

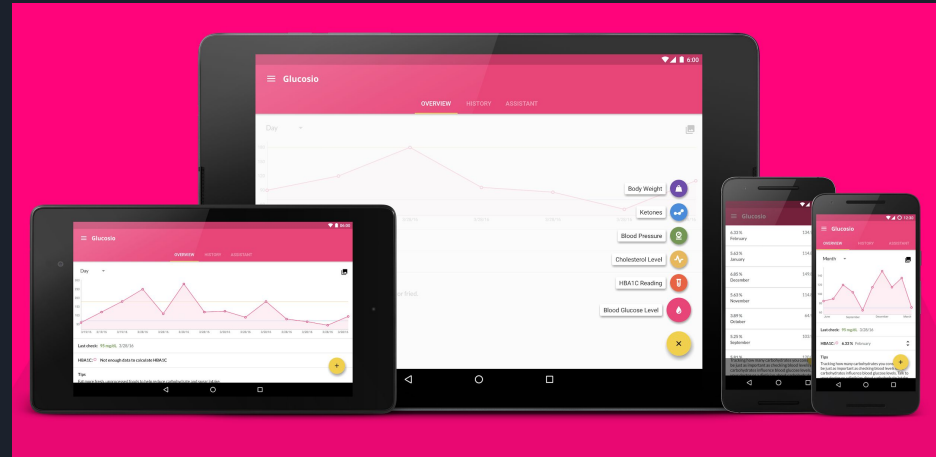
Team Correct

Project: Glucosio

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Glucosio Project

- Glucosio app allow users to record and manage their diabetes data
- Glucosio provides users with feedback and tips based on their data
- The app allows users to share their diabetes data anonymously with researchers
- The app remains user centered with a design that meets the needs of diabetic users

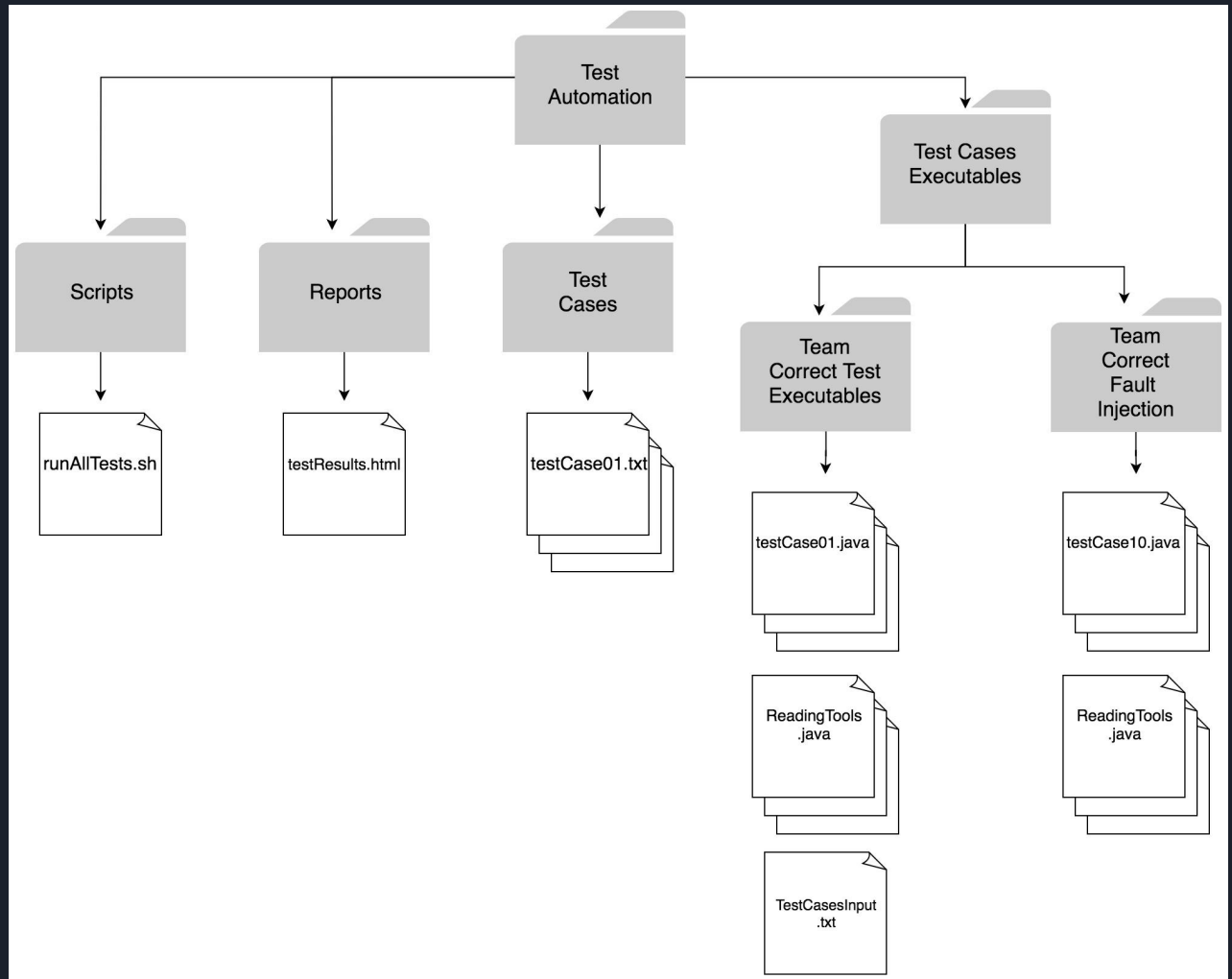




Lessons Learned

- BASH skills
- Automating Java compilation and execution, with dependent files
- Creating an input file that java could parse with flags to allow multiple test case use
- Communication
- Team delegation
- Management of a large open-source project

Testing Framework





Passing Tests

- 1) setMetric - Reminder
- 2) glucoseToA1C Conversion - Glucose Converter
- 3) setReading - Ketone
- 4) setReading - Weight
- 5) minReading - Pressure
- 6) LDLReading - Cholesterol
- 7) Diabetes type - User
- 8) tipDescription - Action Tip
- 9) glucoseData - Glucose
- 10) hourToSpinnerType - ReadingTools
- 11) IsInRange - InputFilterMinMax
- 12) colorFromReading - GlucoseRanges
- 13) generateRandomNumber - GlucosioNotificationManager



Passing Tests

- 14) maxReading - Pressure
- 15) setID - Pressure
- 16) reading - HB1AC Reading
- 17) reading - Glucose
- 18) setMonth - A1cEstimate
- 19) glucoseToMmolL - GlucosioConverter
- 20) parseReading - ReadingTools
- 21) reading/setCreated - DoubleGraphObject
- 22) reading/setCreated - InGraphObject
- 23) dateFormat - SplitDateTime
- 24) minimum/maximumFractionDigits - NumberFormatUtils
- 25) setPreferredUnitA1c - User



Fault Injection

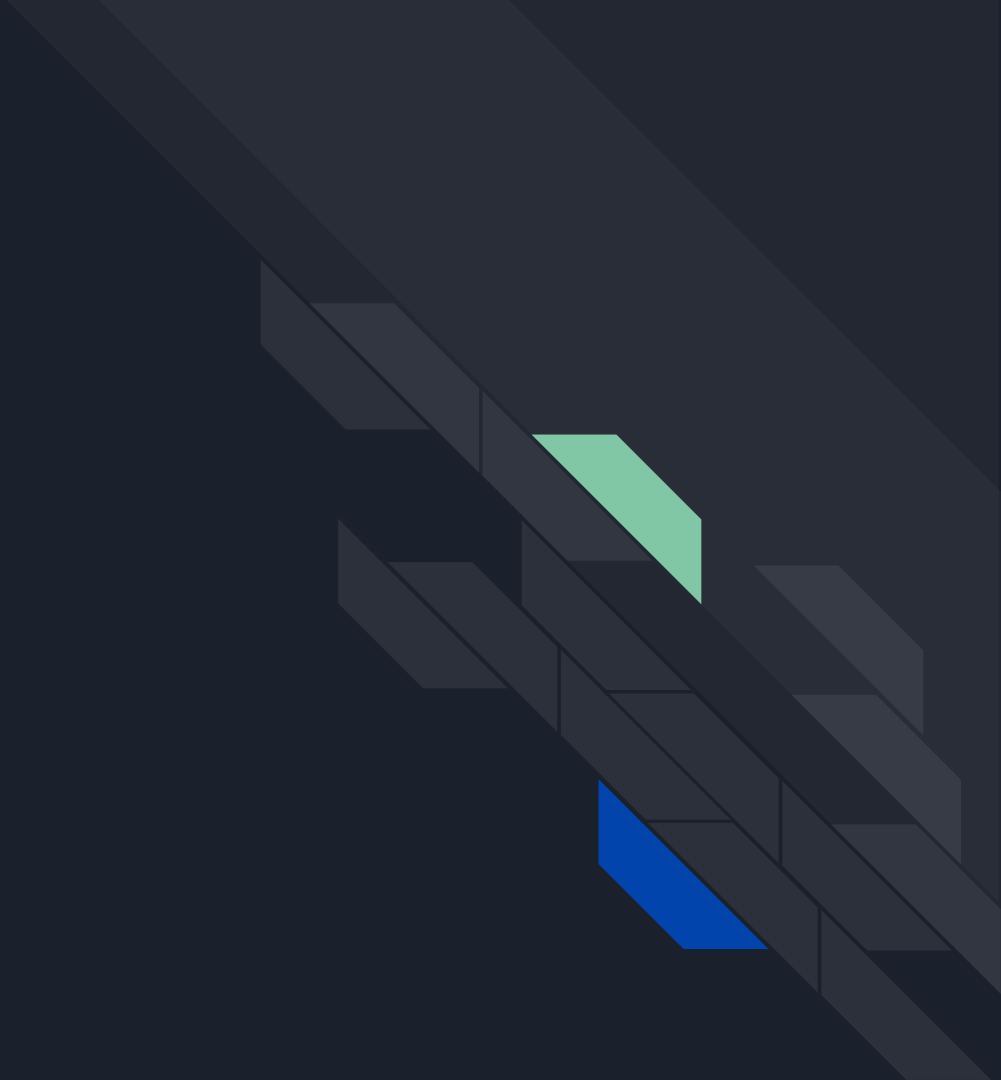
- 1) Test Case 06 Fault Injection:
 - a) File/Method: CholesterolReading.setLDLReading
 - b) Fault: LDL Reading was changed to HDL Reading
 - i) LDL Reading is not correctly set with input of 6.4
 - c) Output: LDL reading set to 0.0
- 2) Test Case 10 Fault Injection:
 - a) File/Method: ReadingTools.hourToSpinnerType
 - b) Fault: changed hour>20 to hour<20
 - c) Fault: changed hour>17 to hour<17
 - d) Fault: changed hour>13 to hour<13
 - e) Fault: changed hour>7 to hour<7
 - f) Fault: changed hour>4 to hour<4
 - i) Logic is now incorrect for the expression
 - g) Output:
 - i) Hour: 24, SpinnerType: 8, Time of day: night
 - ii) Hour: 8, SpinnerType: 5, Time of day: after dinner
 - iii) Hour: 4, SpinnerType: 5, Time of day: after dinner
 - iv) Hour: 19, SpinnerType: 5, Time of day: after dinner



Fault Injection

- 3) Test Case 11 Fault Injection:
 - a) File/Method: InputFilterMinMax.isInRange
 - b) Fault: Changed operation signs in expression
 - i) (Original: $b > a ? c \geq a \ \&\& \ c \leq b : c \geq b \ \&\& \ c \leq a$)
 - ii) (Current: $b < a ? c \leq a \ \&\& \ c \geq b : c \leq b \ \&\& \ c \geq a$)
 - iii) Logic is now incorrect.
 - c) Output: Range Tester [12.0,1.5,8.2] = true
- 4) Test Case 14 Fault Injection:
 - d) File/Method: PressureReading.setMaxReading
 - e) Fault: Changed min to max and vice versa
 - i) Incorrect value returned for set max
 - f) Output: Max Reading returned = 0.0 Max Reading returned = 0.0
- 5) Test Case 20 Fault Injection:
 - g) File/Method: ReadingTools.parseReading
 - h) Fault: Set all returns to null.
 - i) All values return as null.
 - i) Output: str to number 6 = null

Demo



Questions

