



AMERICAN INTERNATIONAL UNIVERSITY–BANGLADESH (AIUB)

FACULTY OF SCIENCE & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE

SOFTWARE ENGINEERING

Activity Scheduling and Resource Allocation *on*

Robo Hatch - A Robotics Development Platform

Section: V; Group:07

Supervised By

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Submitted By

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Spring 2024-25 Date of Submission: **26 june, 2025**

Resource Allocation Table :

| Serial | Task Name | Resources |
|--------|--------------------------------------|--------------------|
| 1 | Stakeholder meetings | Project Manager |
| 2 | Needs analysis & documentation | Business Analyst |
| 3 | Technical feasibility | Technical Analyst |
| 4 | Legal & regulatory review | Legal Advisor |
| 5 | Financial assessment | Finance Officer |
| 6 | Identify key risks | Risk Analyst |
| 7 | Mitigation strategy development | Project Manager |
| 8 | Create wireframes | UI/UX Designer |
| 9 | Design user flows | UI/UX Designer |
| 10 | Build interactive prototypes | UI/UX Designer |
| 11 | ER Diagram creation | DBA |
| 12 | Schema design & normalization | DBA |
| 13 | Define modules and tech stack | System Architect |
| 14 | Define data flow & integration plans | System Architect |
| 15 | Registration & login UI | Frontend Developer |
| 16 | Backend: login, OTP, 2FA logic | Backend Developer |
| 17 | Freelancer dashboard | Frontend Developer |
| 18 | Company/Team dashboard | Frontend Developer |
| 19 | Admin dashboard | Admin |
| 20 | File validation | Backend Developer |
| 21 | Preview and licensing UI | Frontend Developer |
| 22 | Format filtering | Backend Developer |
| 23 | Purchase logic and UI | Frontend Developer |
| 24 | Collect preferences & train ML model | ML Engineer |

| | | |
|----|-------------------------------------|-----------------------|
| 25 | Integrate matching with tasks | ML Engineer |
| 26 | Task assignment interface | Frontend Developer |
| 27 | Accept/Reject logic | Backend Developer |
| 28 | Project listing UI | Frontend Developer |
| 29 | Media preview and pricing logic | Frontend Developer |
| 30 | Write test cases per module | QA Engineer |
| 31 | Execute and document results | QA Engineer |
| 32 | Scenario planning and setup | QA Engineer |
| 33 | System integration verification | QA Engineer |
| 34 | Encryption and auth testing | Security Analyst |
| 35 | GDPR/data compliance audit | QA + Security Analyst |
| 36 | AWS/Azure instance setup | DevOps Engineer |
| 37 | Domain, DNS, backup setup | DevOps Engineer |
| 38 | Docker setup and GitHub Actions | DevOps Engineer |
| 39 | Kubernetes deployment configuration | DevOps Engineer |
| 40 | Final staging test | QA Engineer |
| 41 | Go-live and monitoring | DevOps Engineer |
| 42 | Setup feedback & bug logs | QA Engineer |
| 43 | Analyze feedback reports | QA Engineer |
| 44 | Patch deployment | Backend Developer |
| 45 | New feature rollout | Frontend Developer |

Schedule planning of tasks:

| No | Task Name | Duration | Predecessor(s) |
|----|--------------------------------|----------|----------------|
| 1. | Stakeholder meetings | 1 day | — |
| 2. | Needs analysis & documentation | 2 days | — |

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|-----|--------------------------------------|--------|---------|
| 3. | Technical feasibility | 1 day | 1 |
| 4. | Legal & regulatory review | 1 day | 1 |
| 5. | Financial assessment | 1 day | 1 |
| 6. | Identify key risks | 1 day | 2 |
| 7. | Mitigation strategy development | 1 day | 2 |
| 8. | Create wireframes | 2 days | 3 |
| 9. | Design user flows | 2 days | 3 |
| 10. | Build interactive prototypes | 3 days | 3 |
| 11. | ER Diagram creation | 1 day | 3 |
| 12. | Schema design & normalization | 2 days | 3 |
| 13. | Define modules and tech stack | 2 days | 3 |
| 14. | Define data flow & integration plans | 2 days | 3 |
| 15. | Registration & login UI | 2 days | 4, 5, 6 |
| 16. | Backend: login, OTP, 2FA logic | 3 days | 4, 5, 6 |
| 17. | Freelancer dashboard | 2 days | 7 |
| 18. | Company/Team dashboard | 2 days | 7 |
| 19. | Admin dashboard | 2 days | 7 |
| 20. | File validation | 1 day | 8 |
| 21. | Preview and licensing UI | 2 days | 8 |
| 22. | Format filtering | 1 day | 8 |
| 23. | Purchase logic and UI | 2 days | 8 |
| 24. | Collect preferences & train ML model | 3 days | 9, 10 |
| 25. | Integrate matching with tasks | 2 days | 9, 10 |
| 26. | Task assignment interface | 2 days | 11 |
| 27. | Accept/Reject logic | 1 day | 11 |
| 28. | Project listing UI | 2 days | 12 |

| | | | |
|-----|-------------------------------------|--------|----|
| 29. | Media preview and pricing logic | 2 days | 12 |
| 30. | Write test cases per module | 2 days | 13 |
| 31. | Execute and document results | 2 days | 13 |
| 32. | Scenario planning and setup | 1 day | 14 |
| 33. | System integration verification | 2 days | 14 |
| 34. | Encryption and auth testing | 2 days | 15 |
| 35. | GDPR/data compliance audit | 1 day | 15 |
| 36. | AWS/Azure instance setup | 1 day | 16 |
| 37. | Domain, DNS, backup setup | 1 day | 16 |
| 38. | Docker setup and GitHub Actions | 2 days | 17 |
| 39. | Kubernetes deployment configuration | 2 days | 17 |
| 40. | Final staging test | 1 day | 18 |
| 41. | Go-live and monitoring | 1 day | 18 |
| 42. | Setup feedback & bug logs | 1 day | 19 |
| 43. | Analyze feedback reports | 1 day | 19 |
| 44. | Patch deployment | 1 day | 20 |
| 45. | New feature rollout | 1 day | 20 |

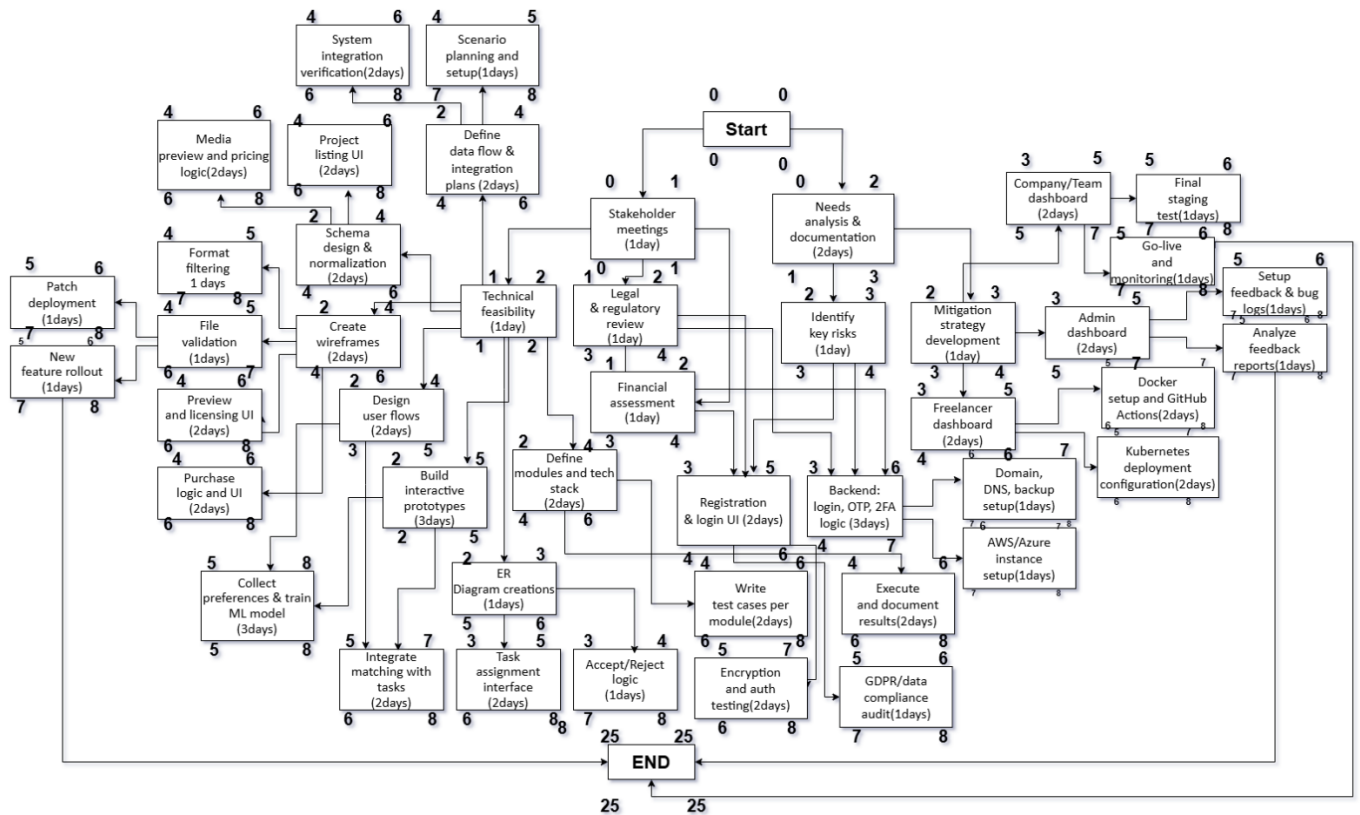


Figure: Activity Scheduling in Network Diagram