



MICHIGAN STATE  
UNIVERSITY

# Beta Presentation

## Web Interface for Car Simulation Tool

### The Capstone Experience

Team Bosch

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Spring 2023



*From Students...  
...to Professionals*

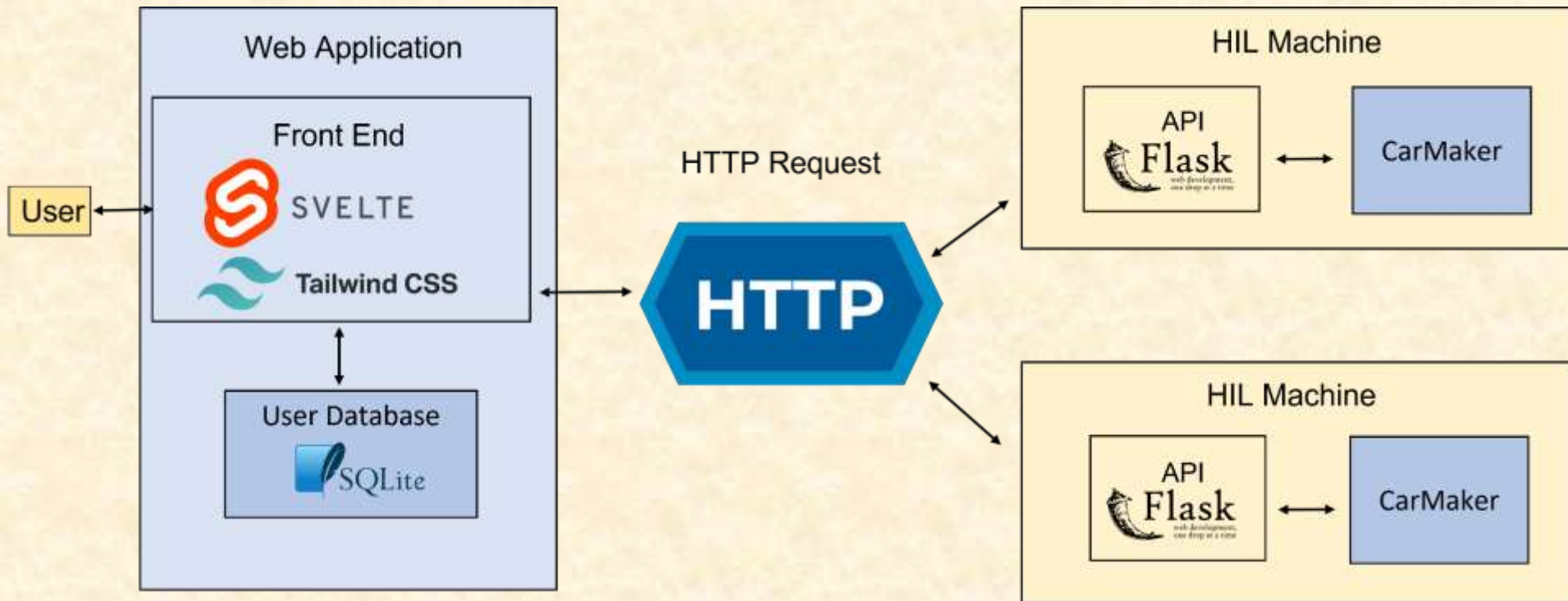
# Project Overview



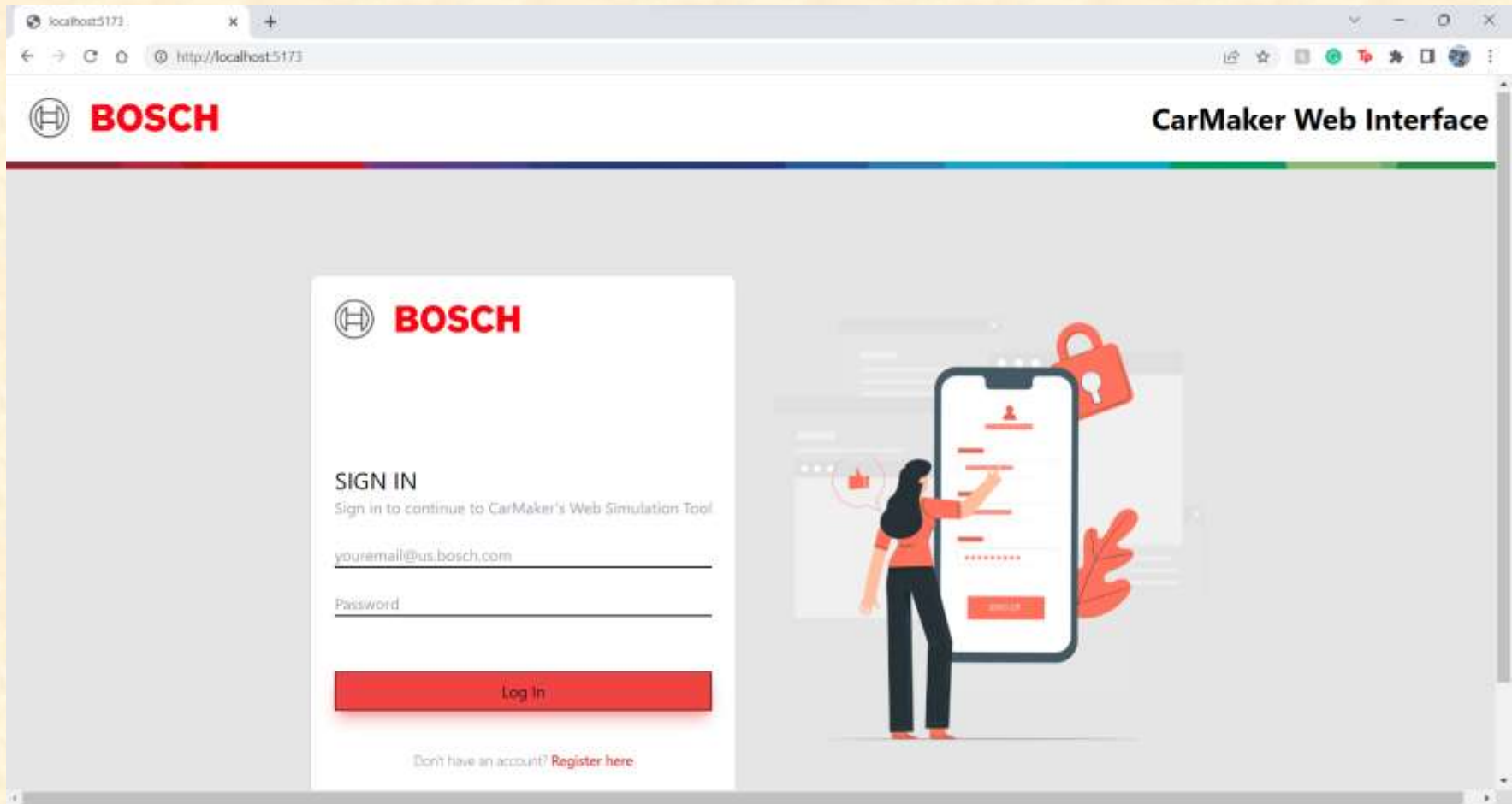
- The purpose of our project is to develop an easier way for Bosch Engineers to run and modify simulations through CarMaker, a software used to model, test, and produce autonomous vehicles.
- Bosch Engineers will have the ability to load scenarios and vehicles, start and stop simulations, edit the configuration files (n-values/k-values) and view and download a result file based off the simulation results



# System Architecture




# Log-In




# Register

localhost:5173/register x +

← → ↻ ⌂ http://localhost:5173/register

 **BOSCH** **CarMaker Web Interface**

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 **BOSCH**

### Create an account

**Name**

**Email**

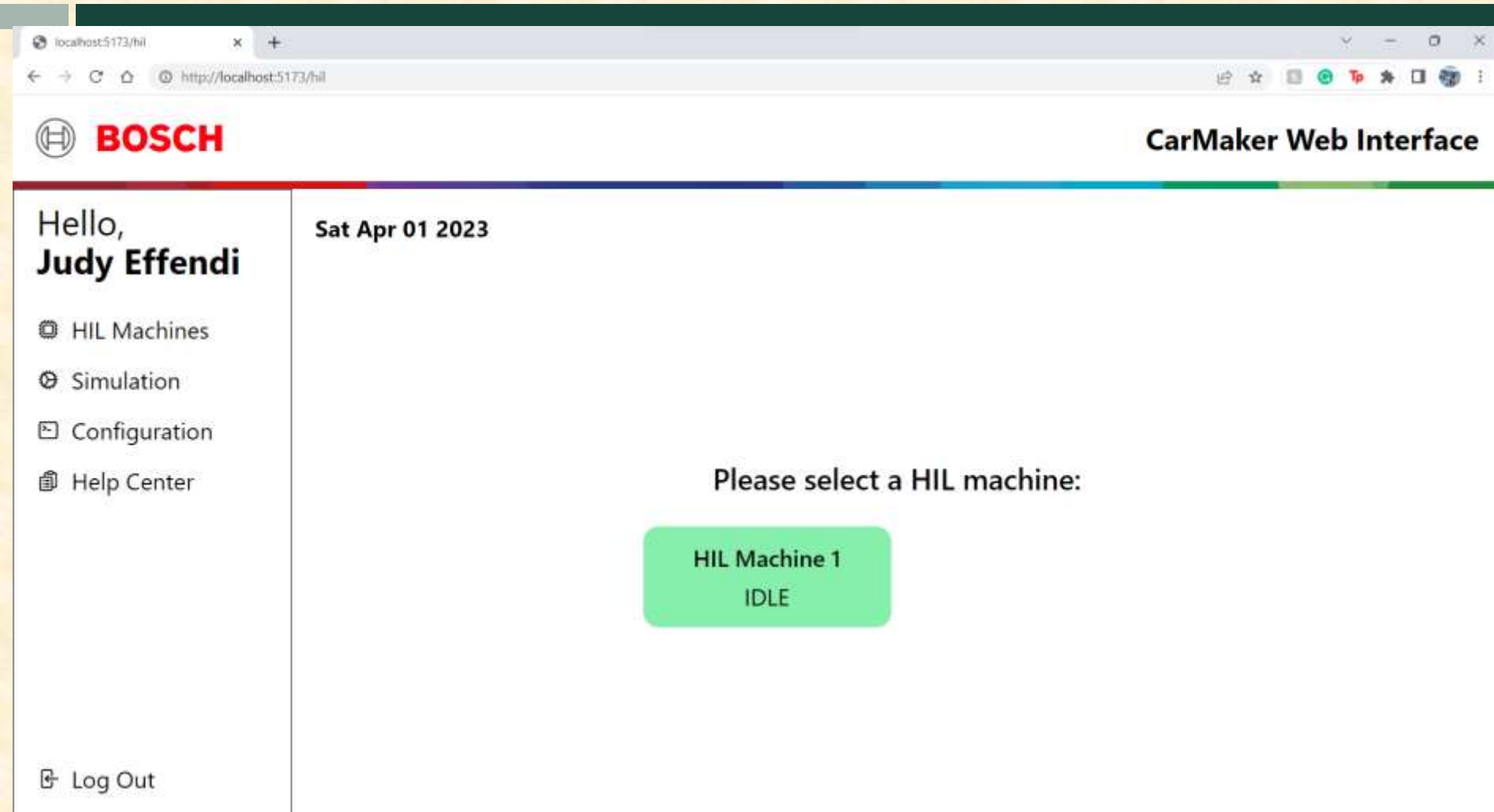
**Password**

**Confirm Password**

[Register](#)



# HIL Selection



The screenshot shows a web browser window with the URL `http://localhost:5173/hil`. The page features the Bosch logo and the title "CarMaker Web Interface". A navigation sidebar on the left includes "HIL Machines", "Simulation", "Configuration", "Help Center", and "Log Out". The main content area displays the date "Sat Apr 01 2023" and a prompt "Please select a HIL machine:" with a green button labeled "HIL Machine 1 IDLE".

localhost:5173/hil

http://localhost:5173/hil

**BOSCH**

CarMaker Web Interface

Hello,  
**Judy Effendi**

Sat Apr 01 2023

- HIL Machines
- Simulation
- Configuration
- Help Center

Log Out

Please select a HIL machine:

HIL Machine 1  
IDLE

# Simulation Page

The screenshot shows a web browser window displaying the Bosch CarMaker Web Interface. The browser address bar shows the URL `http://localhost:5173/simulation`. The page features the Bosch logo in the top left and the title "CarMaker Web Interface" in the top right. A sidebar on the left contains a greeting "Hello, Judy Effendi" and a navigation menu with items: "HIL Machines", "Simulation", "Configuration", "Help Center", and "Log Out". The main content area displays the date and time "Mon Apr 03 2023" and "HIL Machine 0". Below this, there are three dropdown menus for "Project Files" (selected: "testing\_project"), "Vehicle Names" (selected: "Demo\_Audi\_R8"), and "Scenario Names" (selected: "n\_value\_example"). A "Configuration Page" section includes a yellow "Configuration Tools" button. To the right, "Simulation Controls" features a green "Start" button and a red "Stop" button. The "CarMaker Scenario Results" section contains a table with two columns: "FILENAME" and "DOWNLOAD". The table has one row with "Output File" in the filename column and a "Download Processed File" button in the download column.

localhost:5173/simulation x +  
http://localhost:5173/simulation

**BOSCH** CarMaker Web Interface

Hello, Judy Effendi

- HIL Machines
- Simulation
- Configuration
- Help Center
- Log Out

Mon Apr 03 2023  
HIL Machine 0

Project Files: testing\_project  
Vehicle Names: Demo\_Audi\_R8  
Scenario Names: n\_value\_example

Configuration Page: Configuration Tools

Simulation Controls: Start Stop

CarMaker Scenario Results

FILENAME	DOWNLOAD
Output File Select a file	Download Processed File



# Configuration Page

localhost:5173/configuration x +  
http://localhost:5173/configuration

**BOSCH** CarMaker Web Interface

Hello, **Judy Effendi**

Mon Apr 03 2023  
HIL Machine 0

- HIL Machines
- Simulation
- Configuration
- Help Center

Log Out

### N-Value Configuration

Variable	Value
angle	90
radius	200
speed	100
time	30

Save

### Output Variables

Search:

- APO.Debug
- APO.DictMsgSize
- APO.nQuantities
- Brake.Hyd.CU.BooSignal
- Brake.Hyd.CU.Park
- Brake.Hyd.CU.Pedal
- Brake.Hyd.CU.PumpCtrl
- Brake.Hyd.CU.Valve\_In\_FL

Save





# Documentation Page

The screenshot shows a web browser window with the URL `http://localhost:5173/contact`. The page features the Bosch logo in the top left and the title "CarMaker Web Interface" in the top right. A navigation menu on the left includes "HIL Machines", "Simulation", "Configuration", and "Help Center". The main content area has a red header with the heading "CarMaker Documentation" and a sub-heading: "Would you like to get to know our simulation platform CarMaker better? Are you looking for tips and tricks for the application of our solutions in virtual test driving? Or would you like to learn something new?". Below this are three white boxes: "What is CarMaker?" (describing the simulation tool), "See Documentation" (with links for "Reference Manual", "UserGuide", and "HIL UserGuide"), and "Contact" (with an email address and a "Send Email" button).

localhost:5173/contact

http://localhost:5173/contact

**BOSCH**

CarMaker Web Interface

Hello,  
**Judy Effendi**

- HIL Machines
- Simulation
- Configuration
- Help Center

## CarMaker Documentation

Would you like to get to know our simulation platform CarMaker better? Are you looking for tips and tricks for the application of our solutions in virtual test driving? Or would you like to learn something new?

### What is CarMaker?

CarMaker is a closed loop vehicle simulation tool that provides developers a configurable vehicle and environment to develop scenarios to simulate and evaluate different vehicle safety functions and features. CarMaker allows developers to perform pure virtual simulations or hybrid simulations where either hardware or real vehicles taking part in the simulation.

### See Documentation

- [Reference Manual](#)
- [UserGuide](#)
- [HIL UserGuide](#)

### Contact

Please reach out to [lucas.ringe@us.bosch.com](mailto:lucas.ringe@us.bosch.com) if you have any questions

[Send Email](#)



# What's left to do?

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- Features (complete)
- Stretch Goals
  - Configurable writeable d-dict vals
- Other Tasks
  - Fix UI to Bosch Standards
  - Delete output files



# Questions?

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