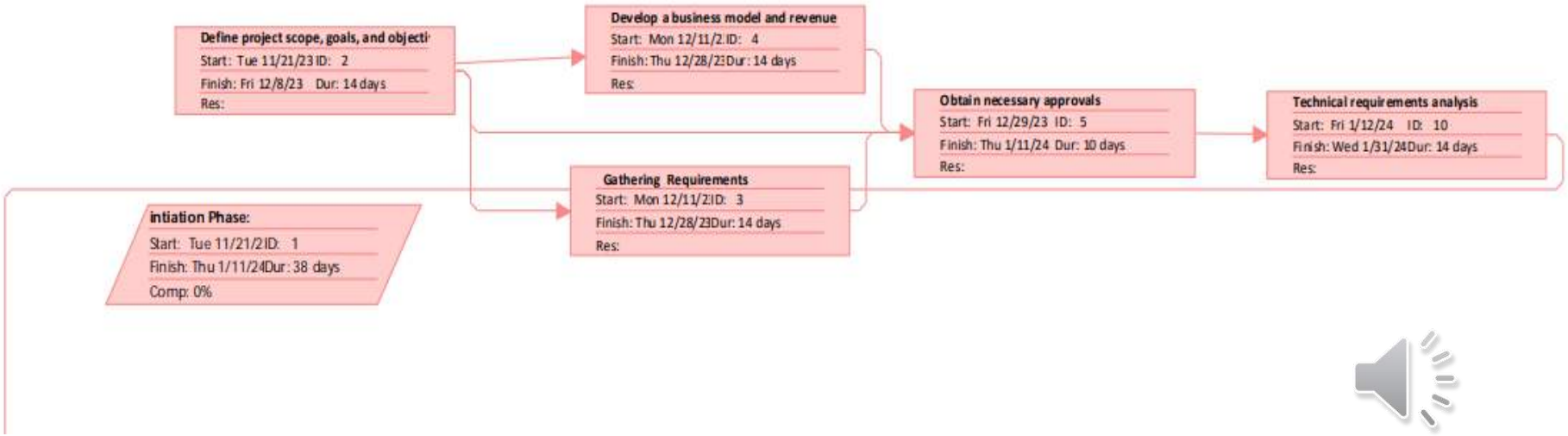
- Takes place during the planning phase
- Key Participants - UX designer, app developer, and the project manager

Agenda

- Introduction of Team members
- Review of project scope and objectives
- Detailed Project plan review
- Assignment of work packages
- Establishment of ground operational rules
- Emphasis on Team Agreements

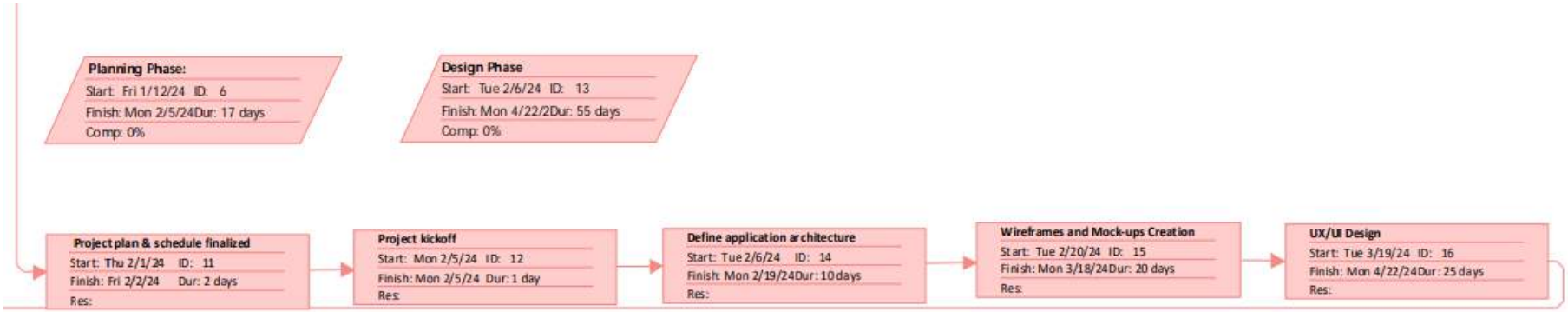
Project Plan-Network Diagram(Initiation)

Initiation Phase



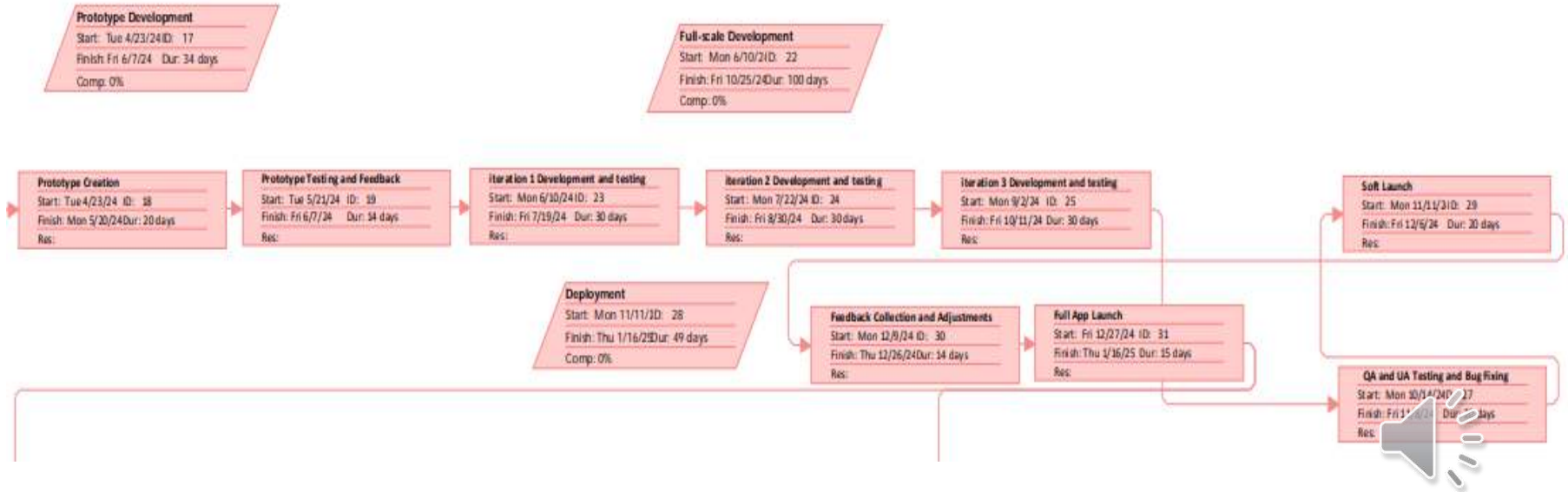
Project Plan-Network Diagram(Planning and Design)

Planning and Design Phase



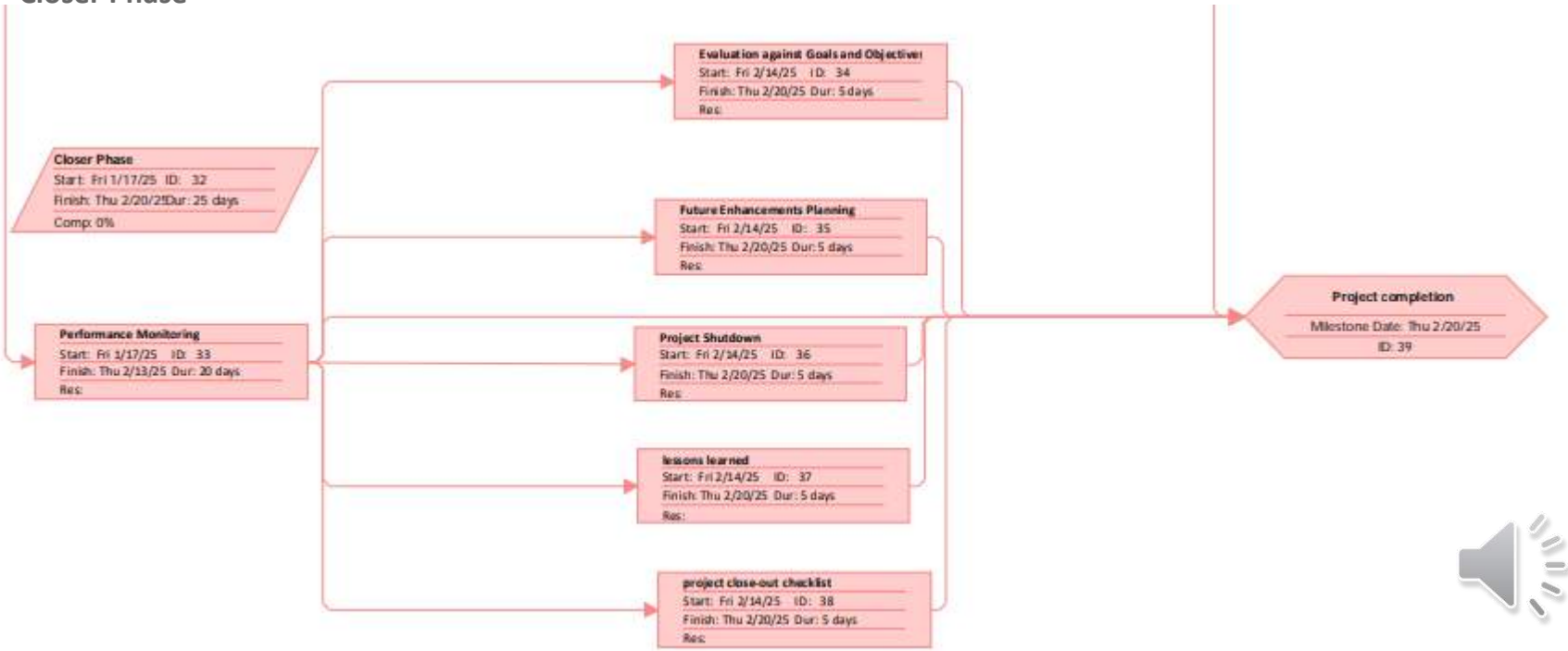
Project Plan-Network Diagram(Development)

Prototype And Full-Scale Development Phase



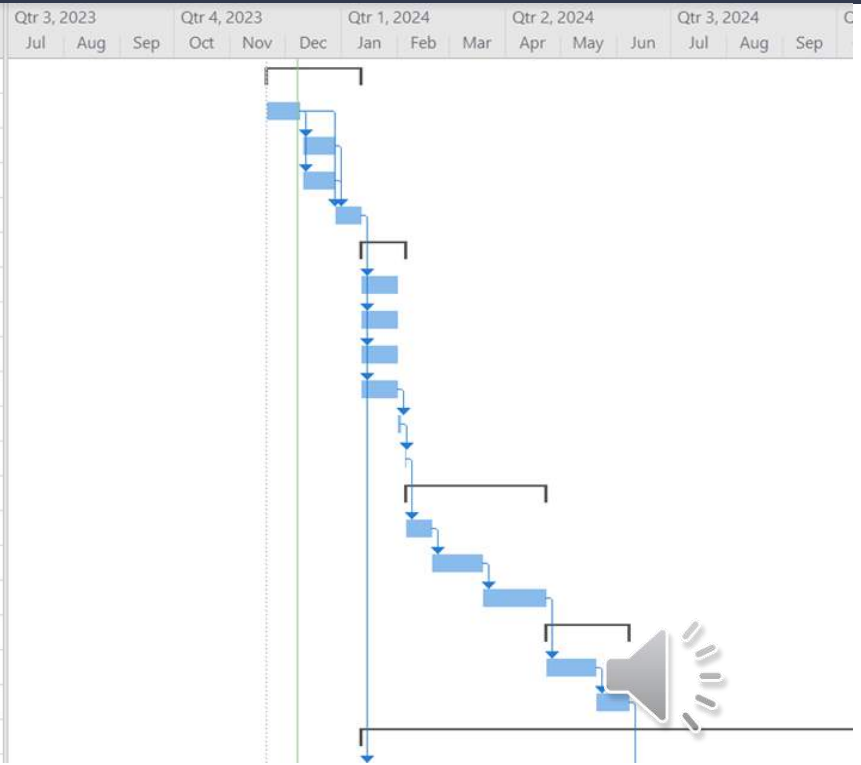
Project Plan-Network Diagram(Closer)

Closer Phase



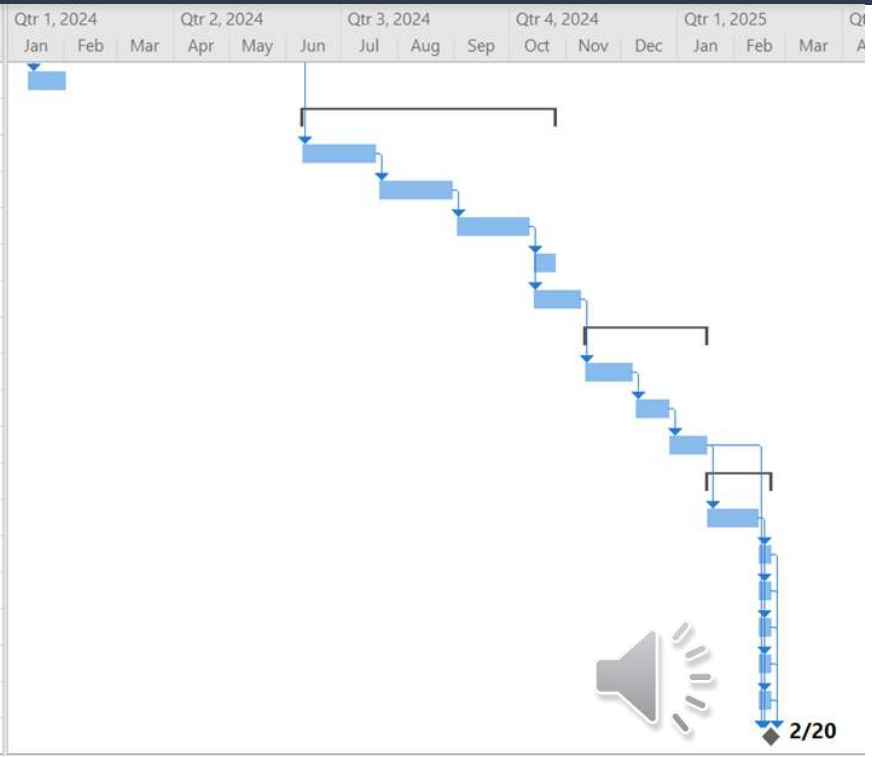
Project Schedule And Gantt Chart

WBS	Task Name	Duratic	Start	Finish
1	**intiation Phase:**	**38 days**	**Tue 11/21/23**	**Thu 1/11/24**
1.1	Define project scope, goals, and objectives	14 days	Tue 11/21/23	Fri 12/8/23
1.2	Gathering Requirements	14 days	Mon 12/11/23	Thu 12/28/23
1.3	Develop a business model and revenue strategy	14 days	Mon 12/11/23	Thu 12/28/23
1.4	Obtain necessary approvals	10 days	Fri 12/29/23	Thu 1/11/24
2	**Planning Phase:**	**17 days**	**Fri 1/12/24**	**Mon 2/5/24**
2.1	Develop work breakdown structure	14 days	Fri 1/12/24	Wed 1/31/24
2.2	Risk analysis	14 days	Fri 1/12/24	Wed 1/31/24
2.3	Cost analysis	14 days	Fri 1/12/24	Wed 1/31/24
2.4	Technical requirements analysis	14 days	Fri 1/12/24	Wed 1/31/24
2.5	Project plan & schedule finalized	2 days	Thu 2/1/24	Fri 2/2/24
2.6	Project kickoff	1 day	Mon 2/5/24	Mon 2/5/24
3	**Design Phase**	**55 days**	**Tue 2/6/24**	**Mon 4/22/24**
3.1	Define application architecture	10 days	Tue 2/6/24	Mon 2/19/24
3.2	Wireframes and Mock-ups Creation	20 days	Tue 2/20/24	Mon 3/18/24
3.3	UX/UI Design	25 days	Tue 3/19/24	Mon 4/22/24
4	**Prototype Development**	**34 days**	**Tue 4/23/24**	**Fri 6/7/24**
4.1	Prototype Creation	20 days	Tue 4/23/24	Mon 5/20/24
4.2	Prototype Testing and Feedback	14 days	Tue 5/21/24	Fri 6/7/24
5	**Application Development**	**216 days**	**Fri 1/12/24**	**Fri 11/8/24**



Project Schedule And Gantt Chart..Continued

WBS	Task Name	Duratic	Start	Finish
5.1	Database Creation	15 days	Fri 1/12/24	Thu 2/1/24
5.2	**Full-scale Development**	**100 days**	**Mon 6/10/24**	**Fri 10/25/24**
5.2.1	iteration 1 Development and testing	30 days	Mon 6/10/24	Fri 7/19/24
5.2.2	iteration 2 Development and testing	30 days	Mon 7/22/24	Fri 8/30/24
5.2.3	iteration 3 Development and testing	30 days	Mon 9/2/24	Fri 10/11/24
5.2.4	Payment Gateways integration testing	10 days	Mon 10/14/24	Fri 10/25/24
5.3	QA and UA Testing and Bug Fixing	20 days	Mon 10/14/24	Fri 11/8/24
6	**Deployment**	**49 days**	**Mon 11/11/24**	**Thu 1/16/25**
6.1	Soft Launch	20 days	Mon 11/11/24	Fri 12/6/24
6.2	Feedback Collection and Adjustments	14 days	Mon 12/9/24	Thu 12/26/24
6.3	Full App Launch	15 days	Fri 12/27/24	Thu 1/16/25
7	**Closer Phase**	**25 days**	**Fri 1/17/25**	**Thu 2/20/25**
7.1	Performance Monitoring	20 days	Fri 1/17/25	Thu 2/13/25
7.2	Evaluation against Goals and Objectives	5 days	Fri 2/14/25	Thu 2/20/25
7.3	Future Enhancements Planning	5 days	Fri 2/14/25	Thu 2/20/25
7.4	Project Shutdown	5 days	Fri 2/14/25	Thu 2/20/25
7.5	lessons learned	5 days	Fri 2/14/25	Thu 2/20/25
7.6	project close-out checklist	5 days	Fri 2/14/25	Thu 2/20/25
7.7	Project completion	0 days	Thu 2/20/25	Thu 2/20/25



Project Closure

Task	Completed? (Yes/No)
Team	
1. Develop and accept schedule for reducing project staff	Yes
2. Release or notify staff of new assignments	Yes
3. Conduct performance reviews for team members	Yes
4. Offer staff outplacement services and career counseling	Yes
Activities	
5. Organize a knowledge transfer session for departing staff	Yes
6. Archive project documentation and materials	Yes
7. Conduct exit interviews with departing team members	Yes
Vendors/Contractors	
8. Conduct performance reviews for all vendors	Yes
9. Settle outstanding payments and close contracts	Yes
10. Obtain feedback from vendors on project collaboration	Yes
Customer/Users	
11. Obtain customer sign-off on the delivered product	Yes
12. Conduct a post-project survey for customer feedback	Yes
13. Schedule a lessons-learned meeting with the customer	Yes
14. Close any outstanding issues or change requests	Yes
Users	
15. Interview users to assess satisfaction with deliverables,project team, vendors, training, support, and maintenance	Yes
16. Provide additional training or support if needed	Yes
17. Collect user testimonials or feedback for future projects	Yes
Equipment and Facilities	
18. Transfer project resources to other projects	Yes
19. Close rental or lease equipment agreements	Yes
20. Verify return of all borrowed equipment	Yes
21. Set closure review date and notify stakeholders	Yes

Thank you