NICHOLAS BURKHART, Dept of Computer Science, Mathematics and Engineering, Shepherd University, Shepherdstown, WV, 25443, and WEIDONG LIAO, Dept of Computer Science, Mathematics and Engineering, Shepherd University, Shepherdstown, WV 25443, and OSMAN GUZIDE, Dept of Computer Science, Mathematics and Engineering, Shepherd University, Shepherdstown, WV 25443. An overview of WebAssembly.

In this presentation, we will give an overview of the capabilities of WebAssembly and how it can be employed for further Web development. Traditionally, client side web development mainly makes use of HTML, CSS, JavaScript and JavaScript libraries such as Bootstrap. WebAssembly and Blazor makes it possible to take advantage of comprehension from high level programming languages, such as C#, into the web development environment.

   There are many benefits that come with using WebAssembly and therefore high level programming languages in client-side Web development, such as increased performance for web applications and security. Since it can take full advantage of hardware capabilities, WebAssembly can speed up the execution of Web applications. The client-side security has been one of the weaknesses of JavaScript. With the adoption of WebAssembly, better security may be assured as WebAssembly can act on both the frontend and backend.

   Currently four of the major browsers are supporting WebAssembly: Chrome, Safari, FireFox, and Edge. We envision WebAssembly will gain more popularity in client-side web development in the near future.