

**MICHIGAN STATE**  

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**UNIVERSITY**

# Alpha Presentation

## General Rate Calculation Environment Shell

### The Capstone Experience

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

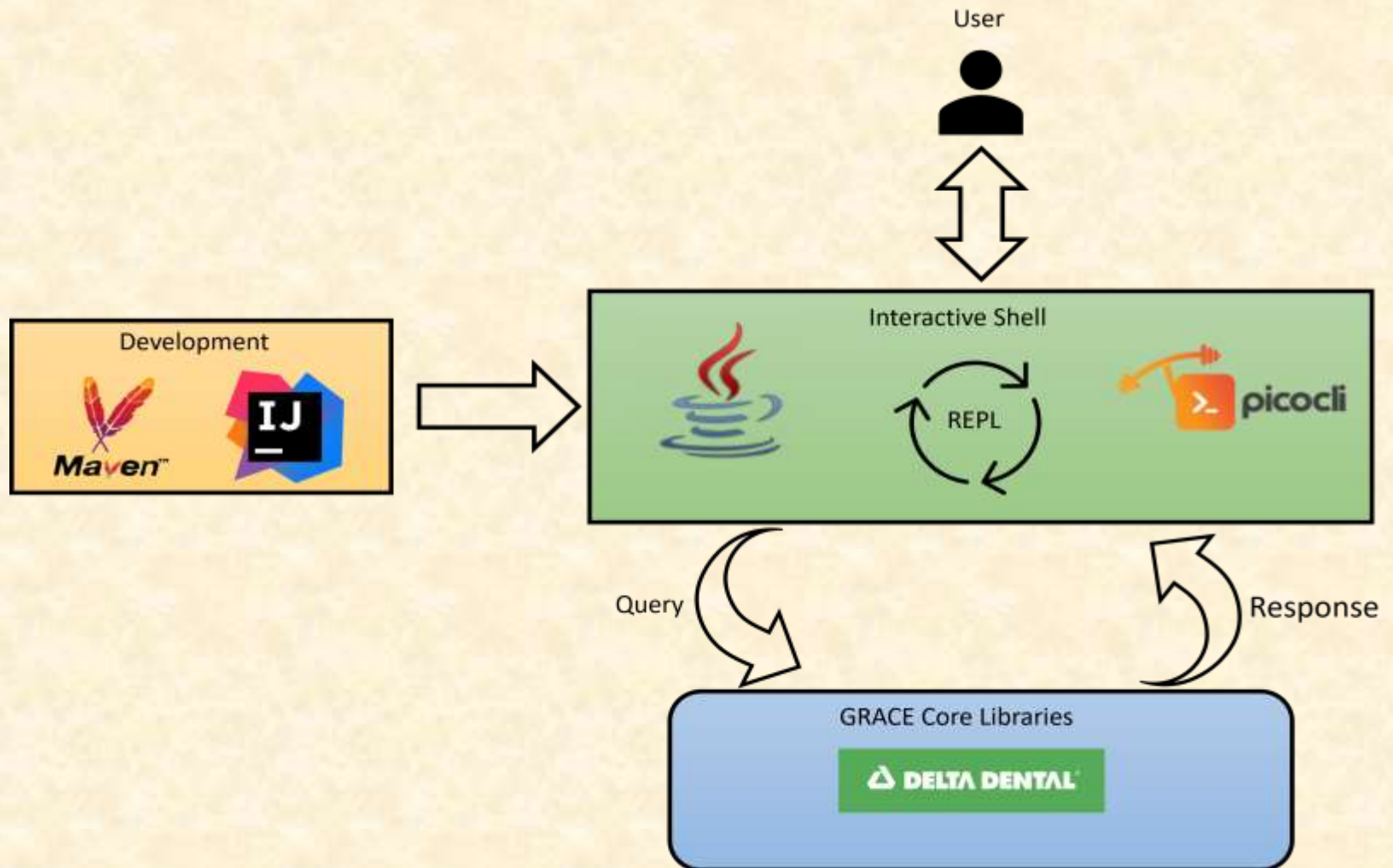
# Project Overview

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- The multitude of factors to consider make rate calculation a very convoluted process
- Solution architecture General RAte Calculation Environment (GRACE) and its DSL are aimed to tackle these challenges
- Create a REPL shell to add console level support for GRACE so that anyone can use the tool effectively



# System Architecture



# Starting and Help Command

```
GRACE-Shell — java ◀ grace — 95x23
david@Davids-MBP GRACE-Shell % ./grace
GRACE>>> label

Usage:

label [-hv] [COMMAND]

Description:

Handles a label command and its various options

Options:

-h, --help      Displays this message.
-v, --verbose   Output more command information.

Commands:

delete, --delete, -d  Deletes the label with the given name
list, --list, -l      Lists all current labels
spec, --spec, -s     Creates or updates a label depending on whether the
                      name exists

GRACE>>> |
```



# Some Example Commands

```
GRACE-Shell — -zsh — 95x23
david@Davids-MBP GRACE-Shell % ./grace
GRACE>>> let DentalProcedure [Premier, Cleaning] = 60.0
DentalProcedure[Premier, Cleaning] = 60.0
GRACE>>> labelmapper list
All label mappers:
PPO ==> Cleaning
PPO ==> X-Ray
PPO ==> Tooth Extraction
Premier ==> Cleaning
Premier ==> X-Ray
Premier ==> Tooth Extraction
GRACE>>> label spec Crown 1000.0 1200.0
Creating label: Crown
with values:
1000.0
1200.0
GRACE>>> exit
david@Davids-MBP GRACE-Shell %
```



# Importing files

```
GRACE-Shell — java • grace — 80x24
david@Davids-MBP GRACE-Shell % ./grace
GRACE>>> program -i ../test
Importing file: ../test
>>> program ls
generated-sources
classes
archive-tmp
maven-status
maven-archiver
GRACE-Shell-0.1-jar-with-dependencies.jar
GRACE-Shell-0.1.jar
>>> label -l
>>> let CreatedLabel [val1, val2, val3] = 5
CreatedLabel[val1, val2, val3] = 5
>>> label spec AnotherNewLabel val4 val5 val6
Creating label: AnotherNewLabel
with values:
val4 val5 val6
>>> label -l
AnotherNewLabel: [val4, val5, val6]
>>> label -d AnotherNewLabel
Deleting label: AnotherNewLabel
>>> label -l
GRACE>>>
```

```
GRACE-Shell — vim test — 80x24
program ls
label -l
let CreatedLabel [val1, val2, val3] = 5
label spec AnotherNewLabel val4 val5 val6
label -l
label -d AnotherNewLabel
label -l
~
~
~
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~
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~
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~
~
-- INSERT --
```



# Errors

```
GRACE-Shell — java • grace — 79x25
GRACE>>> exit
david@Davids-MBP GRACE-Shell % ./grace
GRACE>>> label spec
Missing required parameter: '<labelName>'
Usage: label spec <labelName> [[<label_values>]...]
Creates or updates a label depending on whether the name exists
If no label values are included, displays the label
    <labelName>
    [[<label_values>]...]

GRACE>>> program -i -e file
Error: expected only one match but got [[-f] file to import/export (-i | -e)]=[
--import} and [[-f] file to import/export (-i | -e)]=[params[0]=file --export}
Usage: program [-v] [[-f] file to import/export (-i | -e)] [COMMAND]
    file to import/export

    -e, --export
    -f, --force
    -i, --import
    -v, --verbose
Commands:
    clear, cls
    ls, -l
GRACE>>> |
```



# What's left to do?

- GRACE core integration for the GRACE commands
- Improve parsing capabilities
- System commands (program, script)
- Javadoc
- Undo/Redo functionality
- Enhancing UI (help/error messages)





# Questions?

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