**3. Register content of Capstone Project**

**(\*) 3.1. Capstone Project name:**

* English: Affiliate Network
* Vietnamese: Nền tảng tiếp thị liên kết giữa các công ty và đối tác.
* Abbreviation: ANF

1. **Context:**

Affiliate marketing is a cornerstone of digital advertising, allowing advertisers to increase brand visibility and sales while giving publishers opportunities to monetize their platforms. However, despite its growing popularity, the affiliate marketing ecosystem faces significant challenges that hinder its potential. These challenges include **fraudulent traffic**, **lack of transparency**, and **inefficiencies in campaign performance tracking**, which affect both advertisers and publishers.

The AffiliateNetwork platform aims to bridge these gaps by providing a **secure**, **efficient**, and **transparent** solution for **affiliate marketing**. The platform will offer advertisers a **centralized system to manage campaigns and track performance** while enabling publishers to **earn money by promoting campaigns** that align with their audiences. In addition, advanced fraud detection mechanisms and robust analytics will ensure a fair and optimized ecosystem.

1. **Proposed solution:**

A **web application** for advertisers, organizations and admin to manage the platform.

* ***Functional requirement****:*
* **Advertiser features:**
* **Campaign Creation and Management:**
  + Interface to create campaigns with details such as audience targeting (e.g., location, device, demographics).
  + Ability to set budgets and campaign objectives.
* **Real-Time Campaign Tracking:**
  + Monitor impressions, clicks, conversions, and overall ROI in real-time.
  + Access historical data for trend analysis and optimization.
* **Fraud Monitoring:**
  + Alerts for suspicious activities such as abnormal traffic spikes or invalid conversions.
  + Tools to block fraudulent traffic sources dynamically.
* **Reporting and Insights:**
  + Generate visualized reports with customizable metrics.
  + Export reports in formats like CSV or PDF.
* **Publisher features:**
* **Campaign Discovery:**
  + A searchable marketplace to find campaigns relevant to their audience.
  + Filters for campaign type, payout models (CPC, CPA, CPI, CPS,...), and advertiser ratings.
* **Earnings Tracking:**
  + Real-time dashboard displaying earnings, traffic sources, and conversion rates.
  + Tools to analyze traffic quality and performance.
* **Traffic Source Management:** Monitor, label, and optimize different traffic sources for performance and quality.
* **Referral Bonuses:** Extra-income for bringing other publishers to the platform.
* **Earnings Milestone Tracker:** Track progress toward achieving goals with motivational prompts.
* **Affiliate URL tools:** Tools help publishers generate tracking urls, shorten urls, optimize urls.
* **Fraud Defense:**
  + System to review and respond to fraud accusations with clear evidence.
  + Access to fraud prevention tips and tools to maintain traffic quality.
* **Platform-Wide features:**
* **Traffic Tracking System:**
  + Implementation of tracking pixels, URL parameters, and cookies for user action monitoring.
  + Centralized data storage in databases with high scalability.
* **Fraud Detection System**
* **Payment System**
  + Automated payment processing with secure encryption.
* **Dashboards and Reports:**
  + Centralized dashboards for advertisers and publishers with KPIs and traffic insights.
  + Customizable layouts for different user needs.
* **User Experience and Support:**
  + Simplified onboarding process for new users with tutorials.
  + A help center and 24/7 live support for issue resolution.
* **Administrator features:**
* **Fraud Investigation Dashboard:** A dedicated dashboard to investigate flagged activities with detailed insights into traffic anomalies.
* **Content Moderation Tools:** Review and approve campaigns to ensure compliance with platform policies and legal regulations.
* **Tax and Compliance Reporting**
* **API Usage Monitoring:** Track third-party integrations and monitor API usage for security and optimization.
* ***Non-functional requirement:***
* **Security:**
* Secure registration, authentication, and data encryption.
* **Data integrity:**
* Ensure data accuracy and consistency, with regular backups and interaction logs.
* **Maintainability:**
* Well-structured, documented codebase for easy maintenance and updates.
* **Reliability:**
* Support session recovery and reliable appointment scheduling.

(\*) 3.2. Main proposal content (including result and product)

1. **Theory and practice (document):**

* Students should apply the software development process and UML 2.0 in the modeling system.
* The documents include User Requirement, Software Requirement Specification, Architecture Design, Detail Design, System Implementation, and Testing Document, Installation Guide, sources code, and deployable software packages.
* Frontend: React, NEXT.js.
* Backend: ASP.NET Web API.
* Database: MySQL.
* Payment Gateway: VNPAY.
* Deployment: Docker, VPS, Microsoft Azure.
* Version Control: Git and GitHub for collaborative development.
* Project Management: Task assignment and progress tracking use Jira.

1. **Products:**

* Web application for advertisers, organizations and admin.
* API for platform.

1. **Proposed Tasks:**

* Task package 1: Requirement gathering and system design.
* Task package 2: Implementation of the web app / API
* Task package 3: Implementation of the API / backend
* Task package 4: Integration and testing of API.
* Task package 5: System deployment.
* Task package 6: Prepare all the required documents: System analysis and Design, Test plan, Installation manual, User manual.