



Alpha Presentation

DSL IDE Test Harness

The Capstone Experience

Team Roosevelt Innovations Knowledge Science

Chase DeVries

Christian Lulaj

Jason Harris

Kristian Rica

Xinghe Zhang

Department of Computer Science and Engineering

Michigan State University

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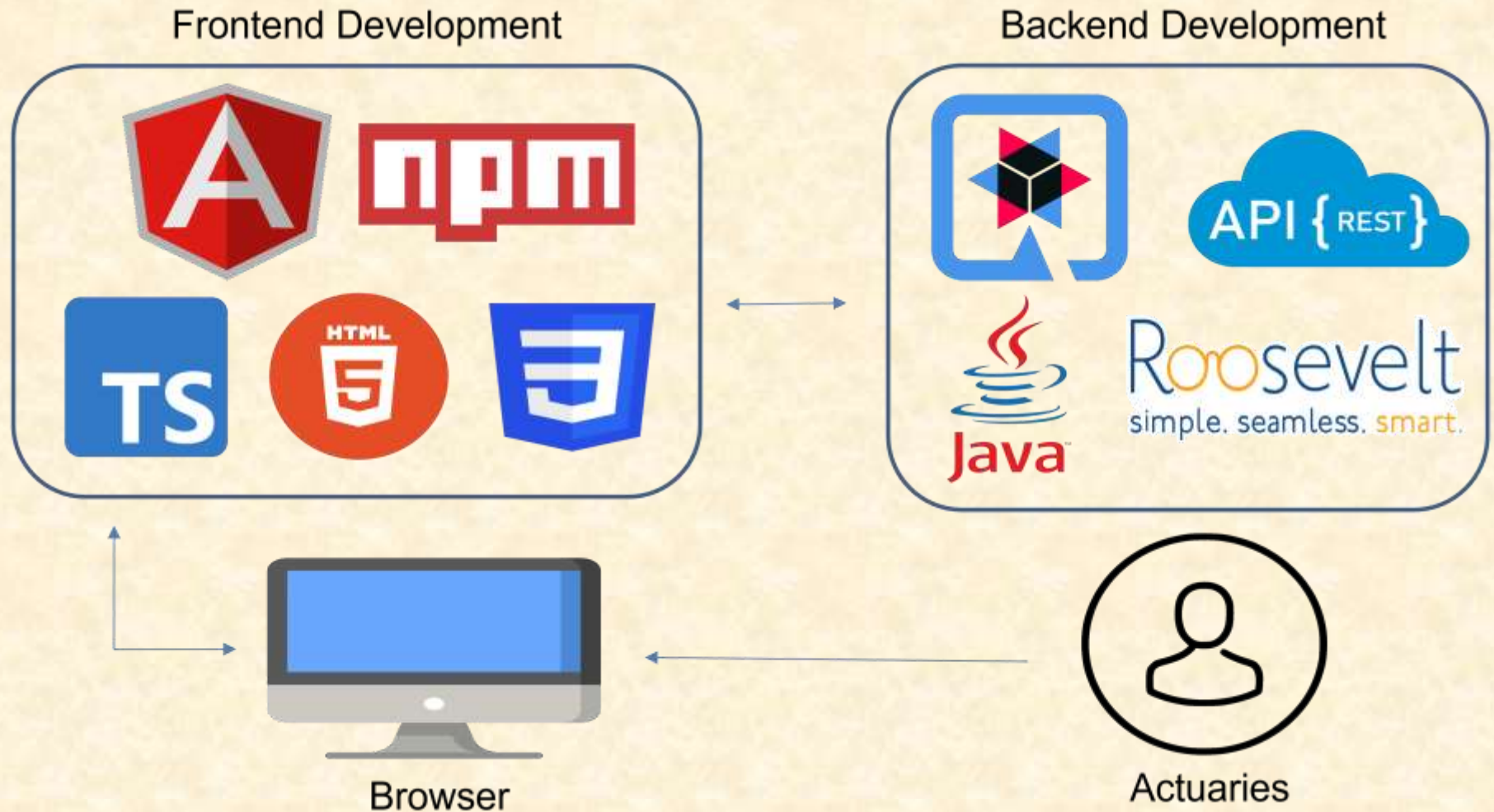
*From Students...
...to Professionals*

Project Overview

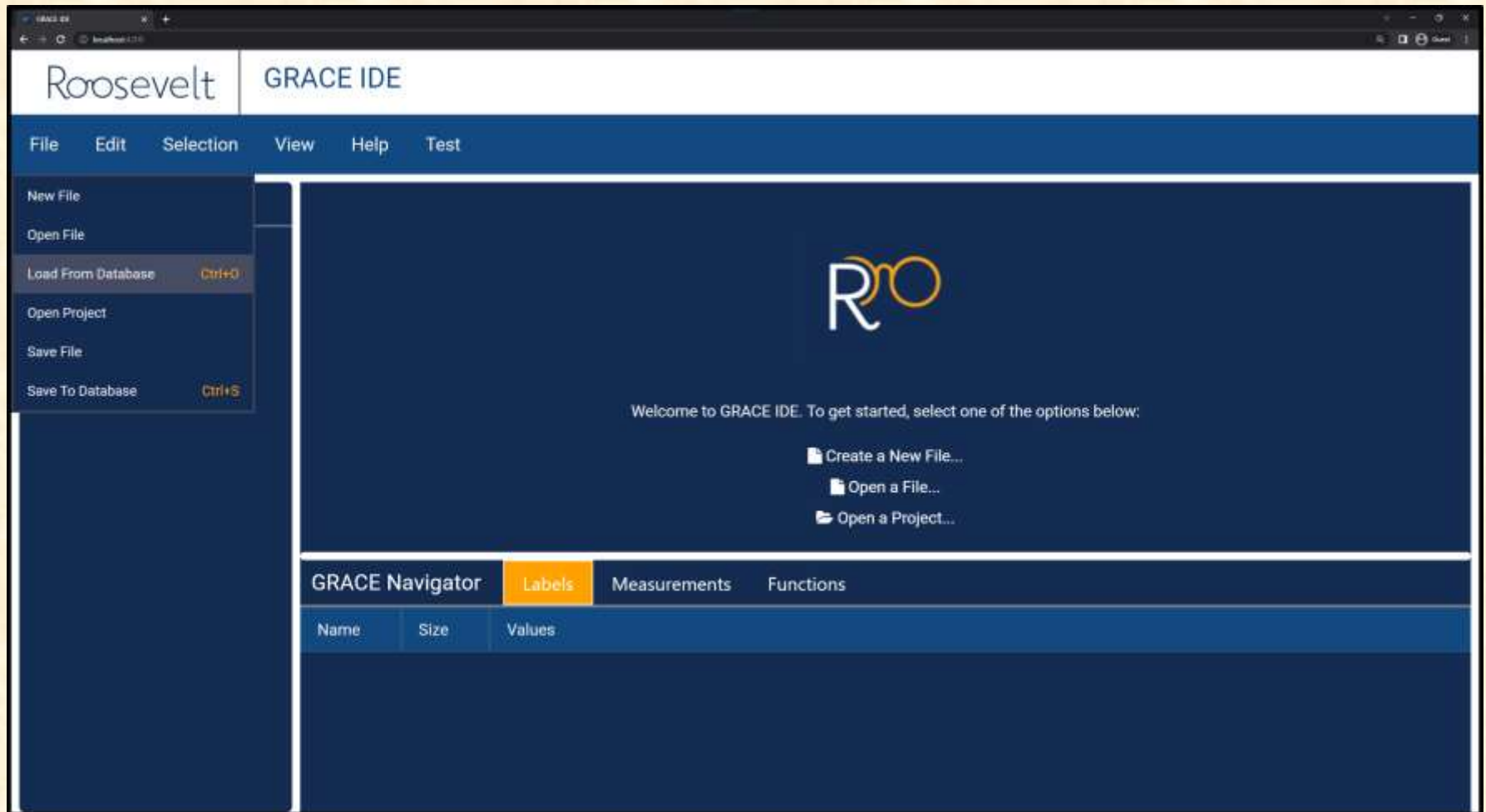
- Create a GRACE program testing environment
- Dynamically update testing environment based on user conditions
- Perform and return a mock rate calculation based on user inputs and conditions



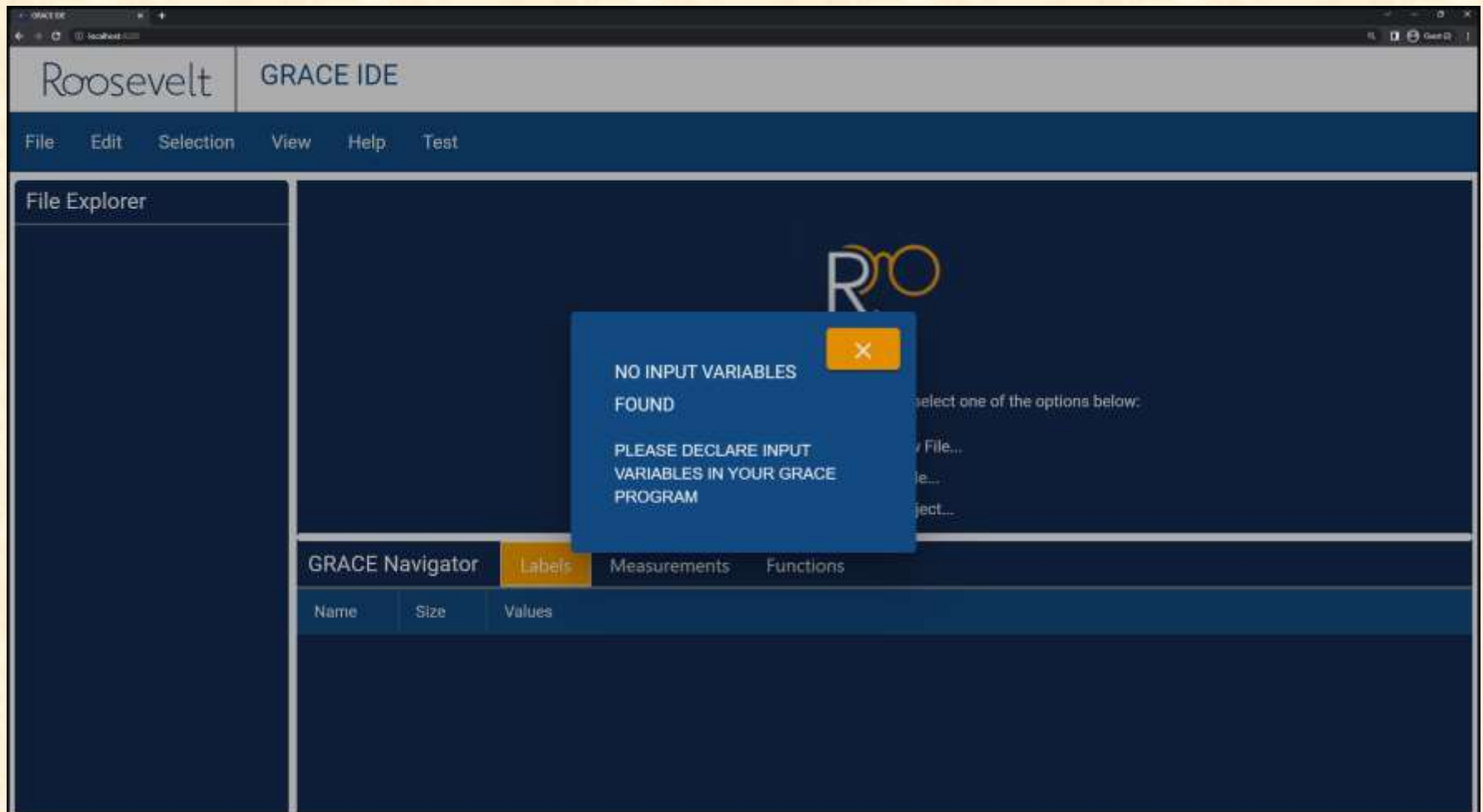
System Architecture



Main UI



Error Window



Testing Window

The screenshot displays the GRACE IDE interface. The top bar shows the 'Roosevelt' logo and the title 'GRACE IDE'. Below this is a menu bar with 'File', 'Edit', 'Selection', 'View', 'Help', and 'Test'. The main workspace is divided into three panels. On the left is the 'File Explorer'. The center panel shows a code editor with a file named 'GRACE-Rate-Formula'. The code is as follows:

```
1 program com.sample.rate
2   &Network : { "PPD",
3   &DentalProcedure : {
4
5   // Input Declaration
6   InitialFlag : Boolean
7   DateOfBirth : Date <-
8   NumberOfChildren : Integer <-
9   Gender : Integer <-
10  Married : Boolean <-
11
12  BaseSeverity : Number
13  Utilization : Number
14  Severity : Number[&N]
15  BaseSeverity[&N, "0"]
16    50.0, 55.0, 120.0,
17    60.0, 65.0, 140.0,
18  };
```

On the right is a 'Test' window titled 'Enter Information to Complete Test'. It contains the following fields:

- Date of Birth: 03/21/1974
- Number of Children: 2
- Married: ☒
- Gender: Male

A 'Submit' button is at the bottom of the test window. A red arrow points from the 'DateOfBirth' line in the code to the 'Date of Birth' field in the test window.

At the bottom of the interface is the 'GRACE Navigator' panel, which contains a table with the following data:

Name	Size	Values
&DentalProcedure	4	Cleaning, X-ray, Tooth Extraction, Crown
&Network	2	PPD, Premier



Results Window

The screenshot displays the GRACE IDE environment. The top bar shows the 'Roosevelt' logo and the text 'GRACE IDE'. Below this is a menu bar with 'File', 'Edit', 'Selection', 'View', 'Help', and 'Test'. On the left is a 'File Explorer' panel. The main area is a code editor titled 'GRACE-Rate-Formula' containing the following code:

```
1 program com.sample.rate;
2 &Network : { "PPO", "Premier" };
3 &DentalProcedure : { "Cleaning", "X-ray", "Tooth Extraction", "Crown" };
4
5 // Input Declaration
6 InitialFlag : Boolean <- false;
7 DateOfBirth : Date <- null;
8 NumberOfChildren : Integer <- 0;
9 Gender : Integer <- 0;
10 Married : Boolean <- false;
11
12 BaseSeverity : Number <- 0;
13 Utilization : Number <- 0;
14 Severity : Number[&N] <- 0;
15 BaseSeverity[&N, &D] = {
16     50.0, 55.0, 120.0, 1000.0,
17     60.0, 65.0, 140.0, 1200.0
18 };
```

A 'Test Results' dialog box is overlaid on the code editor, displaying the message: 'The calculated rate is \$45.83'. Below the message is a 'Test Again' button. The dialog box has a close button (X) in the top right corner.

At the bottom of the IDE is the 'GRACE Navigator' panel, which has tabs for 'Labels', 'Measurements', and 'Functions'. The 'Labels' tab is currently selected, showing a table with the following data:

Name	Size	Values
&DentalProcedure	4	Cleaning, X-ray, Tooth Extraction, Crown
&Network	2	PPO, Premier



What's left to do?

- Set up rate calculation service
- Send multiple data measurements from UI to calculation service
- Account for all input data types in UI window
- Add ability to load and save test cases



Questions?

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