Module Interface Specification for REVITALIZE

Team 13, REVITALIZE

Bill Nguyen

Syed Bokhari

Hasan Kibria

Youssef Dahab

Logan Brown

Mahmoud Anklis

January 17, 2023

1 Revision History

Date	Version	Notes
Date 1	1.0	Notes
Date 2	1.1	Notes

2 Symbols, Abbreviations and Acronyms

See SRS Documentation at https://github.com/BillNguyen1999/REVITALIZE/tree/main/docs/SRS

symbol	description
REVITALIZE	Name of application
UAT	User Acceptance Testing
UI/UX	User Interface/User Experience
HCI	Human-Computer Interface
MG	Module Guide
MIS	Module Interface Specification
SRS	Software Requirements Specification
VnV	Verification and Validation
LP	Login Page
SP	Sign-up Page
MP	Main Page
DS	Diet Section
WS	Workout Section
RS	Rest Section

Contents

1	Rev	ision History	
2	Syn	abols, Abbreviations and Acronyms	
3	Inti	oduction	
4	Not	ation	
5	Mo	dule Decomposition	
6	MIS	of Main Menu	
	6.1	Main Menu Module	
	6.2	Uses	
	6.3	Syntax	
		6.3.1 Exported Constants	
		6.3.2 Exported Types	
		6.3.3 Exported Access Programs	
	6.4	Semantics	
		6.4.1 State Variables	
		6.4.2 Environment Variables	
		6.4.3 Assumptions	
		6.4.4 Access Routine Semantics	
		6.4.5 Local Functions	
7	MIS	of Calendar	
	7.1	Calendar Module	
	7.2	Uses	
	7.3	Syntax	
		7.3.1 Exported Constants	
		7.3.2 Exported Types	
		7.3.3 Exported Access Programs	
	7.4	Semantics	
		7.4.1 State Variables	
		7.4.2 Environment Variables	
		7.4.3 Assumptions	
		7.4.4 Access Routine Semantics	
		7.4.5 Local Functions	
3	MIS	S of Sleep	
-	8.1	Container Module	
	8.2	Uses	
		Syntax	•

8.3.2 Exported Types 8.3.3 Exported Access Programs 8.4 Semantics 8.4.1 State Variables 8.4.2 Environment Variables 8.4.3 Assumptions 8.4.4 Access Routine Semantics 8.4.5 Local Functions 9 Diet Log Module 9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Types 10.3.3 Assumptions 10.3 Semantics 10.3 Semantics 10.3 Semantics 10.3 Semantics 10.3.1 State Variables 10.3 Semantics 10.3 Semantics 10.3 Semantics 10.3 Semantics 10.3 Semantics 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3 Semantics 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Medal Module 11.1 Uses 11.2 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs			8.3.1	Exported Constants						 			 					8
8.4.1 State Variables 8.4.2 Environment Variables 8.4.3 Assumptions 8.4.4 Access Routine Semantics 8.4.5 Local Functions 9 Diet Log Module 9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Types 10.2.3 Exported Types 10.2.4 Exported Constants 10.2.5 Exported Types 10.2.6 Exported Types 10.2.7 Exported Types 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Exported Access Programs 10.3 Semantics 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types			8.3.2	Exported Types	 					 			 					8
8.4.1 State Variables 8.4.2 Environment Variables 8.4.3 Assumptions 8.4.4 Access Routine Semantics 8.4.5 Local Functions 9 Diet Log Module 9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Exported Constants 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Constants			8.3.3	Exported Access Programs	 					 								8
8.4.2 Environment Variables 8.4.3 Assumptions 8.4.4 Access Routine Semantics 8.4.5 Local Functions 9 Diet Log Module 9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.3.3 Exported Types 10.3.1 State Variables 10.3.2 Environment Variables 10.3.1 State Variables 10.3.2 Exported Types 10.3.3 Exported Access Programs 10.3.4 Access Routine Semantics 10.3.5 Local Functions 10 Semantics 10.3.6 Semantics 10.3.7 State Variables 10.3.8 Semantics 10.3.9 Environment Variables 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Exported Constants 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Types		8.4	Seman	tics	 					 			 					8
8.4.4 Access Routine Semantics 8.4.5 Local Functions 9 Diet Log Module 9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Types 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3 Semantics 10.3.4 Access Programs 10.5 Semantics 10.6 Search or Add Food Module 11.1 Uses 11.2 Exported Constants 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Types			8.4.1	State Variables	 					 			 					8
8.4.4 Access Routine Semantics 8.4.5 Local Functions 9 Diet Log Module 9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Exported Constants 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Constants			8.4.2	Environment Variables	 					 			 					8
8.4.4 Access Routine Semantics 8.4.5 Local Functions 9 Diet Log Module 9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Exported Constants 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Constants			8.4.3	Assumptions	 					 			 					9
8.4.5 Local Functions 9 Diet Log Module 9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Exported Access Programs 11.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Exported Constants 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Constants			8.4.4	-														9
9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Constants			8.4.5															9
9.1 Uses 9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Constants	_	D		T 1 1														
9.2 Syntax 9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs	9		_															11
9.2.1 Exported Constants 9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Constants		_																11
9.2.2 Exported Types 9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Constants		9.2	v															11
9.2.3 Exported Access Programs 9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Constants				<u> -</u>														11
9.3 Semantics 9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Constants																		11
9.3.1 State Variables 9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Access Programs				-														11
9.3.2 Environment Variables 9.3.3 Assumptions 9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs		9.3																11
9.3.3 Assumptions. 9.3.4 Access Routine Semantics 9.3.5 Local Functions. 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs																		11
9.3.4 Access Routine Semantics 9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Types 11.2.3 Exported Access Programs			9.3.2	Environment Variables	 					 			 					11
9.3.5 Local Functions 10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs			9.3.3	Assumptions	 					 			 					12
10 Search or Add Food Module 10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs			9.3.4	Access Routine Semantics	 					 			 					12
10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs			9.3.5	Local Functions	 					 								12
10.1 Uses 10.2 Syntax 10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs	10	Sear	rch or	Add Food Module														12
10.2 Syntax	10																	12
10.2.1 Exported Constants 10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs																		12
10.2.2 Exported Types 10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs		10.2	•															12
10.2.3 Exported Access Programs 10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs				-														12
10.3 Semantics 10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs																		12
10.3.1 State Variables 10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs		10.9		-														13
10.3.2 Environment Variables 10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs		10.5																
10.3.3 Assumptions 10.3.4 Access Routine Semantics 10.3.5 Local Functions 11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs 11.2.3 Exported Access Programs																		13
10.3.4 Access Routine Semantics																		13
10.3.5 Local Functions				-														13
11 Custom Meal Module 11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs																		13
11.1 Uses 11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs			10.3.5	Local Functions	 •	٠	•	 ٠	 •	 	•	•	 •	•	•	•	•	13
11.2 Syntax 11.2.1 Exported Constants 11.2.2 Exported Types 11.2.3 Exported Access Programs	11	Cus	tom M	Ieal Module														13
11.2.1 Exported Constants		11.1	Uses .		 					 			 					13
11.2.1 Exported Constants		11.2	Syntax	·	 					 			 					14
11.2.2 Exported Types																		14
11.2.3 Exported Access Programs				•														14
				- v -														14
		11.3																14

	11.3.1	State Variables	14
	11.3.2	Environment Variables	14
	11.3.3	Assumptions	14
		Access Routine Semantics	
	11.3.5	Local Functions	14
12 Sea	arch Re	cipe Module	15
12.	1 Uses		15
12.	2 Syntax	· ·	15
		Exported Constants	15
	12.2.2	Exported Types	15
		Exported Access Programs	15
12.		tics	15
	12.3.1	State Variables	15
		Environment Variables	15
	12.3.3	Assumptions	15
		Access Routine Semantics	16
		Local Functions	16
	-	sults Module	16
13.	1 Uses		16
13.	2 Syntax	ζ	16
	13.2.1	Exported Constants	16
	13.2.2	Exported Types	16
	13.2.3	Exported Access Programs	16
13.	3 Seman	tics	16
	13.3.1	State Variables	16
	13.3.2	Environment Variables	17
	13.3.3	Assumptions	17
	13.3.4	Access Routine Semantics	17
	13.3.5	Local Functions	17
14 Re	cipe De	tails Module	17
	-		17
14.	2 Syntax	·	17
		Exported Constants	17
		Exported Types	17
		Exported Access Programs	17
14.		tics	17
	14.3.1		17
	14.3.2	Environment Variables	18
		Assumptions	18
		Access Routine Semantics	18

14.3.5	Local Functions .	 	 	18
15 Appendix				20

3 Introduction

The following document details the Module Interface Specifications for the REVITALIZE app. The REVITALIZE app is an all-in-one health and wellness app, comprised of 1 main section and 3 major subsections. The main section is a calendar which organizes and documents the contents of the 3 subsections. The 3 subsections are the diet section, workout section, and sleep section.

Complementary documents include the System Requirement Specifications and Module Guide. The full documentation and implementation can be found at https://github.com/BillNguyen1999/REVITALIZE/tree/main/docs.

4 Notation

The structure of the MIS for modules comes from Hoffman and Strooper (1995), with the addition that template modules have been adapted from Ghezzi et al. (2003). The mathematical notation comes from Chapter 3 of Hoffman and Strooper (1995). For instance, the symbol := is used for a multiple assignment statement and conditional rules follow the form $(c_1 \Rightarrow r_1|c_2 \Rightarrow r_2|...|c_n \Rightarrow r_n)$.

The following table summarizes the primitive data types used by REVITALIZE.

Data Type	Notation	Description
character	char	a single symbol or digit
integer	\mathbb{Z}	a number without a fractional component in $(-\infty, \infty)$
natural number	N	a number without a fractional component in $[1, \infty)$
real	\mathbb{R}	any number in $(-\infty, \infty)$
boolean	bool	value can be True (1) or False (0)
user	User	represents user object, for users of REVI-TALIZE
date	Date	represents date object, which is useful to add/set/manipulate dates

The specification of REVITALIZE uses some derived data types: sequences, strings, and tuples. Sequences are lists filled with elements of the same data type. Strings are sequences of characters. Tuples contain a list of values, potentially of different types. In addition, REVITALIZE uses functions, which are defined by the data types of their inputs and outputs. Local functions are described by giving their type signature followed by their specification.

5 Module Decomposition

The following table is taken directly from the Module Guide document for this project.

Level 1	Level 2			
Hardware-Hiding				
	Input Parameters			
	Output Format			
	Output Verification			
Behaviour-Hiding	Temperature ODEs			
	Energy Equations			
	Control Module			
	Specification Parameters Module			
	Sequence Data Structure			
Software Decision	ODE Solver			
	Plotting			

Table 1: Module Hierarchy

6 MIS of Main Menu

6.1 Main Menu Module

6.2 Uses

react

react-native

globalStyles: CSS file to change designs of project

Ionicons: Library for icons

Moment Library is used for Dates (ex. setting date formats (YY/MM/DD))

useRoute react file that is used to navigate between screens of project

6.3 Syntax

6.3.1 Exported Constants

6.3.2 Exported Types

MainScreen = this

6.3.3 Exported Access Programs

Name	In	Out	Exceptions
displayDietScreen	User, Date		
displayExerciseScreen	User, Date		
displaySleepScreen	User, Date		
displayCalendarScreen			

6.4 Semantics

6.4.1 State Variables

user: User

date: Date

6.4.2 Environment Variables

dateText: Text object that displays the selected date.

dateButton: Button object that displays Calendar Screen when clicked.

forwardButton: Button object that displays the next day from current Date value in date-Text when clicked

backwardButton: Button object that displays the previous day from current Date value in dateText when clicked

dietButton: Button object that displays Diet Screen when clicked

exerciseButton: Button object that displays Exercise Screen when clicked

sleepButton: Button object that displays Sleep Screen when clicked

6.4.3 Assumptions

N/A

6.4.4 Access Routine Semantics

displayDietScreen(user, date):

- transition: Navigates to Diet Screen when dietButton is pressed
- exception: None

displayExerciseScreen(user, date):

- transition: Navigates to Exercise Screen when exerciseButton is pressed
- exception: None

displaySleepScreen(user, date):

- transition: Navigates to Sleep Screen when sleepButton is pressed
- exception: None

displayCalendarScreen():

- transition: Navigates to Calendar Screen when dateButton is pressed
- exception: None

6.4.5 Local Functions

forwardSetDate():

- transition: date.value := date.value + 1. Sets the next day from the current Date value in dateText when clicked.
- exception: None

backwardSetDate():

- transition: date.value := date.value 1. Sets the previous day from the current Date value in dateText when clicked.
- exception: None

7 MIS of Calendar

7.1 Calendar Module

7.2 Uses

react

react-native

globalStyles: CSS file to change designs of project

react-native-calendars: Library useful for implementing calendars in react-native

useRoute react file that is used to navigate between screens of project

7.3 Syntax

7.3.1 Exported Constants

7.3.2 Exported Types

CalendarScreen = this

7.3.3 Exported Access Programs

Name	In	Out	Exceptions
onDayPress			
onMonthChange			
onPressArrowLeft			
onPressArrowRight			

7.4 Semantics

7.4.1 State Variables

date: Date

7.4.2 Environment Variables

monthText: Text object that displays the selected month.

forwardMonthButton: Button object that displays the next month from current month value in monthText when clicked

backwardMonthButton: Button object that displays the previous month from current month value in monthText when clicked

7.4.3 Assumptions

N/A

7.4.4 Access Routine Semantics

onDayCalendar():

- transition: Changes date value to selected date value in CalendarScreen
- exception: None

onMonthChange():

- transition: Changes date.month.value to new date.month.value and monthText will be changed to string value of new date.month.value
- exception: None

onPressArrowRight():

- transition: date.month.value := date.month.value + 1. Sets the next date.month.value from the current date.month.value in monthText when clicked
- exception: None

onPressArrowLeft():

- transition: date.month.value := date.month.value 1. Sets the previous date.month.value from the current date.month.value in monthText when clicked
- exception: None

7.4.5 Local Functions

N/A

8 MIS of Sleep

8.1 Container Module

8.2 Uses

react-native react-native-reanimated react-native-redash Label: Module

8.3 Syntax

8.3.1 Exported Constants

PI := Math (object that provides mathematics functionality and constants) TAU := 2 * PI PADDING := 24

8.3.2 Exported Types

N/A

8.3.3 Exported Access Programs

Name	In	Out	Exceptions
DisplayContainer			

8.4 Semantics

8.4.1 State Variables

date: Date

8.4.2 Environment Variables

BedTimeText: Text object that displays the selected bedtime.

WakeUpTimeText: Text object that displays the selected wake up time.

SleepTimeText: Text object that displays the total sleep time.

ArcStartPos: Polar coordinates object representing starting position of circular slider arc. Modifies bedtime when slid.

ArcEndPos: Polar coordinates object representing ending position of circular slider arc. Modifies wake up time when slid.

CircularSliderArc: string literal object representing an arc.

8.4.3 Assumptions

N/A

8.4.4 Access Routine Semantics

DisplayContainer():

- output: display bedtime, wake up time, sleep time, arc starting and ending positions, and circular slider arc
- exception: None

8.4.5 Local Functions

radToMinutes(rad):

- output: rad * 24 * 60 / TAU
- exception: None

absoluteDuration(start, end):

- output: start > end? end + (TAU start): end start
- exception: None

formatDuration2(duration):

- output: format duration to hours followed by minutes.
- exception: None

FoodT Module

Module

Indicator T

Uses

None

Syntax

Exported Constants

None

Exported Types

```
FoodT = {
calories, \#Calories\ in\ meal
name, \#Name\ of\ meal
carbs, \#Carbohydrates\ in\ meal
protein, \#Protein\ in\ meal
fat \#Fat\ in\ meal
}
```

Exported Access Programs

None

Semantics

State Variables

None

State Invariant

None

Assumptions

None

Considerations

None

9 Diet Log Module

9.1 Uses

react

react-native

globalStyles: CSS file to change designs of project

Ionicons: Library for icons

useRoute react file that is used to navigate between screens of project

9.2 Syntax

9.2.1 Exported Constants

9.2.2 Exported Types

DietLogScreen = this

9.2.3 Exported Access Programs

Name	In	Out	Exceptions
calculateDailyNutrition	seq of FoodT	seq of $\langle String, \mathbb{R} \rangle$	
removeFood	food: FoodT		

9.3 Semantics

9.3.1 State Variables

foodList: seq of FoodT

totalNutrition: seq of $\langle String, \mathbb{R} \rangle$

date: Date

9.3.2 Environment Variables

addFoodButton: Button object that shifts user to Search or Add Food Module.

deleteFoodButton: Button object that deletes a food entry from this module when clicked

editFoodButton: Button object navigates to Log Meal Module

9.3.3 Assumptions

N/A

9.3.4 Access Routine Semantics

calculateDailyNutrition():

- transition: total Nutrition := \sum foodList
- exception: None

removeFood(food: FoodT):

- transition: foodList := {foodList} \ food. Sets the next date.month.value from the current date.month.value in monthText when clicked
- exception: None

9.3.5 Local Functions

N/A

10 Search or Add Food Module

10.1 Uses

react

react-native

globalStyles: CSS file to change designs of project

useRoute react file that is used to navigate between screens of project

10.2 Syntax

10.2.1 Exported Constants

10.2.2 Exported Types

DecisionScreen = this

10.2.3 Exported Access Programs

None

10.3 Semantics

10.3.1 State Variables

None

10.3.2 Environment Variables

searchRecipeButton: Button object that shifts user to Search Recipe Module.

addCustomMealButtom: Button object that shifts user to Log Meal Module

10.3.3 Assumptions

N/A

10.3.4 Access Routine Semantics

calculateDailyNutrition():

- \bullet transition: total Nutrition := \sum food List
- exception: None

removeFood(food: FoodT):

- transition: foodList := {foodList} \ food. Sets the next date.month.value from the current date.month.value in monthText when clicked
- exception: None

10.3.5 Local Functions

N/A

11 Custom Meal Module

11.1 Uses

react

react-native

globalStyles: CSS file to change designs of project

react-native-calendars: Library useful for implementing calendars in react-native

useRoute react file that is used to navigate between screens of project

11.2 Syntax

11.2.1 Exported Constants

N/A

11.2.2 Exported Types

CustomMealScreen = this

11.2.3 Exported Access Programs

Name	In	Out	Exceptions
save Custom Meal	foodInfo: seq of String	FoodT	

11.3 Semantics

11.3.1 State Variables

foodList: seq of String

11.3.2 Environment Variables

addButton: Save food information.

11.3.3 Assumptions

N/A

11.3.4 Access Routine Semantics

saveCustomMeal(foodInfo):

• transition: foodList := foodList \cup FoodT(foodInfo)

• exception: None

11.3.5 Local Functions

N/A

12 Search Recipe Module

12.1 Uses

react

react-native

globalStyles: CSS file to change designs of project

Ionicons: Library for icons

useRoute react file that is used to navigate between screens of project

12.2 Syntax

12.2.1 Exported Constants

N/A

12.2.2 Exported Types

SearchRecipeScreen = this

12.2.3 Exported Access Programs

Name	In	Out	Exceptions
searchRecipe	filterList: seq of <string, string=""></string,>	Seq of <string, string=""></string,>	
returnRecipeList		Seq of <string, string=""></string,>	

12.3 Semantics

12.3.1 State Variables

filterList: seq of <String, String> recipeList: Seq of <String, String>

12.3.2 Environment Variables

searchRecipeButton: Button object that shifts user to Search Results Module, calls searchRecipe().

12.3.3 Assumptions

N/A

12.3.4 Access Routine Semantics

searchRecipe(filterList):

• transition: Populates state variable recipeList using external API call.

• exception: None

12.3.5 Local Functions

N/A

13 Recipe Results Module

13.1 Uses

react

react-native

globalStyles: CSS file to change designs of project

react-native-calendars: Library useful for implementing calendars in react-native

useRoute react file that is used to navigate between screens of project

13.2 Syntax

13.2.1 Exported Constants

N/A

13.2.2 Exported Types

RecipeResultsScreen = this

13.2.3 Exported Access Programs

Name	In	Out	Exceptions
retrieveRecipeInfo	recipeLink: String	<string, fileobject=""></string,>	

13.3 Semantics

13.3.1 State Variables

recipeList: Seq of <String, String>

13.3.2 Environment Variables

13.3.3 Assumptions

N/A

13.3.4 Access Routine Semantics

retrieveRecipeInfo(recipeLink):

• transition: Retrieve details and picture file of recipe found at recipeLink

• exception: None

13.3.5 Local Functions

N/A

14 Recipe Details Module

14.1 Uses

react

react-native

globalStyles: CSS file to change designs of project

Ionicons: Library for icons

useRoute react file that is used to navigate between screens of project

14.2 Syntax

14.2.1 Exported Constants

14.2.2 Exported Types

RecipeDetailsScreen = this

14.2.3 Exported Access Programs

N/A

14.3 Semantics

14.3.1 State Variables

recipeDetails: seq of <String, FileObject>

14.3.2 Environment Variables

addRecipeButton: Add recipe to Daily Food Log.

14.3.3 Assumptions

N/A

14.3.4 Access Routine Semantics

14.3.5 Local Functions

N/A

References

Carlo Ghezzi, Mehdi Jazayeri, and Dino Mandrioli. Fundamentals of Software Engineering. Prentice Hall, Upper Saddle River, NJ, USA, 2nd edition, 2003.

Daniel M. Hoffman and Paul A. Strooper. Software Design, Automated Testing, and Maintenance: A Practical Approach. International Thomson Computer Press, New York, NY, USA, 1995. URL http://citeseer.ist.psu.edu/428727.html.

15 Appendix

 $[{\bf Extra~information~if~required~-\!SS}]$