**Startup**

Print: “Welcome to Peace of Mind! Please log in as Admin, Parent, or Driver.”

Prompt input: “What user?”

If Admin, Jump to “Administrator”

If Parent, Jump to “Parent”

If Driver, Jump to “Driver”

**Administrator**

Declare variables: AdminID, Admin.Name, Admin.School

Prompt (if not signed in)

“Please sign in using your School Employee #” (or some administrative differentiation)

-Input << AdminID

If (AdminID == [AdminID from list]), goto Prompt (when signed in)

Else if entered incorrectly, print(“You have entered an invalid ID”), goto Prompt (if not signed in)

Prompt (when signed in)

“Welcome, [Admin.Name]!”

“What would you like to do?”

“Manage Students” #Add or delete student to/from an assigned bus

“Add a student” -> “Enter student ID” -> enters all student information (parent, name, ID) and adds onto list

“Remove a student” -> “Which student would you like to remove?” [Select student from a list] -> “[Student Name] has been removed”

“Manage Student Guardians”

“Add a guardian”

“Manage Drivers” # Add or delete valid Drivers for a certain route?

“Add or modify a Bus Driver for a route”

“Enter a Driver responsible for the route (Use Employee #)” ->

IF [DriverID == “reference on DriverID list” AND DriverID == “reference on DriverRoute list”] -> “Where would you like to reassign this driver to?” [enter which route will be assigned] -> “[Name of Driver] has been assigned to Route [#]!” -> returns to “Manage Drivers”

IF [DriverID == “reference on DriverID list] -> “Where would you like to assign this driver to? [enter which route to be assigned] -> “[Name of Driver] has been assigned to Route [#]! -> returns to “Manage Drivers”

“Remove a Bus Driver”

“Which Driver would you like to remove?” [Choose from list] -> “This Driver has been removed.”

“Add a temp Bus Driver for a route” #For Substitute bus drivers

“This is to add a substitute bus driver for each of the routes available. The ID of the driver will be a dedicated temporary one and will have the name ‘Temporary Driver’.”

“Manage Bus Routes” #place dedicated bus stop areas for

#students to be picked up

“Add a new Route”

“For convenience, you may use a group of

“ Manage an existing Route”

“ See Routes”

Which Route do you want to see?

“1”

[Shows on Google Maps the bus stops and the students in the region and the path normally taken]

“ Delete a Route”

“Notification Options”

“Return to Default”

“Send Notification when all buses arrive” Y/N

“Send Notification when each bus arrives” Y/N

“Send Notification for specific buses” [Greyed when “For all

buses” is checked]

Y/N

“Which buses do you want specifically?”

“1” Y/N

“2” Y/N

… # Same for n number

# of bus routes

“Send Notification for buses with late arrival” Y/N

“Send Notification for Students whom have entered a bus but not

exitted” Y/N

“Send Notification for Emergency (from Bus)” Y/N

“View Bus”

“Which Bus Route do you want to look at?”

“1”

[Lists Driver and Students on that bus and GPS of bus]

“2”

… # Same thing for n number of routes

“Profile”

“[Admin.Name]” endl

“[Admin.ID]” endl

“[Admin.school]” endl

“Sign out”

**Guardian**

Declare variables: sid, sname, gname, yn, selector

Declare list options [0,0,0,0,0] Comment: 0 indicates options is off, 1 indicates option is on.

Start Loop

“What is your student’s id?” Input: -> variable: sid newline

If sid = “reference file ID” newline exit loop

Else output error message + reinput name Ex: “The id entered is not in our

database. Please enter your student’s id again:” input -> sid newline

End Loop

Comment: Output name of parent and child + child’s ID:

“Name: “ [Parent’s name] newline

“Student’s name: “ [Child’s Name] newline

“Student ID: “ [Student ID] newline

Start Loop comment: loop to take guardian back once an action is taken. Unnecessary?

Prompt “What would you like to do?”

“Change student name?”

“Input new student name:” input variable sname

[student name] = sname

Loop to start

“Change Guardian name?”

“Input new Guardian name:” input variable gname

[guardian name] = gname

Loop to start

“Modify notification options?”

Loop

Nested loop

“You are being notified for: “

If options [0] = 1

“if the child boards, “

If options [1] = 1

“If the bus has traveled more than halfway, “

If options [2] = 1

“If the bus reaches the second to last stop,”

If options[3] = 1

“If the child exits, “

If options [4] = 1

“If an emergency occurs, “

Else

“ nothing.

Exit nested loop

End nested loop

Comment: pass by reference the list options if using loop

“Do you want to be notified if newline

1. The child boards including the time and stop location. newline

2. The bus has travelled more than half the distance from boarding point to final

stop. Newline

3. The bus reaches its second-to-last stop. newline

4. The child exits. Newline

5.There is an emergency.” Newline

Input selector comment: selector assumed to equal 1,2,3,4,5

If selector = 1

If option [0] = 0

Option [0] = 1

Else

Option [0] = 0

If selector = 2

If option [1] = 0

Option[1] = 1

Else

Option[1] = 0

If selector = 3

If option [2] = 0

Option[2] = 1

Else

Option [2] = 0

If selector = 4

If option [3] = 0

Option [3] = 1

Else

Option [3] = 0

If selector = 5

If option [4] = 0

Option [4] = 1

Else

option [4] = 0

“Do you want to change another option? y/n”

Input yn comment assume user can only choose yn

If yn = y

Return to loop start

Else

Exit loop

“Exit?”

Exit loop

End Loop

**Driver**

variables: bnum, bnum-driver, broute-len, broute-td-time, broute-nd-time, broute-temp-time, e-name,

Input: What is bus number? -> bnum

If bnum != “bus reference list” #assuming there’s a list of buses

#with attached driver id’s and routes

Output: “enter a valid bus num”

e-name = employee-num.name()

If input employee-num = “ref file”

e-name = “ref file name”

Else if

Output: “Enter temp name” -> e-name

Employee-num = “temp”

Output: “Enter bus number”

Start time = time.asctime(t)

**Program Code (runs from driver side)**

Permanently: Track GPS coordinates

Permanently: display list found in “Bus” file

On Student ID input:

check the “Requests” file for that student.

If notification on boarding is requested: send notification to parent including time.

Save student to “Bus” file

~~Option A: Find coordinates of Bus Stop that is closest to driver’s current GPS location~~

~~Option B: student’s stop is whatever stop the driver has most recently confirmed~~

On 2nd Student ID input:

check the “Requests” file for that student.

If notification on arrival is requested: send notification to parent

Remove student from “Bus” file.

On receiving location request for a child that is in the “Bus” file: send coordinates to parent.

(do not delete) Maps api direction matrix key: AIzaSyD98Jrf\_CWeR-tEug615QX\_rL6Y\_qXjUsw