MOM : week 5:

DASS Team 49 : wave diaries

No MOM this week, because client was busy with house shifting.

Training plan was assigned to us on slack, and roles were to be determined in that. The plan is attached below. One major change from other teams working with the same client is that this training phase is significantly lower in time for us because we were given this much later(feb 12th instead of jan 27th), and that ours is a 4member team.

Every task assigned has been updated in status trackers, etc.

Training Plan – From Feb 12th to Feb 28th

1. Scrum Master (Raunak Seksaria)

Focus: Agile methodologies, project management tools, and Scrum practices.

Training Plan:

- **Day 1–3: Learn Agile Basics**
  - **Agile Manifesto:** https://agilemanifesto.org/
  - **MOOC**: Agile with Atlassian Jira (Coursera)
  - **YouTube**: Scrum Master Basics by Simplilearn
  - Introduction to Agile Development and Scrum - https://www.coursera.org/learn/agile-development-and-scrum
- **Day 4–6: Master Jira or Trello**
  - Get Started with Jira - https://www.coursera.org/projects/get-started-with-jira
  - How to create a Jira Scrum Project - https://www.coursera.org/projects/how-to-create-a-jira-scrum-project
  - Automate Tasks and Processes with Jira - https://www.coursera.org/projects/automate-tasks-and-processes-with-jira
  - **YouTube**: Trello for Beginners by Keep Productive
  - Trello for beginners: https://www.coursera.org/projects/trello-for-beginners
- **Day 7–11: Implement Scrum Practices**
  - **Scrum.org:** https://www.scrum.org/ (download the Scrum Guide)
  - **YouTube**: Scrum Framework Explained by Mountain Goat Software
- **Day 12 - 15 : Scrum Values and principles**
  - **Scrum Alliance:**https://www.scrumalliance.org/ (explore free articles and resources)
- **Day 16–20: Practice Scrum Management**
  - Conduct mock sprints with team members.
  - **Scrum Simulator Tools:** (e.g., some basic simulators might be available online for free)
  - **Teamwork activities:** (organize a small group project and try to apply Scrum principles)

2. AI/ML (Manit Roy, Raunak Seksaria)

Focus: Large language models (LLMs), RAG, and LangChain.

Training Plan:

- **Day 1 - 4: Introduction to AI/ML**
  - **Coursera:** "Machine Learning" by Andrew Ng: https://www.coursera.org/collections/machine-learning (This is extensive and need not do everything, i have provided a list below which is important)
    - AI For everyone - https://www.coursera.org/learn/ai-for-everyone
    - Natural language processing - https://www.coursera.org/specializations/natural-language-processing
  - **Google AI:** "Introduction to Machine Learning": https://cloud.google.com/learn/training/machinelearning-ai
  - **YouTube:** 3Blue1Brown (for intuitive explanations of neural networks): https://www.youtube.com/@3blue1brown/playlists
    - This is more for reference, and use it when we require it.
- **Day 5 - 7: Gemini Deep Dive**
  - **Google AI Blog:** https://ai.google/latest-news/(This will help to know the new version which is getting released, so keep an eye on it.)
  - **Gemini Documentation:** https://blog.google/technology/ai/google-gemini-ai/
  - **YouTube:** Official Google AI channels: https://www.youtube.com/watch?v=5CdT8BlTzXM
- **Day 8–10: Integrate ChatGPT Models**
  - Practice GPT integration via OpenAI APIs using OpenAI API Quickstart.
- **Day 11 - 14: NLP Fundamentals**
  - **Hugging Face Courses:** https://huggingface.co/learn
    - What we need is NLP course here. For further improvement of the model we might need Deep RL course too, but its not mandatory now.
    - Go through the Open Source Cook Book
  - **Stanford CS224n:** Natural Language Processing with Deep Learning (on YouTube): https://www.youtube.com/playlist?list=PLoROMvodv4rMFqRtEuo6SGjY4XbRIVRd4
- **Day 15 - 17: Building a simple chat bot**
  - **Dialogflow Documentation:** https://cloud.google.com/dialogflow/docs
  - **Python Libraries:** NLTK, spaCy
- **Day 18 -23: RAG Implementation**
  - **Hugging Face Transformers:** https://huggingface.co/docs/transformers/en/index
  - **MongoDb Training** : https://learn.mongodb.com/
  - **MOOC:** LangChain for Beginners (Free course by DeepLearning.AI)
  - Fundamentals of Ai Agents using RAG and Langchain - https://www.coursera.org/learn/fundamentals-of-ai-agents-using-rag-and-langchain

- o Building Ai Powered Chatbots without programming - https://www.coursera.org/learn/building-ai-powered-chatbots
  - o Functions, Tools and Agents with Langchain - https://www.coursera.org/projects/functions-tools-and-agents-with-langchain-project
- Day 24 - 26: Using Langflow, a no-code approach
  - o LangFlow: Build Chatbots without Writing Code - LangChain - https://www.youtube.com/watch?v=KJ-ux3hre4s
  - o LangFlow LLM Agent Demo for LangChain - https://www.youtube.com/watch?v=zJxDHaWt-6o
  - o Build a RAG app using LangFlow + @streamlitofficial with minimal coding | LangFlow crash course - https://www.youtube.com/watch?v=1ic-V0TCscM
- **Day 27-28: Building the Empathetic Chatbot**
  - o **Ethical AI Guidelines:** (e.g., Google AI Principles: https://ai.google/responsibility/principles/)

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3. DevOps (Aditya Gaur, Manit Roy)

Focus: CI/CD, AWS basics, and GitHub.

Training Plan:

- **Day 1–4**: Learn Version Control with GitHub
  - o **MOOC**: Introduction to Git and GitHub (Coursera)
  - o **YouTube**: Git and GitHub Crash Course by freeCodeCamp
  - o - **Learn Git Branching:** https://learngitbranching.js.org/
  - o **Try Git:** https://github.com/git/git-scm.com/issues/1239
  - o **Git - the simple guide:** https://github.com/gitready/gitready
- **Day 5–8**: Understand CI/CD Pipelines
  - o **MOOC**: DevOps Fundamentals (Udemy)
  - o **Jenkins:** Explore the Jenkins user interface and basic configurations.
  - o **GitHub Actions/GitLab CI/CD:** Learn about built-in CI/CD features in these platforms.
- **Day 9–11**: Learn AWS Basics
  - o **MOOC**: AWS Certified Cloud Practitioner Essentials (Coursera)
- **Day 12 -15: Infrastructure as Code (IaC)**
  - o **Terraform Documentation:** https://www.terraform.io/
  - o **Ansible Documentation:** https://www.redhat.com/en/ansible-collaborative
- **Day 16 -18: Containerization with Docker**
  - o **Docker Documentation:** https://www.docker.com/
  - o **Hands-on Labs:** Set up a local Docker environment and experiment with building and running containers.
- **Day 19-21: Container Orchestration with Kubernetes**
  - o **Kubernetes Documentation:** https://kubernetes.io/
  - o **Online Labs:**
    - ▪ **Katacoda**
    - ▪ **Minikube:** https://minikube.sigs.k8s.io/docs/start/

- **Day 22-24: Monitoring and Logging**
  - **Prometheus Documentation:** https://prometheus.io/
  - **Grafana Documentation:** https://grafana.com/
  - **ELK stack documentation:** https://www.elastic.co/
- **Day 25–30**: Apply Knowledge
  - Set up a simple CI/CD pipeline using GitHub Actions and deploy to AWS.

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4. UI/UX (Shivam Gupta,Raunak Seksaria)

Focus: Web development basics, React, and Figma.

Training Plan:

- **Day 1–3**: Learn Web Development Basics
  - **MOOC**: The Web Developer Bootcamp (Udemy)
  - **YouTube**: HTML and CSS Crash Course by freeCodeCamp
- **Day 4–7**: Master React
  - **MOOC**: React Basics (Codecademy)
  - **YouTube**: ReactJS for Beginners by freeCodeCamp
- **Day 8–9**: Learn Figma for Prototyping
  - **MOOC**: Figma for Beginners (Udemy)
- **Day 10–14**: Practice UI/UX Design
  - Create mock interfaces for the journaling app in Figma.
  - Build and test a React-based frontend.

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5. Server Side (Aditya Gaur, Shivam Gupta)

Focus: Backend development with Node.js, Express.js, MongoDB, and encryption.

Training Plan:

- **Day 1–3**: Learn Node.js and Express.js
  - **MOOC**: The Complete Node.js Developer Course (Udemy)
  - **YouTube**: Node.js and Express Crash Course by Traversy Media
- **Day 4–6**: Understand MongoDB
  - **MOOC**: MongoDB Basics (MongoDB University)
  - **YouTube**: MongoDB Crash Course by freeCodeCamp
- **Day 7–9**: Learn Encryption Techniques
  - **MOOC**: Cryptography Basics (Coursera)
- **Day 10–14**: Practice Backend Development
  - Build a simple API with Express.js and MongoDB.

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6. Testing (All Members)

Focus: Unit and integration testing.

Training Plan:

- **Day 1–3**: Learn Testing Basics
  - Introduction to Software Testing - https://www.coursera.org/learn/introduction-software-testing
  - **ISTQB Foundation Level Syllabus:** https://www.istqb.org/
- **Day 3-5: Test Planning & Test Case Design**
  - **Testing Excellence:** https://www.testingexcellence.com/
  - **Guru99:** https://www.guru99.com/software-testing.html
  - **Test Case Templates:** (Search for "free test case template" on Google)
- **Day 6-7: Functional Testing**
  - Unit Testing: https://www.geeksforgeeks.org/unit-testing-software-testing/
  - Integration Testing: https://www.geeksforgeeks.org/software-engineering-integration-testing/
  - Equivalence Partitioning: https://www.geeksforgeeks.org/equivalence-partitioning-method/
  - Boundary Value Analysis: https://www.geeksforgeeks.org/software-testing-boundary-value-analysis/
- **Day 8-9: Non-Functional Testing**
  - Performance Testing: https://www.geeksforgeeks.org/performance-testing-software-testing/
  - Usability Testing: https://www.geeksforgeeks.org/usability-testing/
  - Security Testing: https://www.geeksforgeeks.org/security-testing/
  - **Tools:**
    - **JMeter:** https://jmeter.apache.org/
    - **LoadRunner:** [invalid URL removed] (may have free trials)
- **Day 10–12**: Learn Testing Tools
  - For **Frontend**: Jest, React Testing Library.
    - **YouTube**: React Testing Tutorial by freeCodeCamp
  - For **Backend**: Mocha, Chai.
    - **YouTube**: Node.js Testing by The Net Ninja
- **Day 13-14: Test Automation**
  - **Selenium Documentation:** https://www.selenium.dev/
- **Day 15-16: Defect Tracking & Reporting**
  - **Jira Documentation:** https://www.atlassian.com/software/jira
  - **Bug Reporting Templates:** (Search for "free bug report template" on Google)
- **Day 17–20**: Apply Testing Practices
  - Write unit tests for frontend and backend components.
  - **Test Automation University:** https://testautomationu.applitools.com/ (may have free resources)
- **Day 21-23: Test Planning & Strategy**
  - **Test Plan Templates:** (Search for "free test plan template" on Google)
  - **Project Planning Tools:**
    - **Trello:** https://trello.com/
    - **Asana:** https://asana.com/