Codyssey

Education Operations Manual

Innovation Academy

Codyssey

Contents

- Codyssey Introduction
- Codyssey Features
- Codyssey Training Operations
  - ✓ Orientation
  - ✓ Meetup Activities
  - ✓ Peer Evaluation
  - ✓ Performance Presentation
  - ✓ Program Completion Criteria
  - ✓ Facilitation & Peer Learning Day
- [Appendix] Examples of Activity Sheets

Codyssey Introduction

What is the Codyssey ?

An Innovative SW Education Platform with a "3-No“ Approach

Codyssey is an innovative software education platform designed to address domestic educational needs through a “3-No” approach: No Lecture, No Textbook, No Tuition. By adopting Problem-Based Learning (PBL) and industry-focused projects, it fosters self-directed and collaborative learning to develop field-ready talents for local communities and industries.

Codyssey Overview		
	Educational Features	Problem-Based Learning (PBL) Without Traditional Lectures; Peer Learning and Peer Assessment
	Educational Level	Foundations of Computer Science (Industry-Demand Based Undergraduate Level); Projects (Practical Level)
	Program Duration	Modularized by Technology: Medium- to long-term courses, ranging from 6 to 18 months
	Learning Method	Offline (with Online Support)
	Learning Level	Customized Problem Recommendations Based on Competency

Codyssey Introduction

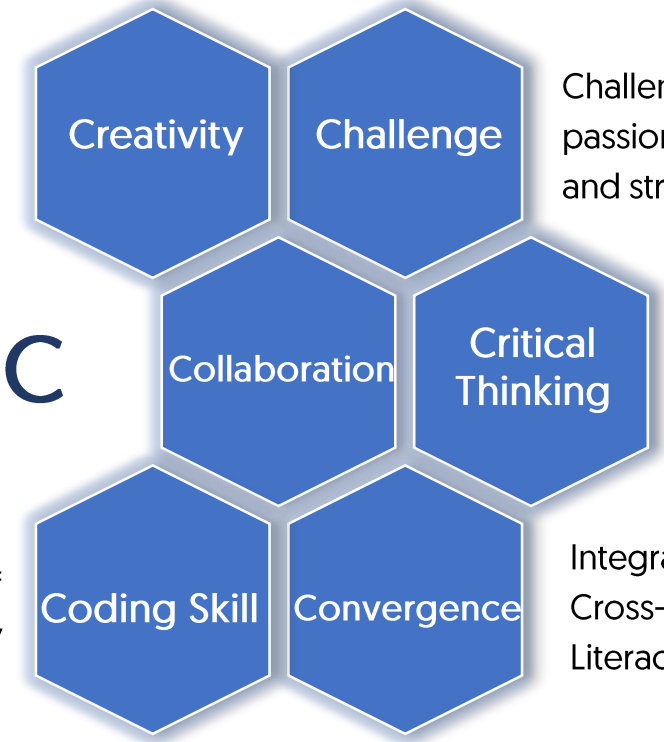
What is the Codyssey ?

Develop Software Innovators Equipped with 6C Competencies Through Innovative Training Based on Self-Directed and Peer Learning

Creative Talents with Diverse Frameworks and Ideas Based on Computational Thinking

Challenging individuals with an inquisitive mind and passion for knowledge who are constantly learning and striving to improve

An inclusive workforce that collaborates with global communication skills through listening and empathy



Analytical Talents with Problem-Solving and Critical Thinking Skills for Diverse Challenges

Digital Talent with a Comprehensive Understanding of Technology and Coding Proficiency

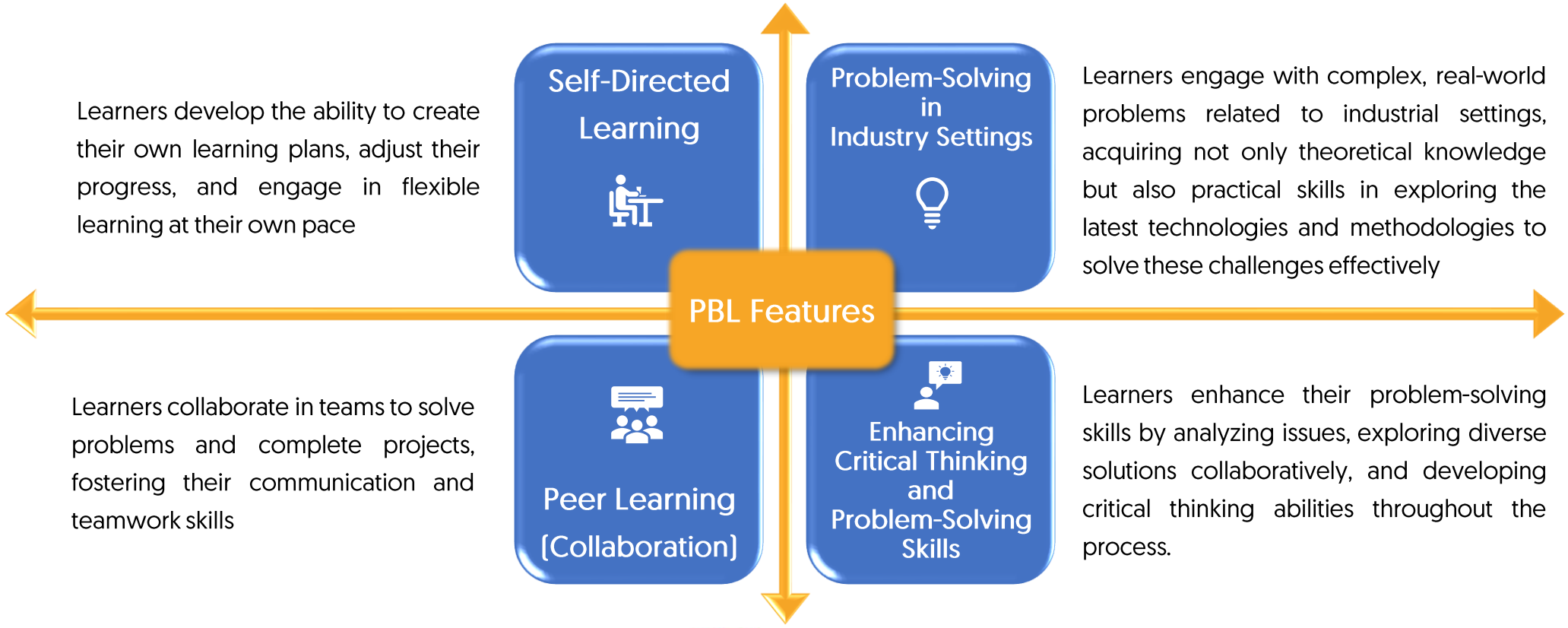
Integrated and Convergent Talents with Cross-Disciplinary Expertise and Digital Literacy

Codyssey Features

Core Features of Codyssey

Codyssey employs Problem-Based Learning (hereinafter referred to as “PBL”), a learning methodology where learners acquire knowledge and skills independently through problem-solving.
Codyssey's PBL is characterized by the following features:

Learners develop the ability to create their own learning plans, adjust their progress, and engage in flexible learning at their own pace



Learners engage with complex, real-world problems related to industrial settings, acquiring not only theoretical knowledge but also practical skills in exploring the latest technologies and methodologies to solve these challenges effectively

Learners collaborate in teams to solve problems and complete projects, fostering their communication and teamwork skills

Learners enhance their problem-solving skills by analyzing issues, exploring diverse solutions collaboratively, and developing critical thinking abilities throughout the process.

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Codyssey Training Operations_Program

Basic Course (Convergent Learning)

Category		Objective	Activities	Learning Method	Evaluation	Preparation for Implementation
Stage 1	Learning	Master self-directed learning methods.	- Engage in voluntary peer learning activities within the defined scope - Peer evaluations - Discovery of peer learning insights and best practices	Self-directed learning & peer learning	Peer evaluation	- Confirm learning statistics on the platform. (e.g., learning progress and peer evaluation progress for individual learners) - Prepare meetup activity sheets and PPT - Organize content for the next week's meetup assignments. - [Optional] Confirm insights from peer learning presentations and related materials.
	Meetup	Experience various formats of peer learning, share the effects of peer learning, and reflect.	- Check-in - Write a "Code Error Notebook" - Pair activities - Gallery activities - Conduct peer and gallery evaluations - Share peer learning insights - Learning Task Notice	Group activities & peer learning	Self-evaluation	
Stage 2	Learning	Enhance learning competencies, practical skills, and knowledge acquisition through peer learning.	- Engage in voluntary peer learning activities within the defined scope - Peer evaluations	Self-directed learning & peer learning	Peer evaluation	- Confirm learning statistics on the platform. (e.g., learning progress and peer evaluation progress for individual learners) - Prepare meetup activity sheets and PPT - Organize content for the next week's meetup assignments. - Confirm materials for team presentations.
	Meetup	Peer learning activities enhance metacognition of learning and provide a foundation for team-based project planning.	- Check-in - Write a "Code Error Notebook" - Pair activities - Gallery activities - Conduct peer and gallery evaluations - Planning for Team Projects - Learning Task Notice	Group activities & peer learning	Self-evaluation	

Codyssey Training Operations_Program

Advanced Course (Emergent Learning)

Category		Objective	Activities	Learning Method	Evaluation	Preparation for Implementation
Stage 3	Learning	Utilize acquired knowledge to finalize project ideas, develop programming projects, and outline future learning objectives.	- Self-directed peer learning activities in selected topics - Project planning and preparation - Peer evaluations	Self-directed learning & peer learning & Project-based learning (Developing team projects)	Peer evaluation	- Confirm learning statistics on the platform. (e.g., learning progress and peer evaluation progress for individual learners) - Prepare meetup activity sheets and PPT - Organize content for the next week's meetup assignments. - Determine Presentation Order(Randomized) - Confirm materials for team presentations.
	Meetup	Develop and refine team project plans, and foster awareness and understanding of project processes and objectives.	- Present team project plans - [Optional] Career counseling	Presentation & Discussion & Q&A	Relative Grading (Peer evaluation)	
Stage 4	Learning	Complete the project, incorporate feedback from evaluations, and prepare professional presentation materials to effectively showcase the results.	- Team Project Development - Preparation of Team Project Presentation Materials - [Optional] Expert Code Review	Project-based learning & [Optional] Expert feedback		- Confirm learning statistics on the platform. (e.g., learning progress and peer evaluation progress for individual learners) - Prepare meetup activity sheets and PPT - Determine Presentation Order(Randomized) - Confirm materials for team presentations.
	Meetup	Present project outcomes, evaluate and acknowledge individual and team growth, and celebrate success.	- Team Project Presentations - Awards Ceremony	Presentation	Relative Grading (Peer evaluation) Expert evaluation	

Codyssey Training Operations

Codyssey Training Operations

To support Codyssey's learning activities based on learners' self-directed peer learning, an environment is created to facilitate collaborative learning among learners, and learners are managed through online and on/offline activities.

- Online Activity : Operate a real-time communication channel (Discord)
- Offline Activities : Orientation, Meetup Activities, Performance Presentation
  (optional) Facilitation by software industry experts, Peer Learning Day

Orientation

Overview of the Entire Curriculum

(option)
Peer Learning Day

Part of Creating an Environment for Experiencing Peer Learning

Meetup Activities

Activity-Centered Approach Among Learners

(option)
Facilitation

Introduction to Industry Trends, Career Paths, and Specializations, with Q&A Session

Performance Presentation

Team Project Results Presentation and Awards Ceremony

Codyssey Training Operations_Orientation

Orientation

1. Program and IA Introduction

- Attendance check and program overview
- Introduction to Codyssey (educational philosophy and goals)
- Sharing peer learning experiences
  (e.g., promotional videos, alumni testimonials and more)

2. Learning Activities Overview

Detailed Codyssey curriculum briefing -
Guidance on platform registration and joining the Discord community -
Instructions on using Discord and the learning platform effectively -
Explanation of the overall program completion criteria -
Explanation of the guidelines for selecting outstanding project teams -

[optional]

3. Assignments and Missions

- Team Organization or Guide to Team Organization
- Team name selection and team leader election
- Team-building Escape Mission
  (e.g., problem-solving or collaboration activity)

Codyssey Training Operations_Orientation

[Discord] Operate a real-time communication channel

Facilitate active communication among participants through an online communication channel, while addressing announcements and resolving learning-related inquiries effectively.

Introducing the “Discord” channel

Codyssey in **WSU**

Provide education-related announcements and a public inquiry channel

Codyssey_ Worlds

Foster open communication with peers in other courses

Codyssey_ Announcements

Announcements: Regular maintenance, updates, feature additions, policy changes, and usage guides

Bug Report

If you encounter technical issues while using the platform, report them via 'Bug 119' (technical support service)

Codyssey Training Operations_Meetup Activities

What is the Meetup Activities?

Face-to-face meetups provide opportunities to overcome challenges with peers, helping learners stay motivated and complete the program successfully.

1. Basic Level

- ✓ Experience a variety of peer learning methods, explore their effectiveness, and share learning outcomes based on these experiences.
- ✓ As meetups progress, peer learning strengthens, and the acquisition of skills and knowledge improves.
- ✓ Code reviews, pair activities, and other exercises to enhance learning and foster collaboration among peers

2. Advanced Level

- ✓ Based on the learned PBL problems, confirm team project topics and establish detailed development plans.
- ✓ Refine project planning through meetup activities, enhance metacognition about the project via team collaboration and mutual feedback, and improve the overall project completeness.
- ✓ Team presentations and expert feedback to check in on project progress and set direction for improvement.

Codyssey Training Operations_Meetup Activities

Meetup Activities Example

▶ PBL Problem Peer Learning

Time	Content
Within 10 minutes	Attendance Check ※ **Optional**: Icebreaker
※ Learning Check and Activities	
Within 15 minutes	Write a "Code Error Notebook"
Within 70 minutes	Pair and Gallery Activities ※ **Optional**: Write a feedback survey on the meetup activity
Within 15 minutes	Break
※ Codyssey Learning Activities	
Within 60 minutes	Conduct PBL problem-solving or peer evaluations

▶ Project Peer learning

Time	Content
Within 10 minutes	Attendance Check ※ **Optional**: Icebreaker
※ Learning Check and Activities	
Within 5 minutes	Select presentation order
Within 80 minutes	Team project (planning) presentation ※ **Optional**: Complete the activity sheet and survey
Within 15 minutes	Break
※ Codyssey Learning Activities	
Within 60 minutes	Conduct PBL problem-solving or peer evaluations

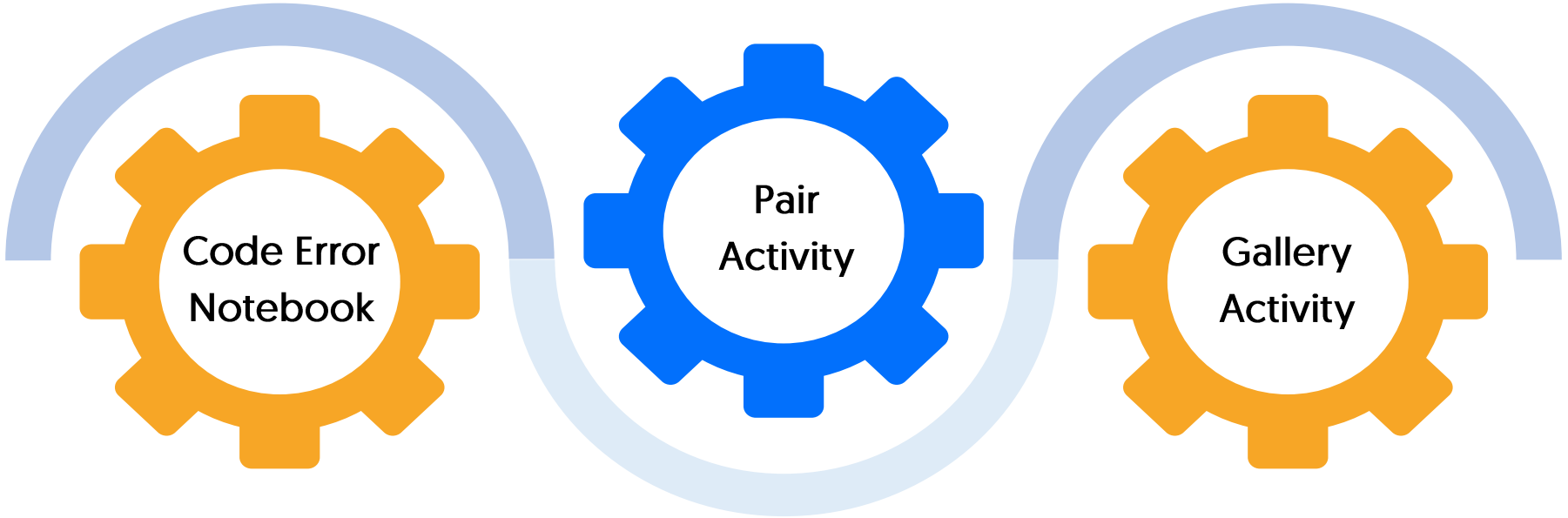
※ [Optional] Icebreaker

Prior to the main meetup session, conduct simple activities as a warm-up to foster engagement and ease participants into the session.

Example: *Rate your mood for today* (on a scale of -5 to +5).

Codyssey Training Operations_Meetup Activities

Detailed Meetup Activities : Code Error Notebook – Pair Activity – Gallery Activity



Create an activity sheet for learners to select code they struggled with and explain how they resolved the issue.

Pair up in groups of two (within or across teams), choose one of the problems they have solved, and share the code and solution process with each other.

Teams move sequentially to present their code or projects, iteratively explaining them while sharing the process of solving a problem or planning and developing the project.

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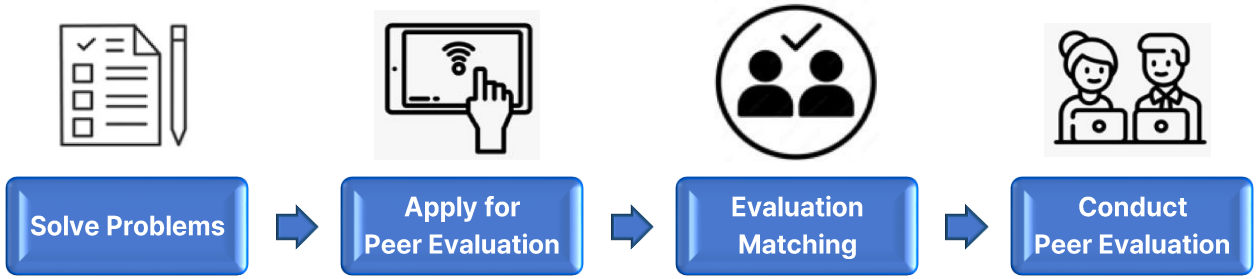
Codyssey Training Operations_Peer Evaluation

What is Peer Evaluation?



- Peers, randomly matched by the system, evaluate the PBL problems completed by the learner.
- The evaluated learner explains their problem-solving process to the evaluator, who conducts the evaluation based on the provided evaluation guide.

※ Ensure learners fully understand the 'Evaluation Points System' and its importance!

Peer Evaluation: Methods for Matching Evaluators

- Random Matching : A system-generated method where evaluators are randomly assigned when learners request an evaluation date and time on the platform.
- Assigned Matching : A method where learners request an evaluation on the platform, and the system assigns specific evaluators who are available for evaluation.

※ Finalizing the Evaluation Method is Mandatory Before Distributing the Educational Curriculum.

Codyssey Training Operations_Peer Evaluation

Peer Evaluation Activation Method

01 Evaluation Points System

- Objective:

  Encourage learner participation in evaluations.
- Details:

  Points are allocated to enable at least five evaluations.

  To request subsequent evaluations, learners must first complete evaluations for others.
- Example:
  - ✓ Initial allocation of 500 points.
  - ✓ 100 points are deducted for each evaluation request.
  - ✓ 100 points are awarded upon completing an evaluation for another learner.

02 Selection of Outstanding Participants

- Objective:

  To motivate mutual collaboration among learners.

  (e.g., knowledge sharing and teamwork)
- Details:

  Learners, excluding themselves, vote for others who have contributed the most to learning or evaluation.

  The participant with the highest number of votes receives bonus points.
- Example:
  - ✓ If there are 50 participants, each participant is given 10% of the total votes. (e.g., 5 votes)
  - ✓ Voting is conducted once at the halfway point of the program and once during the final week, with the results reflected based on the learners' votes.

Codyssey Training Operations_Performance Presentation

Performance Presentation

- Teams present their completed projects (including demonstrations), and award-winning teams are selected and rewarded based on evaluations.

✓ **(Optional)** While evaluation scores are being calculated, teams or individual learners engage in activities to share insights and reflections.
✓ **(Optional)** Conduct surveys and distribute certificates.

Examples of Expert Evaluation Criteria for Team Projects

Team Project Evaluation Criteria Table

Program Completion (50)	Idea (Creativity) (20)	Application of Learning (15)	Presentation (15)
- Implementation of essential features - Code stability and absence of errors - Consideration of user experience (UX/UI)	- Distinctiveness from existing solutions - Original approach to problem-solving - Adoption of innovative and new technologies	- Practical application of course and learning content in the project - Ability to explain the technologies or concepts learned during development - Technical proficiency and understanding reflected in the final product	- Organization and visual quality of presentation materials - Logical flow and delivery of the presentation - Team participation and ability to respond to questions during Q&A

Codyssey Training Operations_Program Completion Criteria

Completion Criteria for Educational Programs

Completion Guidelines

- All educational programs are based on self-directed learning and peer-based collaboration.
  To ensure effective participation, the following activities are recommended:

  ✓ Participation in offline sessions (orientation, meetups, etc.)
  ✓ Weekly engagement in designated peer learning hours and peer evaluations
  ✓ Completion of the recommended number of problem-solving exercises each week

  ❖ **Note:**
  These recommendations and guidelines are subject to change at the discretion of the organizing institution or stakeholders.

Course Completion Benefits

- Completion benefits may vary depending on the policies or circumstances of each requesting institution.

  ➢ Awards and Scholarships
  ➢ Academic Credit Opportunities
  ➢ Certification

Codyssey Training Operations_Facilitation&Peer Learning Day

Facilitation

- Facilitation involves coaching learners from the perspective of software industry experts (SW industry professionals) by providing career counseling, sharing field experience, offering project guidance, and conducting code reviews.
  - **SW Industry Professionals**: Recommending appropriate experts, either internal to the organization or external professionals (from a pool of SW industry experts).
  - **Career Counseling**: Activities where SW industry professionals share their field experiences with learners and engage in open discussions.
  - **Code Review**: Providing expert guidance on the code learners have written or the deliverables they have created during their project work.

Peer Learning Day

- Peer Learning Day is recommended to help learners adapt to a structured learning approach and experience more collaborative peer learning through face-to-face activities.
- Peer learning days offer opportunities for learners to collaborate by providing a designated space for learning together, scheduled on the days or times identified through learner votes as having the highest potential for participation.
- To ensure effective operations, rewards and recognition systems are integrated to evaluate and encourage active participation from learners.

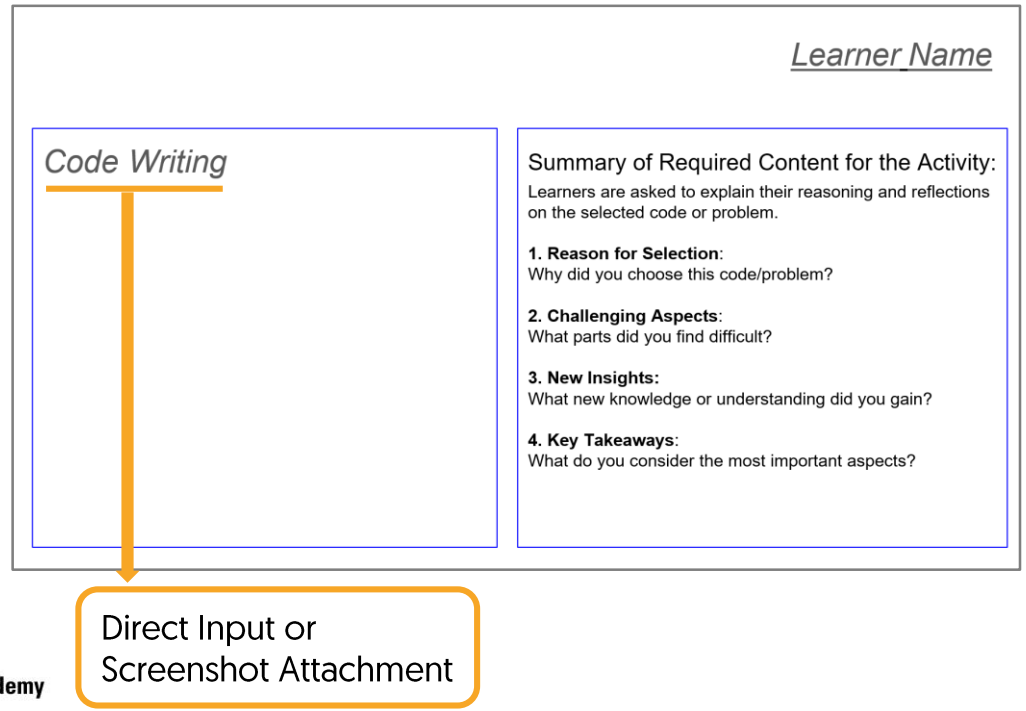
[Appendix] Examples of Activity Sheets

Guidelines for Using Meetup Activity Sheets

- Activity sheets are created for each learner or team, depending on the activity.
- Organizers provide the files or links to the activity sheets before the meetup.
  (Learners' names should be listed on the activity sheets before distribution.)
- Learners complete the activity sheets individually or collaboratively during the meetup session.

❖ Organizer-Provided Meetup Activity Sheet Examples

❖ Code Error Analysis Activity Sheet



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[Appendix] Examples of Activity Sheets

❖ Team Project Planning Activity Sheet

Team Name

Project Planning

[Plan] Describe the program you aim to create :

[Purpose] Explain why you want to develop this program :

[Development Plan] Outline the proposed program development process :

❖ Final Team Project Presentation Activity Sheet

Learner Name

- Presenting Team Name: *ABC*
- What this team aims to create:
- New insights gained:
- Things you liked:
- Feedback or suggestions for the team:

- Presenting Team Name:
- What this team aims to create:
- New insights gained:
- Things you liked:
- Feedback or suggestions for the team:

THANK YOU

Code Your Journey