Department of Computer Science and Engineering
Academic Year: 2025 - 2026 (Odd Semester)

Name of the Faculty member : Mrs.S.Shunmuga Priya, AP/CSE
Degree, Semester & Branch, Sec : B.E, V & CSE – 'B'
Course Code & Title : CCS375 WEB TECHNOLOGIES
Date & Time : 29.08.2025 & 3 PM to 3.25 PM

Innovative Practice II - Description

- Unit / Topic: Unit I / CSS3
- Course Outcome: CO1
- Topic Learning Outcome : TLO1c

- **Activity Chosen: Activity based Learning (Flip card)**

- **Justification**
  - Students need to learn various CSS3 properties such as `transform`, `transition`, and animation which are essential for creating dynamic visual effects on web pages. A Flip card based learning is an interactive component that flips to reveal hidden information, helping students understand the concept of transitions and transformations and animation properties in CSS. This activity demonstrates how CSS can be used to create engaging, animation-based interfaces without JavaScript and improves students' practical understanding of CSS3 animations and enhances their visual design skills.
  - It encourages creativity, interactivity, and aesthetic sense while strengthening the foundational concepts of front-end web development.

Time Allotted for the Activity: 25 Minutes

Implementation:

1. Faculty explained the CSS3 properties such as transform, transition, and animation in the previous class.
2. Students were divided into three teams to perform the activity, each encouraged to apply their own ideas using CSS3 transformation, transition, and animation properties.
3. Team 1 created an interactive quiz using flip cards, where each card played a specific role in presenting the question and answer. Card 1 displayed the main question, capturing the attention of the user. Cards 2 and 3 provided clues or hints to guide the user toward the correct answer, helping in step-by-step reasoning. Finally, Card 4 revealed the correct answer, completing the interactive sequence. The team applied CSS3 transformations to

rotate and flip the cards when the user hovered over them, creating a dynamic effect. CSS3 transitions were used to ensure the flipping and fading effects occurred smoothly, enhancing visual appeal.

4. Team 2 focused on creating an interactive personal portfolio using CSS3 flip card effects. Each team member contributed to designing cards that visually represented sections of their personal information. The front side of each card displayed a title, such as “About Me”, “Education”, or “Skills”. When a user hovered over or clicked the card, it flipped smoothly to reveal detailed personal information on the back side. CSS3 transformations were used to create the flipping effect, while transitions ensured smooth and responsive animation.
5. Team 3 developed an interactive display of college information using CSS3 flip cards. Each card was designed to showcase a specific aspect of the college, such as campus facilities, departments, extracurricular activities, or achievements. The front side of the card contained a title, icon, or image representing the topic, while the back side revealed detailed information when the card was flipped as shown in figure 1.
6. CSS3 transformation concepts such as transform, transition, animation and perspective were introduced. Each card was created using elements and styled using CSS. The flip-card container provided the 3D effect using the perspective property. Smooth flipping animation was achieved using transition: transform 0.8s ease-in-out. Cards were customized with background colors, borders, and fonts using CSS to enhance visual appeal.
7. At the end of the activity, the instructor asked a few pairs of students to come to the front of the class and demonstrate their flip card simulation. Each pair explained how CSS3 transformations, transitions, or animations were applied as shown in figure 2.

CO – PO / PSO mapping:

CO →	**PO1**	**PO2**	**PO3**	**PO9**	**PO10**	**PO11**	**PSO1**
CO1	3	3	3	1	2	2	3

PO-PSO Mapped:

Innovative Practice	**PO1**	**PO2**	**PO3**	**PO9**	**PO10**	**PO11**	**PSO1**
	3	3	3	1	2	2	3
Justification for Correlation	Students apply web technology knowledge (CSS3 properties) to design the web site.	They analyze how to implement the CSS effect without JavaScript, solving design constraints	Students design a creative, interactive profile card that meets usability needs.	The activity may be done individuall y or in groups, fostering collaborati on and creativity.	Students explain and present their design choices effectively in demos	Students manage time and resources to complete the project within deadlines, reflecting project management skills.	Strengthens practical skills in front-end web development using HTML5 and CSS3.

- Images / Screenshot of the practice:

Figure 1

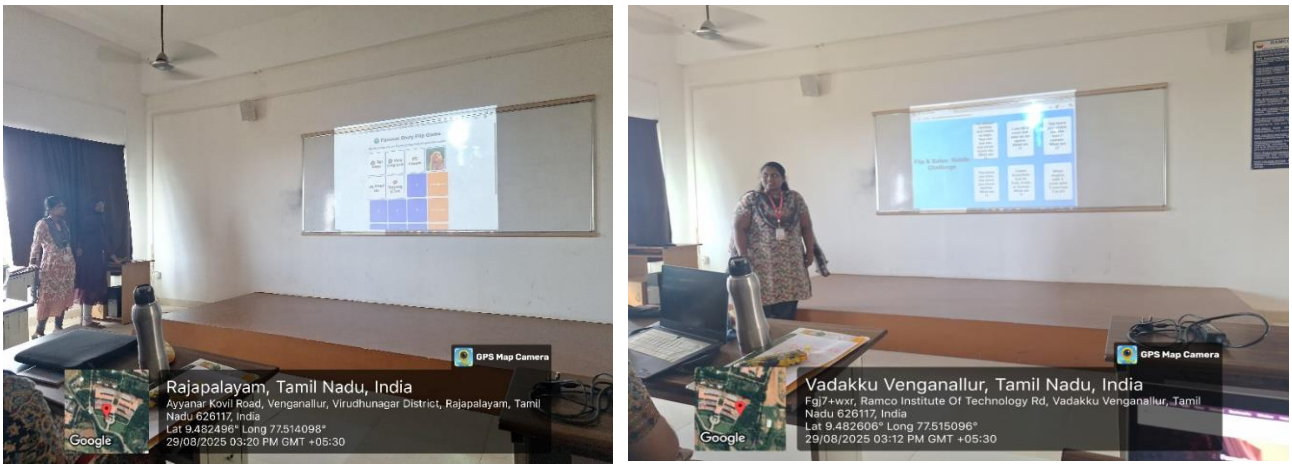

Figure 2

Reflective Critique

Outcome

- Students successfully implemented functional flip cards using HTML5 and CSS3, gaining hands-on experience with transformations, transitions, and animation techniques.
- This activity strengthened understanding of CSS3 transformations and transitions. It encouraged creativity, teamwork, and visualization of design principles in web technology.

- They developed a strong understanding of CSS properties such as perspective, transform-style, backface-visibility, and transition timing functions.
- The activity enhanced their ability to create interactive and visually appealing user interfaces with smooth flipping animations.

- Benefits of the Practice
    - Strengthens understanding of CSS3 Transition and animation properties**.**
    - Improves design thinking and creativity**.**
    - Students learn how to build interactive components without relying on JavaScript.
    - Helps students apply the concept in portfolios, resumes and building websites.
    - Enhances their confidence to attempt front-end development tasks in real-world applications.

- Challenges Faced in Implementation

    - Some students initially had difficulty understanding how the hidden side of a rotating element works.
    - A few students found it confusing to visualize which side of a flipped card is visible at a time.
    - Some found it challenging to maintain card alignment during the flip effect.

References

https://www.extramarks.com/blogs/teachers/activity-based-learning/

https://en.wikipedia.org/wiki/Activity-based_learning_in_India

https://helpfulprofessor.com/problem-based-learning-examples/