

MICHIGAN STATE

UNIVERSITY

Alpha Presentation

DSL IDE Test Harness

The Capstone Experience

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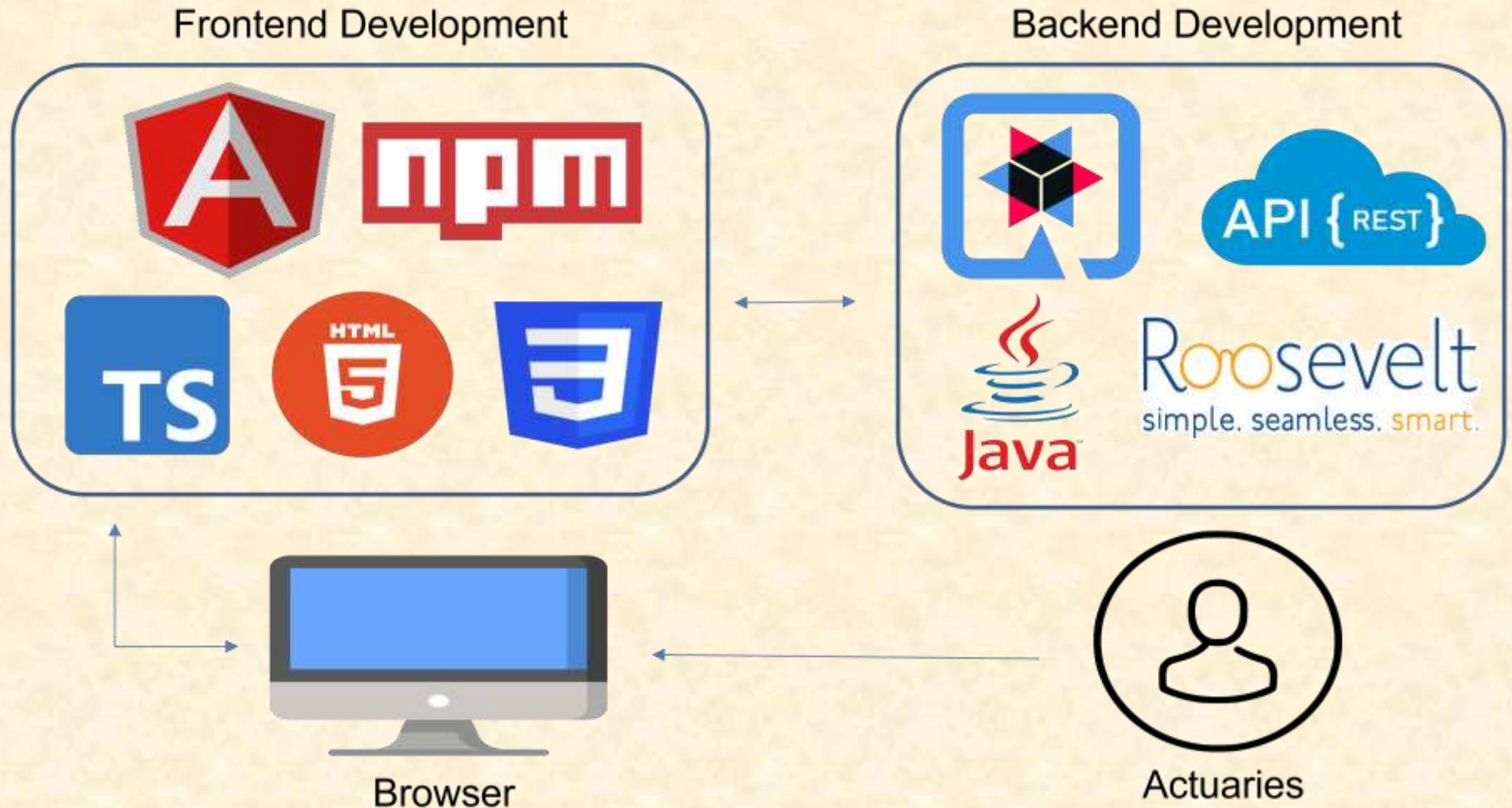
*From Students...
...to Professionals*

Project Overview

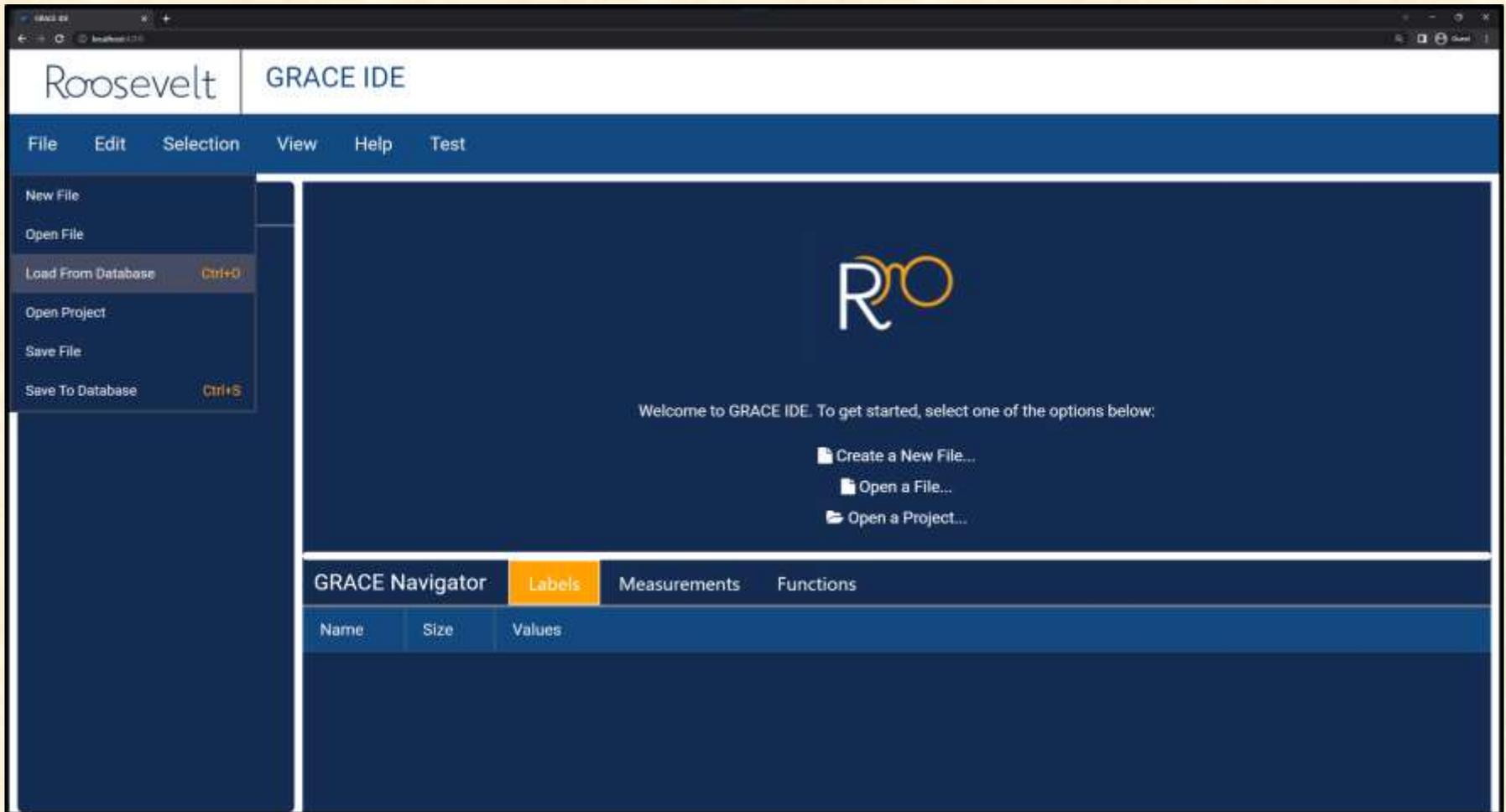
- Create a GRACE program testing environment
- Dynamically update testing environment based on user conditions
- Perform and return a mock rate calculation based on user inputs and conditions



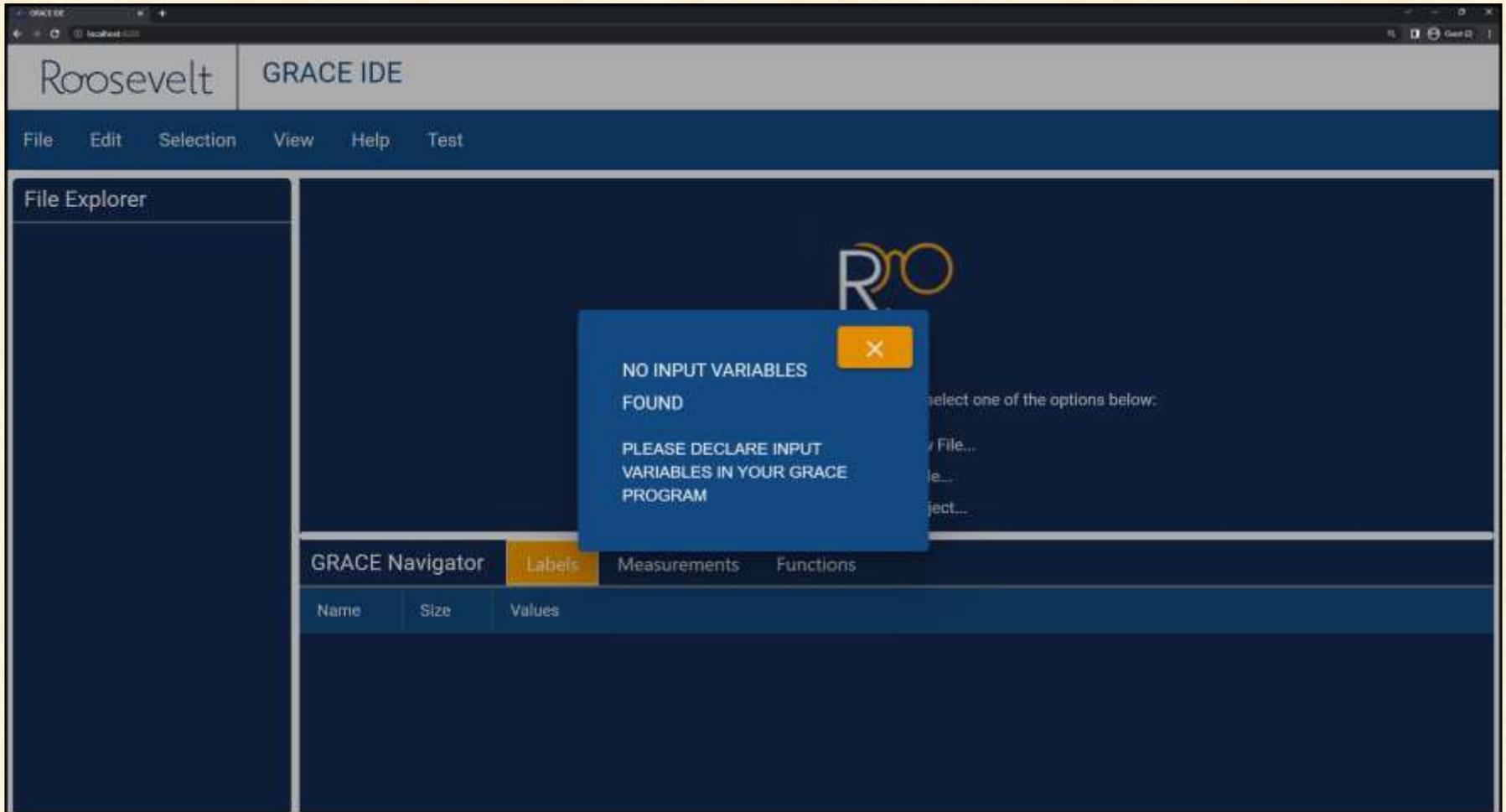
System Architecture



Main UI



Error Window



Testing Window

The screenshot displays the GRACE IDE interface. At the top, the title bar reads "Roosevelt GRACE IDE". Below it is a menu bar with "File", "Edit", "Selection", "View", "Help", and "Test". On the left, a "File Explorer" pane is visible. The main area is a code editor showing a snippet of code for a program named "com.sample.rate". The code includes variables for "DateOfBirth", "NumberOfChildren", "Married", "BaseSeverity", "Utilization", and "Severity". A blue dialog box titled "Enter Information to Complete Test" is overlaid on the code editor. It contains input fields for "Date of Birth" (03/21/1974), "Number of Children" (2), a checked "Married" checkbox, and a "Gender" dropdown menu set to "Male". A "Submit" button is at the bottom of the dialog. Below the code editor is a "GRACE Navigator" pane with a table of variables and their values.

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



Results Window

The screenshot shows the GRACE IDE interface. The main window is titled 'Roosevelt GRACE IDE'. The menu bar includes 'File', 'Edit', 'Selection', 'View', 'Help', and 'Test'. The 'File Explorer' is on the left. The main editor shows a file named 'GRACE-Rate-Formula'. The code in the editor is as follows:

```
1 program com.sample.rate;
2 &Network : { "PPD", "Premier" };
3 &DentalProcedure : { "Cleaning", "X-ray", "Tooth Extraction", "Crown" };
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, &D] <- ;
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. It contains the text 'The calculated rate is \$45.83' and a 'Test Again' button.

The 'GRACE Navigator' at the bottom shows a table with the following data:

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