

## Computer Apps Challenge 2018

The simulation app challenge involves the design and creation of an app that simulates a real process or system. Both middle and high school students will participate in all three categories of:

**App Performance-** Teams will explain and demonstrate how the simulation works to a panel of judges.

**Technical paper-** Two weeks in advance of WA MESA Day teams will submit a 5-10 page technical paper (MS word or pdf format) which examines the use of models and simulations in real-world process and systems.

**Academic Poster-** Teams will complete a summary of the idea generation, data on user feedback of prototype, photographs or drawings and any other ideas which can help to explain the process or system for which the simulation is designed.

A rubric will be used to score each section separately and the scores from all three sections will be tabulated to determine category and the overall challenge winners. *Please note specifics in corresponding rubrics.*

### Rules

Team will be comprised of 2-4 students working collaboratively to design and create a functional simulation app that integrates STEM concept (s).

#### 1) Idea illustration

- a. The App presents a user flow chart to demonstrate logical and reasonable user navigation.
- b. Presents a clear description of the typical user/user market based on research and user feedback data (*should be seen in both Technical Paper and Academic Poster*)
- c. The App is creative and addresses a STEM concept.
- d. App clearly models a simple process, procedure or the performance of a task.

#### 2) Create a model-to represent characteristics or functions behind the visualization

- a. The model is clear (logic and the rules behind the simulation)
- b. The visualization design is clear (the images and graphics that show the simulation resulting from the model)
- c. The app is aligned with the underlying STEM concept
- d. Scratch, AppInventor2 or other visual based program was used to design the simulation

#### 3) Participation of All team members

- a. Participating team members must be involved in the demonstration of the model and the visualization.
- b. Team members must introduce the simulation and explain why they choose it
- c. Team must display the simulation for the judges and explain how it works.
- d. The team will have 10 minutes total.