Area: Circuit Synthesis, Web Application
Title: Circuit Synthesis as a Web Application – Web Application for synthesizing Implementation of Synchronous Sequential Circuit from its State Transition Diagram.
Objective: To design and Implement a Web-based platform using which the user can draw the state transition diagram of a synchronous sequential circuit and derive its implementation (in terms of flip-flops of desired types and logic gates)
Background Study: Digital Logic (Synchronous Sequential Circuit Design), Web Application Development (HTML, Javascript, PHP, XML)

Subtasks to start with:

- **Common For Everyone**
  1. Make Apache web-server (with PHP support) work at your laptop/desktop computer (By default it should be working at Linux stations). (Time to spend: 1 hour)
  2. Write (and/or collect from the Internet) simple html, CSS, javacscript, PHP codes and see that your browser + web server working as desired.
  3. Collect **Reference** Study Materials for HTML, CSS, Javacsript, PHP, (Time to spend: 2 hours)
  4. To learn how to design synchronous sequential circuits (4 hours) (It is a part of the Digital Logic Course offered at 3rd Semester)
- **To be distributed among the team members**
  1. Draw a point (a circle with a small radius) in the web-browser wherever (in the browser) the left mouse button is clicked.
  2. Draw connected straight lines (polylines) in the web-browser – There will be a sequence of clicks of the left mouse button, where the 1st click will draw a point (a circle with a small radius) and subsequent clicks will draw a point as well as a straight line connecting the present point and the previous point. A click of the middle mouse button ends the process.
  3. Draw a circle with a fixed radius in the web-browser wherever (in the browser) the left mouse button is clicked.
  4. Let a number a number of `*circles*' be stored (in terms of their centers' co-ordinates and radii) as an XML document in a file. Write a PHP program that reads such a file and draws the circles in the browser.
  5. **"**Spline is a flexible strip used to produce a smooth curve through a designated set of points". Choose some spline algorithm and draw a spline in the web-browser through the points marked by the clicks of the left mouse-button.