INFORMATICS INSTITUTE OF TECHNOLOGY

In Collaboration with

UNIVERSITY OF WESTMINSTER

Mobile Native Application Development

Self-Evaluation Report

For

Coursework I

By

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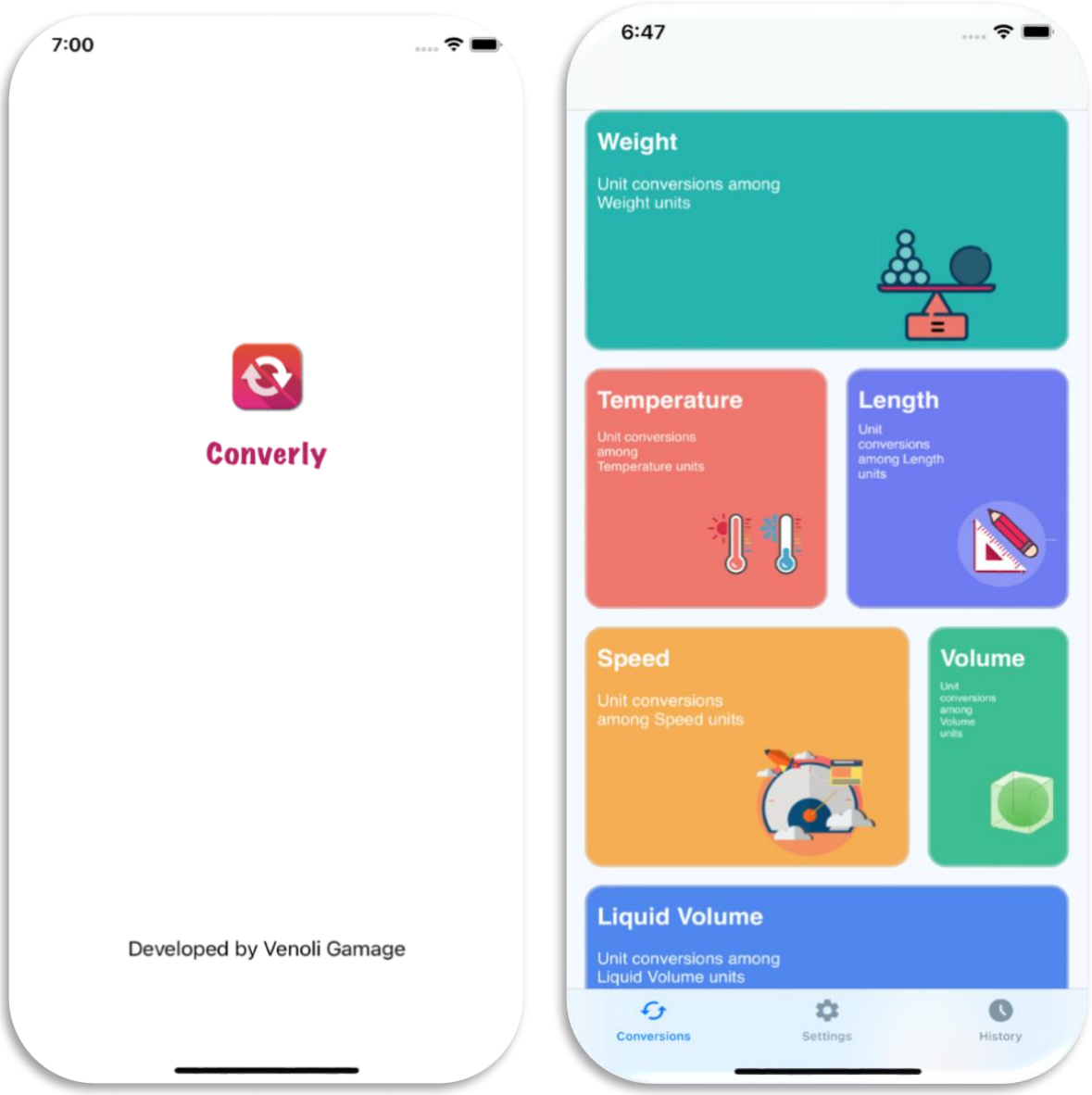
Self-Evaluation

#	Criteria	Max Marks	Self-evaluated Marks
1	Na Navigation handling (i.e., tab bar view, buttons and navigation) – for high marks this must all work correctly and responsively.	15	15
2	Keyboard – for high marks all keys including the negative must be present and it must be a custom keyboard. Half marks for using a system decimal keyboard.	20	20
3	Conversions – 10 marks for weight conversion and 5 marks each for volume, length, speed and temperature. Must be complete and correct for high marks.	30	30
4	Conversion history – save the conversion on demand for each category. High marks for correct string formatting, correct saving of user data, and persistent storage and good useability.	20	18
5	Settings – high marks for good usability and correctness	15	15
	Total	**100**	**98**



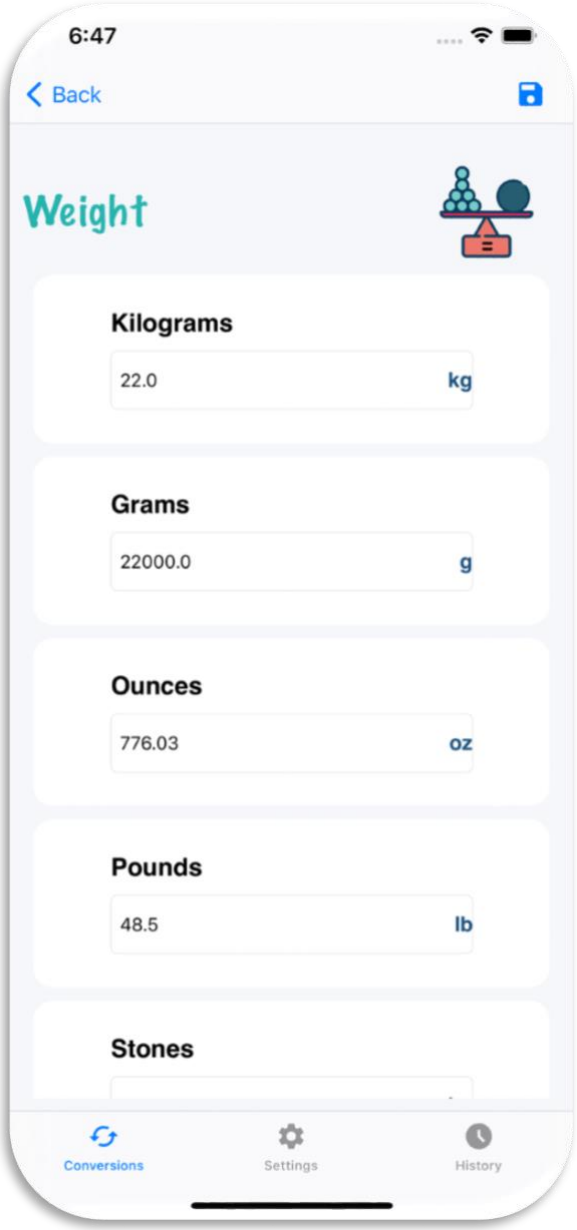
This is the splash screen and the home view (conversions view) of the Converly App. For the home view created a mosaic layout. Icons are carefully chosen to match with the colours of the mosaic layout. And icons are used according to the human interface guideline provided in apple documentation. Mosaic layout is responsively work with all the expected devices.

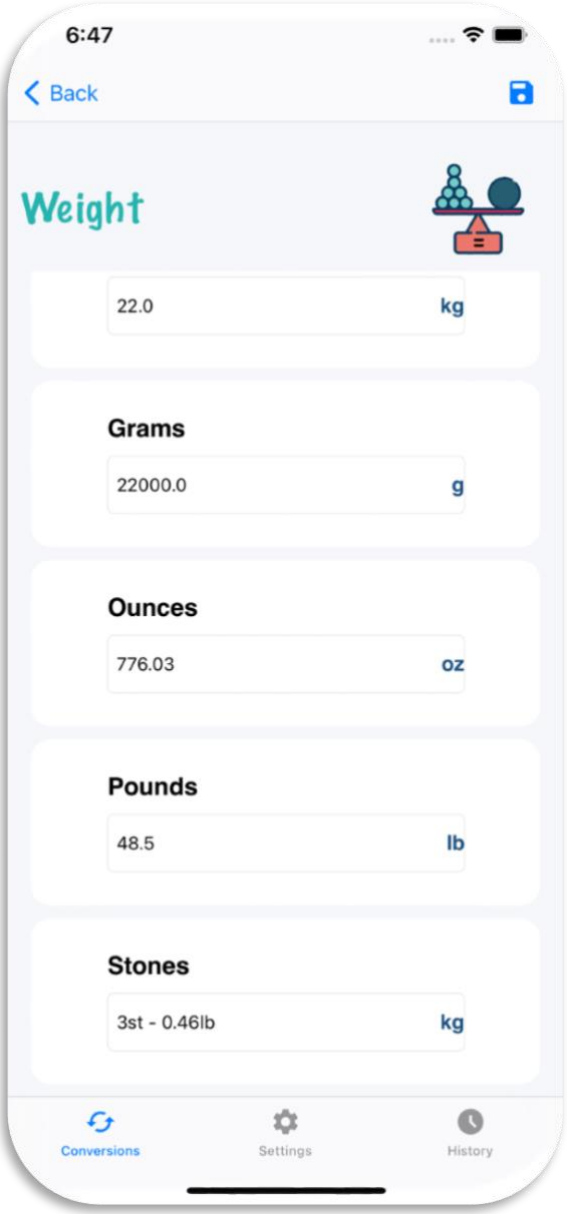
Requirements Justification

For each conversion type I have used a unique theme to be more user friendly. Home view (conversion types view), Conversions view and Custom keyboard styled according to that theme.

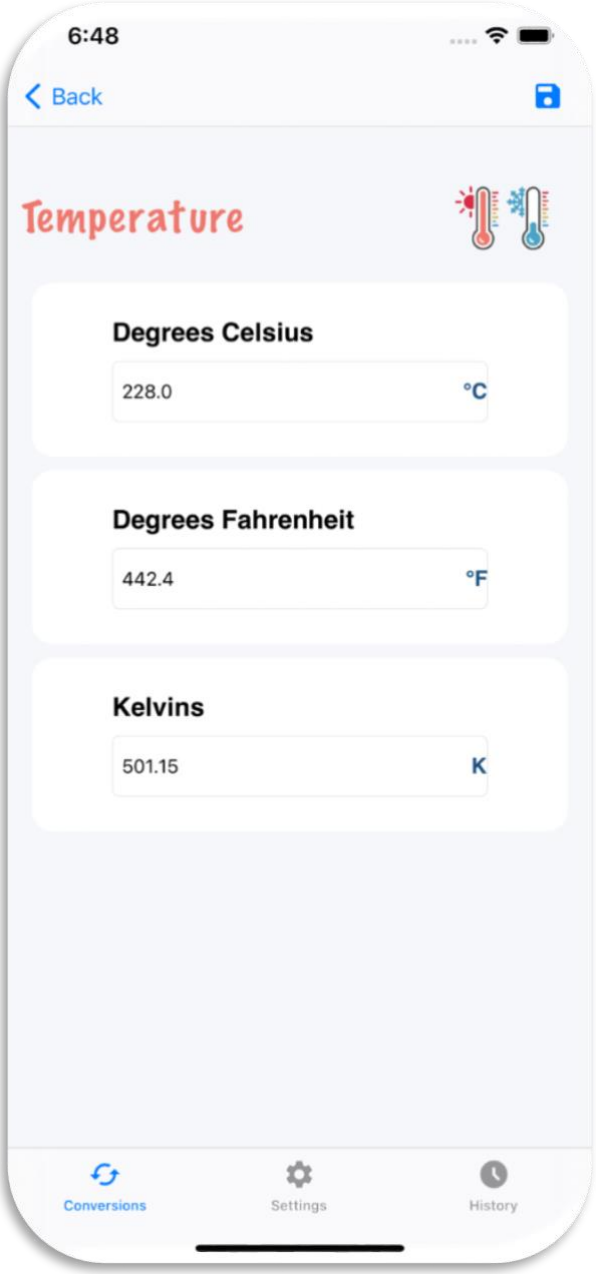
R1: The software shall convert between the following mass units

Weight: Kg, grams, ounces, pounds, stone-pounds – **Done**
Stone pounds are displayed as expected in the coursework specification.

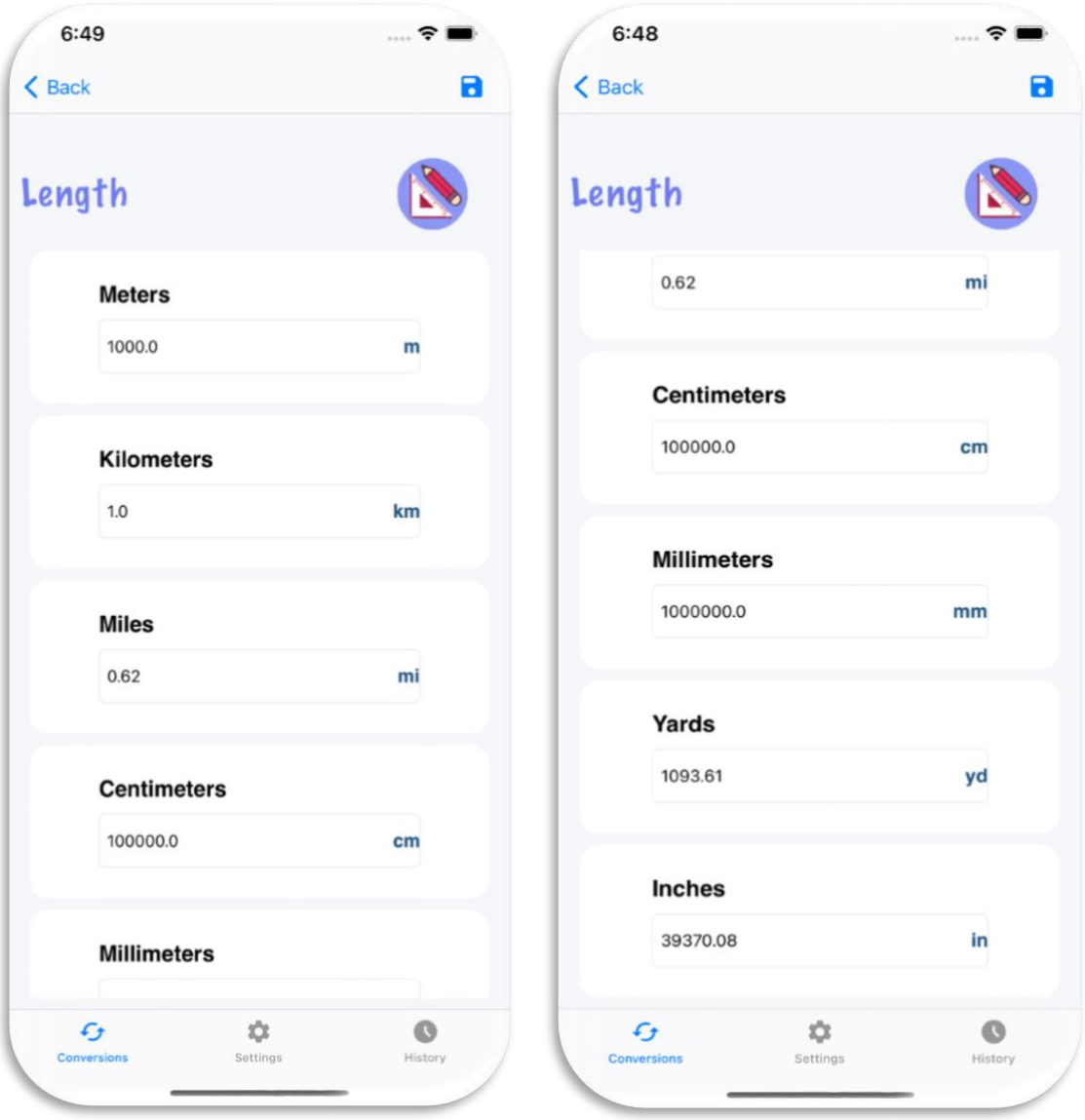




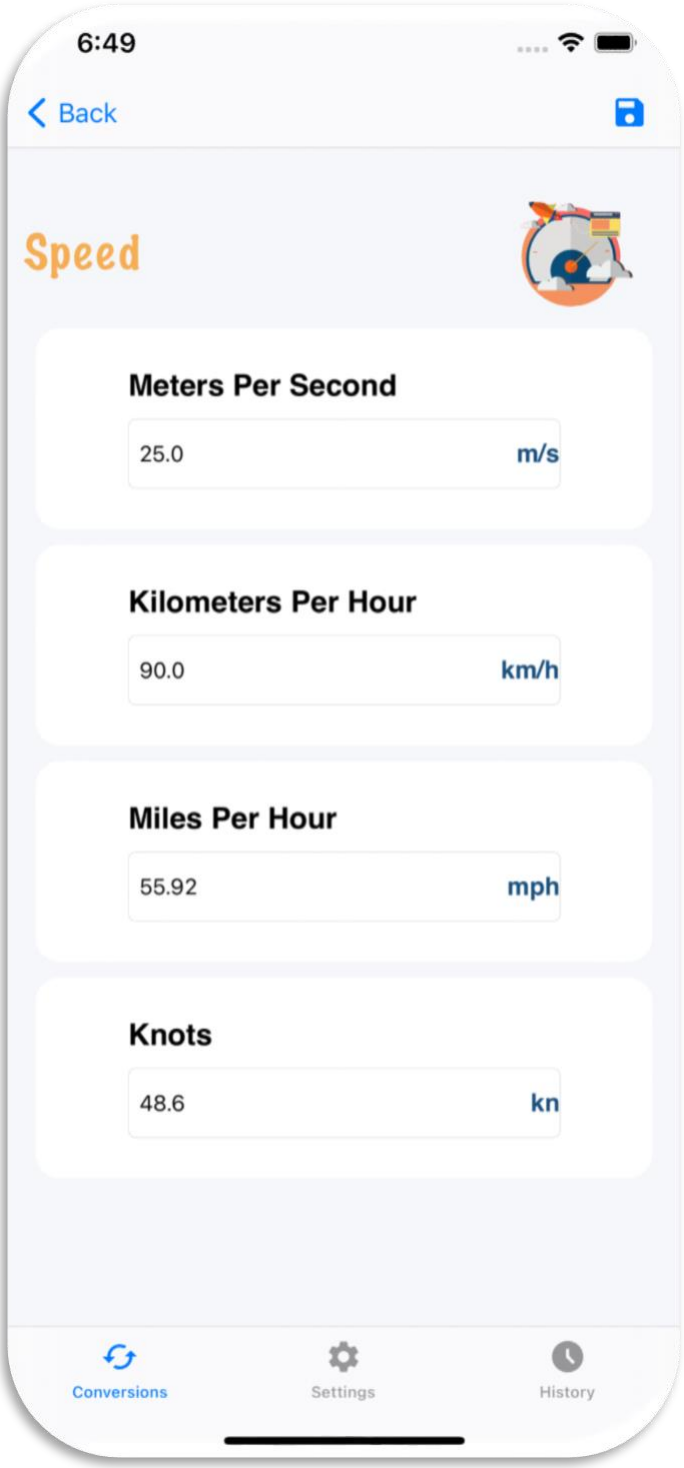
R2: The software shall convert between the following temperature units
Temperature: Celsius, Fahrenheit, Kelvin - **Done**



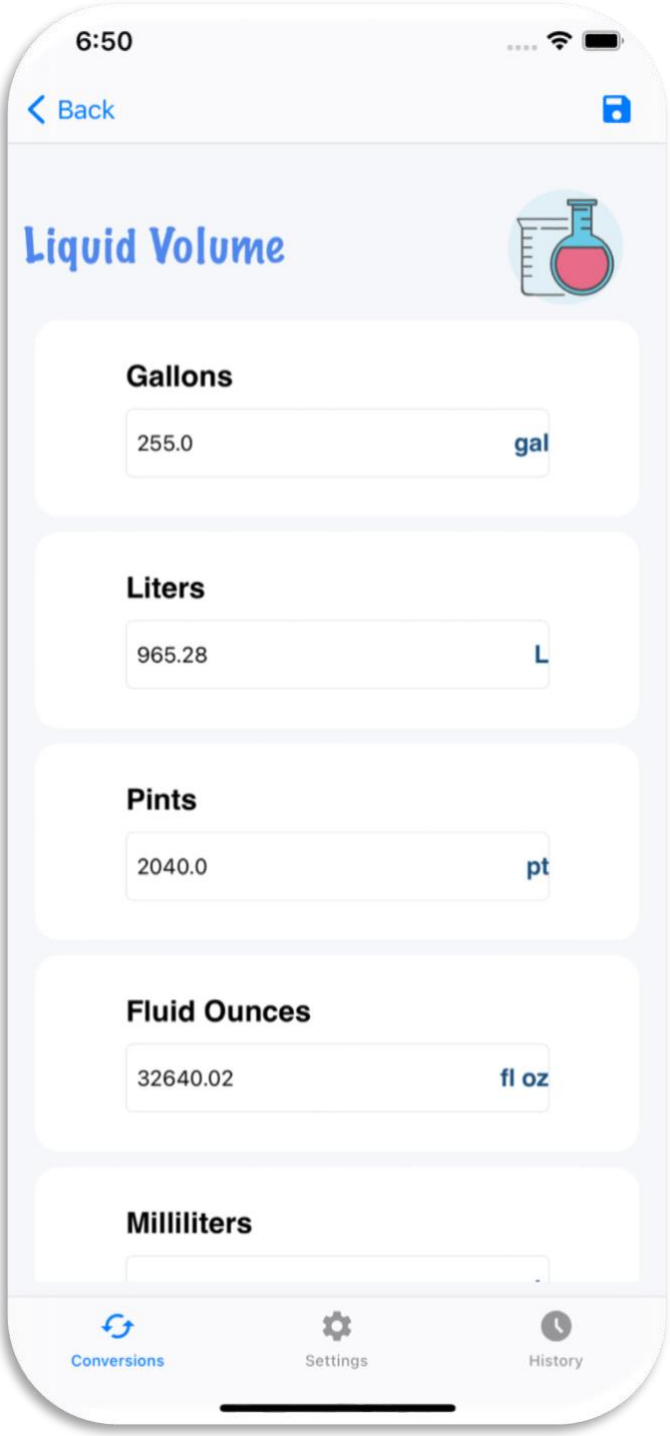
R3: The software shall convert between the following length units
Length: metre, km, mile, cm, mm, yard, inch - **Done**



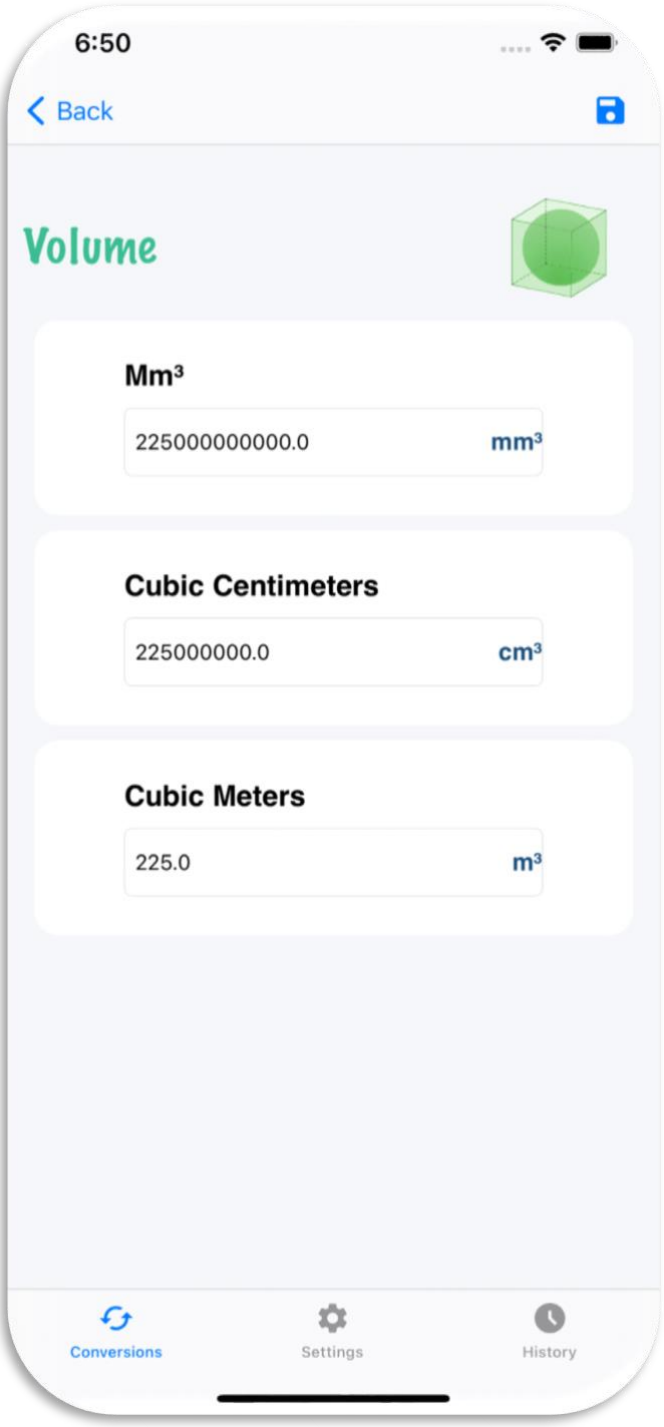
R4: The software shall convert between the following units of speed
Speed: metres/sec, km/hour, miles/hour, nautical miles/hour (knot) - **Done**



R5: The software shall convert between the following units of volume
Volume liquid: UK gallon, litre, UK pint, fluid ounce, milliliter - **Done**

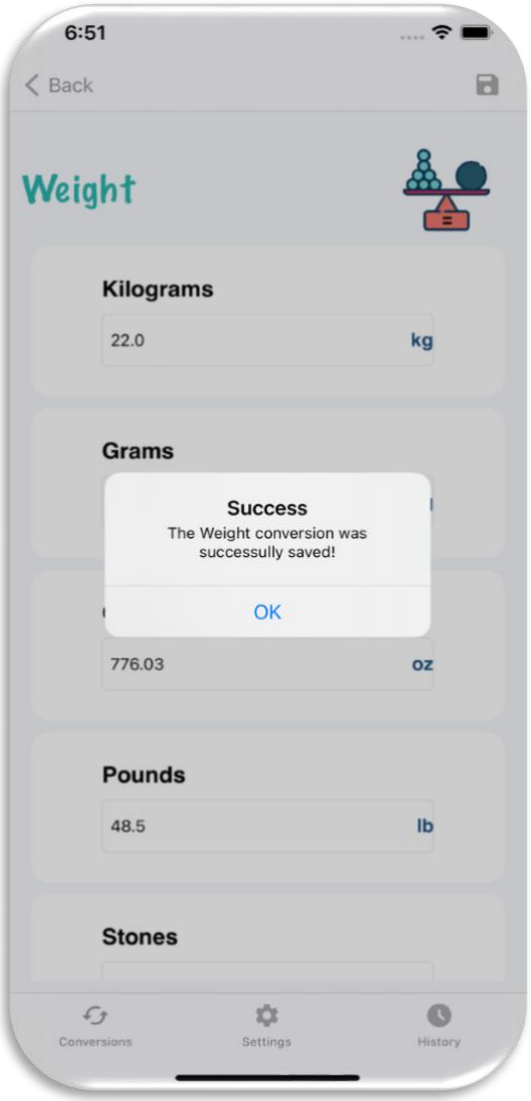


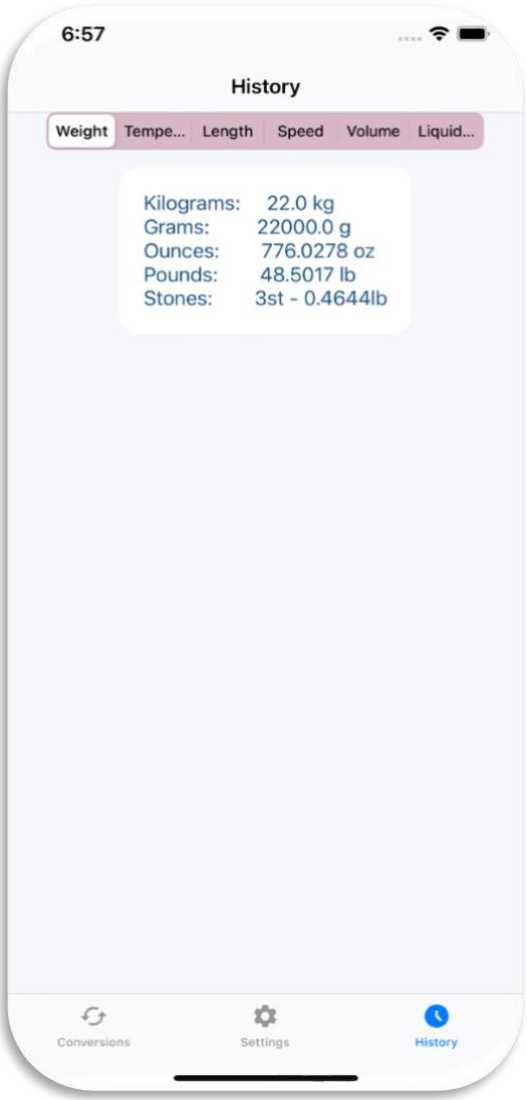
Volume units: Mm^3, Cubic Centimeters, Cubic Meters



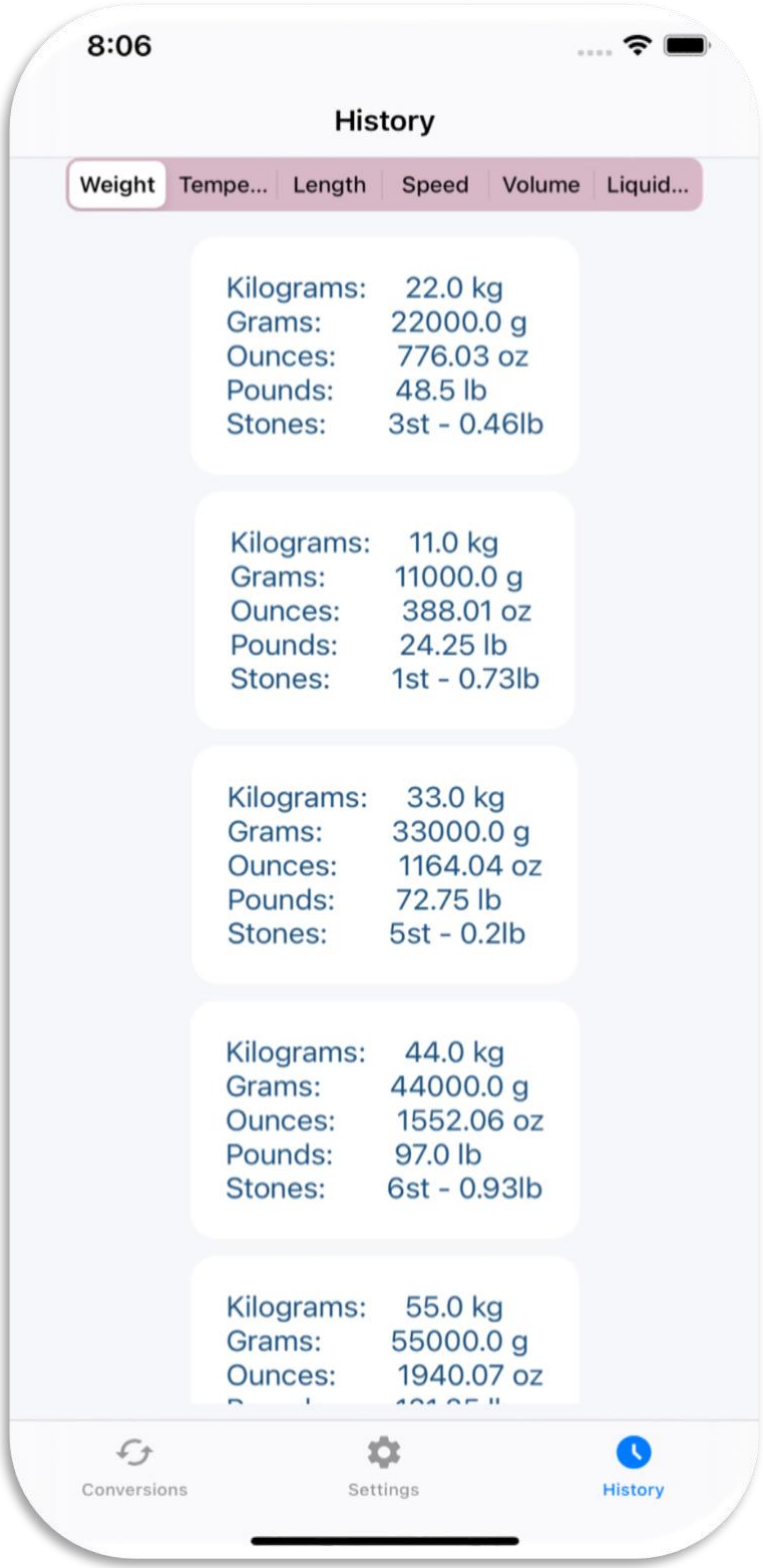
History Requirements

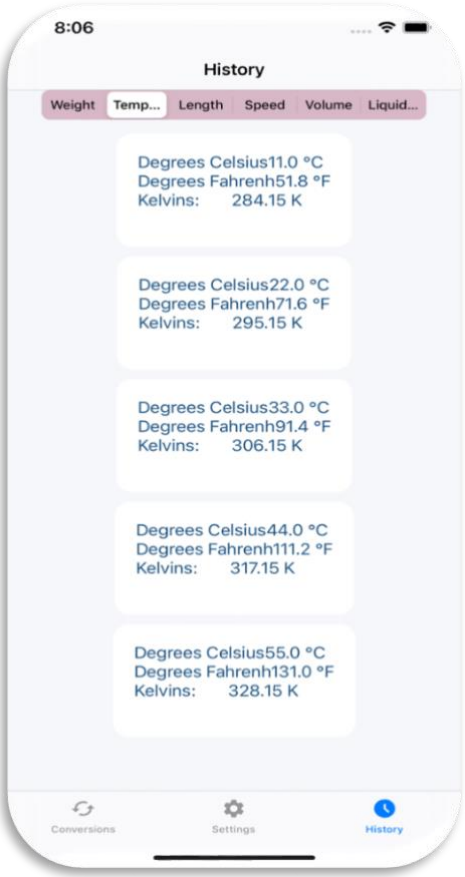
R6: The user shall be able to save the current conversion for the current unit. - **Done**



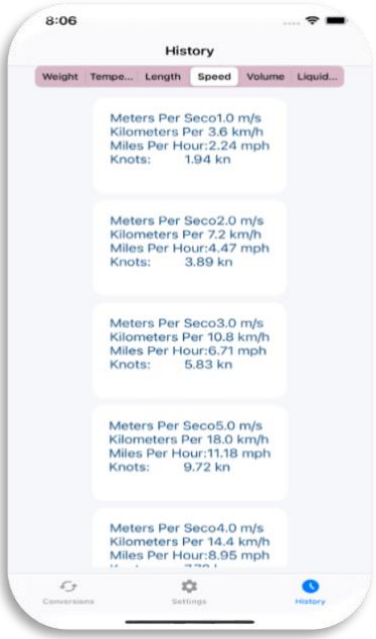


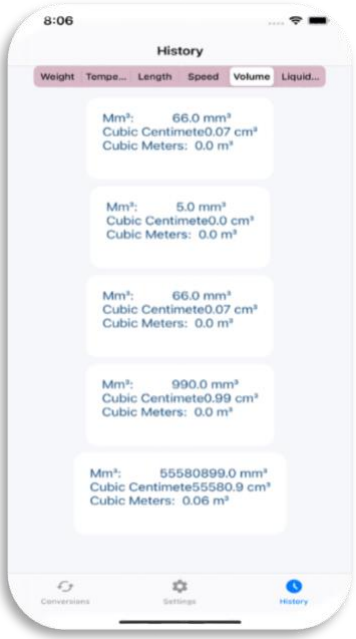
R7: The history view shall display the last 5 conversions for each conversion unit. – **Done**
Developed for each conversion type

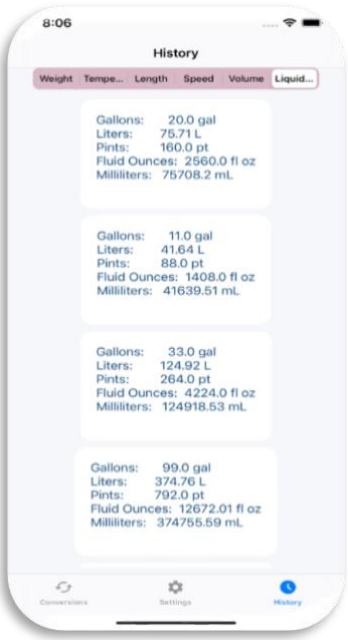



8:06
History
Weight
Temp...
Length
Speed
Volume
Liquid...
Degrees Celsius11.0 °C
Degrees Fahrenh51.8 °F
Kelvins: 284.15 K
Degrees Celsius22.0 °C
Degrees Fahrenh71.6 °F
Kelvins: 295.15 K
Degrees Celsius33.0 °C
Degrees Fahrenh91.4 °F
Kelvins: 306.15 K
Degrees Celsius44.0 °C
Degrees Fahrenh111.2 °F
Kelvins: 317.15 K
Degrees Celsius55.0 °C
Degrees Fahrenh131.0 °F
Kelvins: 328.15 K
Conversions
Settings
History


8:06
History
Weight
Tempe...
Length
Speed
Volume
Liquid...
Meters: 15.0 m
Kilometers: 0.02 km
Miles: 0.01 mi
Centimeters: 1500.0 cm
Millimeters: 15000.0 mm
Yards: 16.4 yd
Inches: 590.55 in
Meters: 5558.0 m
Kilometers: 5.56 km
Miles: 3.45 mi
Centimeters: 555800.0 cm
Millimeters: 5558000.0 mm
Yards: 6078.3 yd
Inches: 218818.9 in
Meters: 85.0 m
Kilometers: 0.09 km
Miles: 0.05 mi
Centimeters: 8500.0 cm
Millimeters: 85000.0 mm
Yards: 92.96 yd
Inches: 3346.46 in
Meters: 6666.0 m
Kilometers: 6.67 km
Conversions
Settings
History


8:06
History
Weight
Tempe...
Length
Speed
Volume
Liquid...
Meters Per Seco1.0 m/s
Kilometers Per 3.6 km/h
Miles Per Hour:2.24 mph
Knots: 1.94 kn
Meters Per Seco2.0 m/s
Kilometers Per 7.2 km/h
Miles Per Hour:4.47 mph
Knots: 3.89 kn
Meters Per Seco3.0 m/s
Kilometers Per 10.8 km/h
Miles Per Hour:6.71 mph
Knots: 5.83 kn
Meters Per Seco5.0 m/s
Kilometers Per 18.0 km/h
Miles Per Hour:11.18 mph
Knots: 9.72 kn
Meters Per Seco4.0 m/s
Kilometers Per 14.4 km/h
Miles Per Hour:8.95 mph
Conversions
Settings
History


8:06
History
Weight
Tempe...
Length
Speed
Volume
Liquid...
Mm³: 66.0 mm³
Cubic Centimete0.07 cm³
Cubic Meters: 0.0 m³
Mm³: 5.0 mm³
Cubic Centimete0.0 cm³
Cubic Meters: 0.0 m³
Mm³: 66.0 mm³
Cubic Centimete0.07 cm³
Cubic Meters: 0.0 m³
Mm³: 990.0 mm³
Cubic Centimete0.99 cm³
Cubic Meters: 0.0 m³
Mm³: 55580899.0 mm³
Cubic Centimete55580.9 cm³
Cubic Meters: 0.06 m³
Conversions
Settings
History


8:06
History
Weight
Tempe...
Length
Speed
Volume
Liquid...
Gallons: 20.0 gal
Liters: 75.71 L
Pints: 160.0 pt
Fluid Ounces: 2560.0 fl oz
Milliliters: 75708.2 mL
Gallons: 11.0 gal
Liters: 41.64 L
Pints: 88.0 pt
Fluid Ounces: 1408.0 fl oz
Milliliters: 41639.51 mL
Gallons: 33.0 gal
Liters: 124.92 L
Pints: 264.0 pt
Fluid Ounces: 4224.0 fl oz
Milliliters: 124918.53 mL
Gallons: 99.0 gal
Liters: 374.76 L
Pints: 792.0 pt
Fluid Ounces: 12672.01 fl oz
Milliliters: 374755.59 mL
Conversions
Settings
History

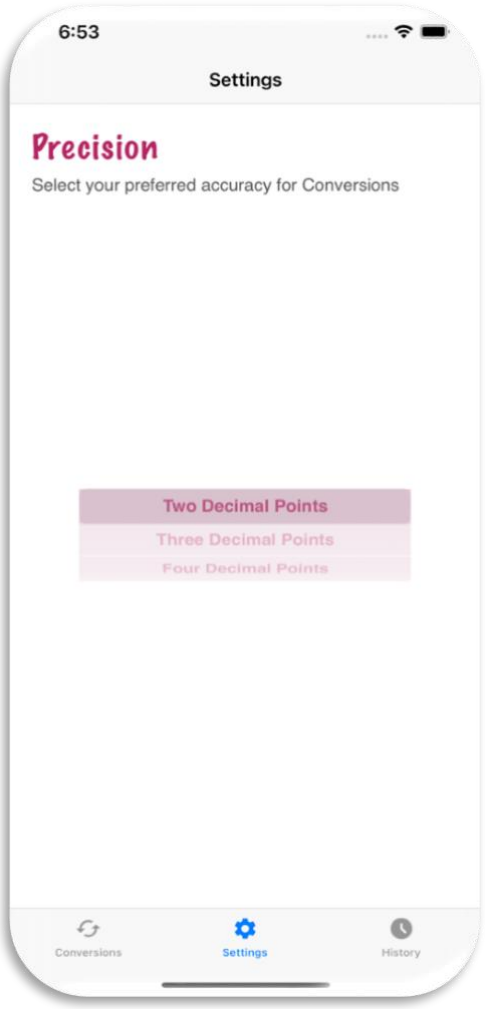
R8: After 5 saves the oldest conversion shall be removed from the list (first in - first out). - **Done**

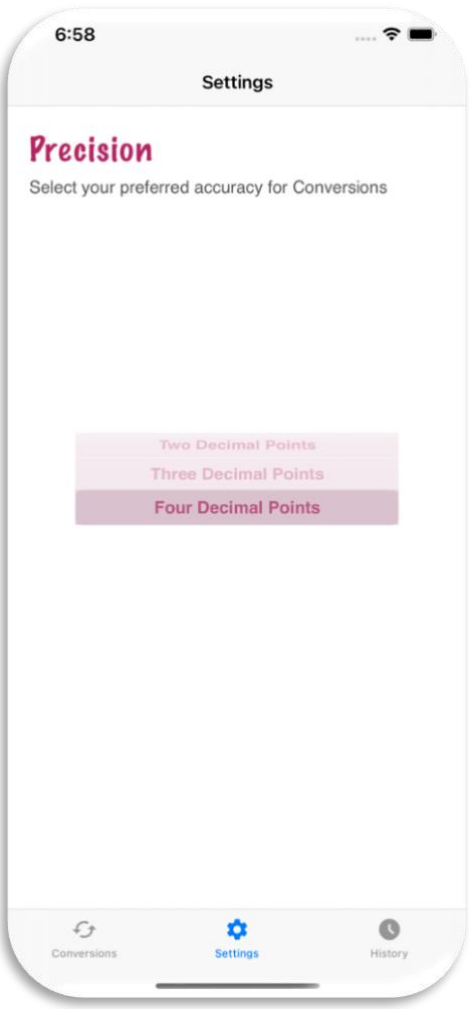
R9: The user shall be able to select the unit category in the History view – **Done** (above figures)

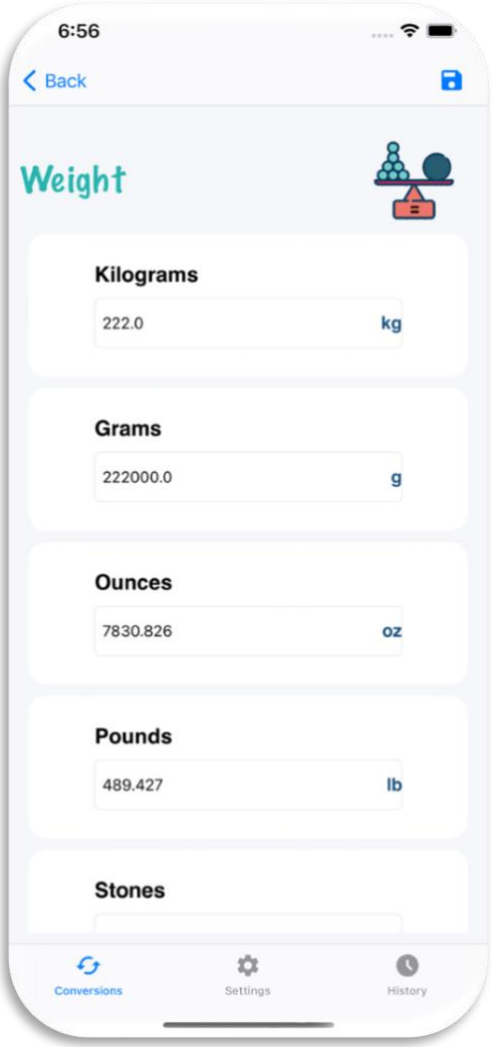
R10: The user shall be able to navigate back to the main view from the History view. - **Done**

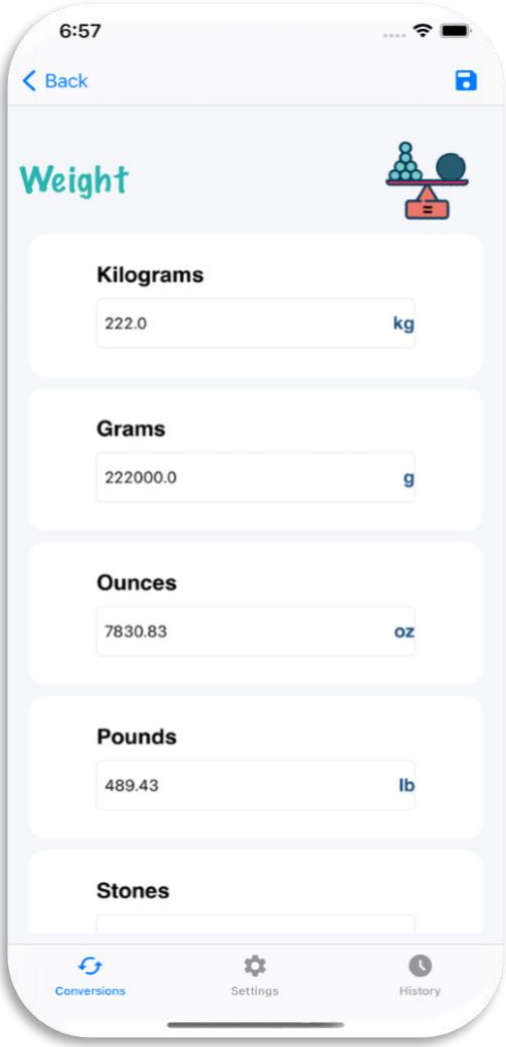
Settings View Requirements

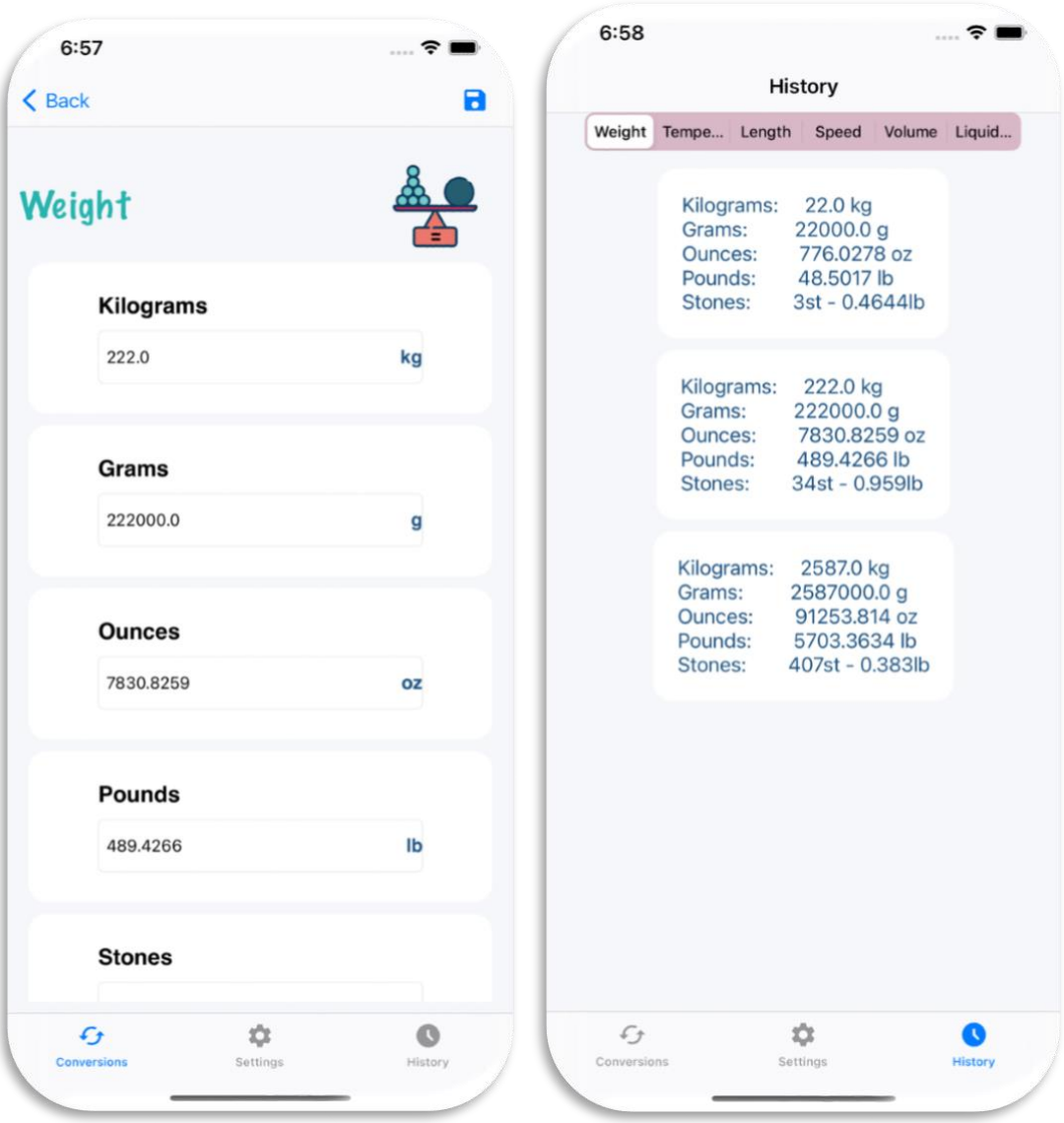
R11: The user shall be able to set the precision of the display from two decimal places to four. – **Done**
Works also for the history view (for previous calculations)

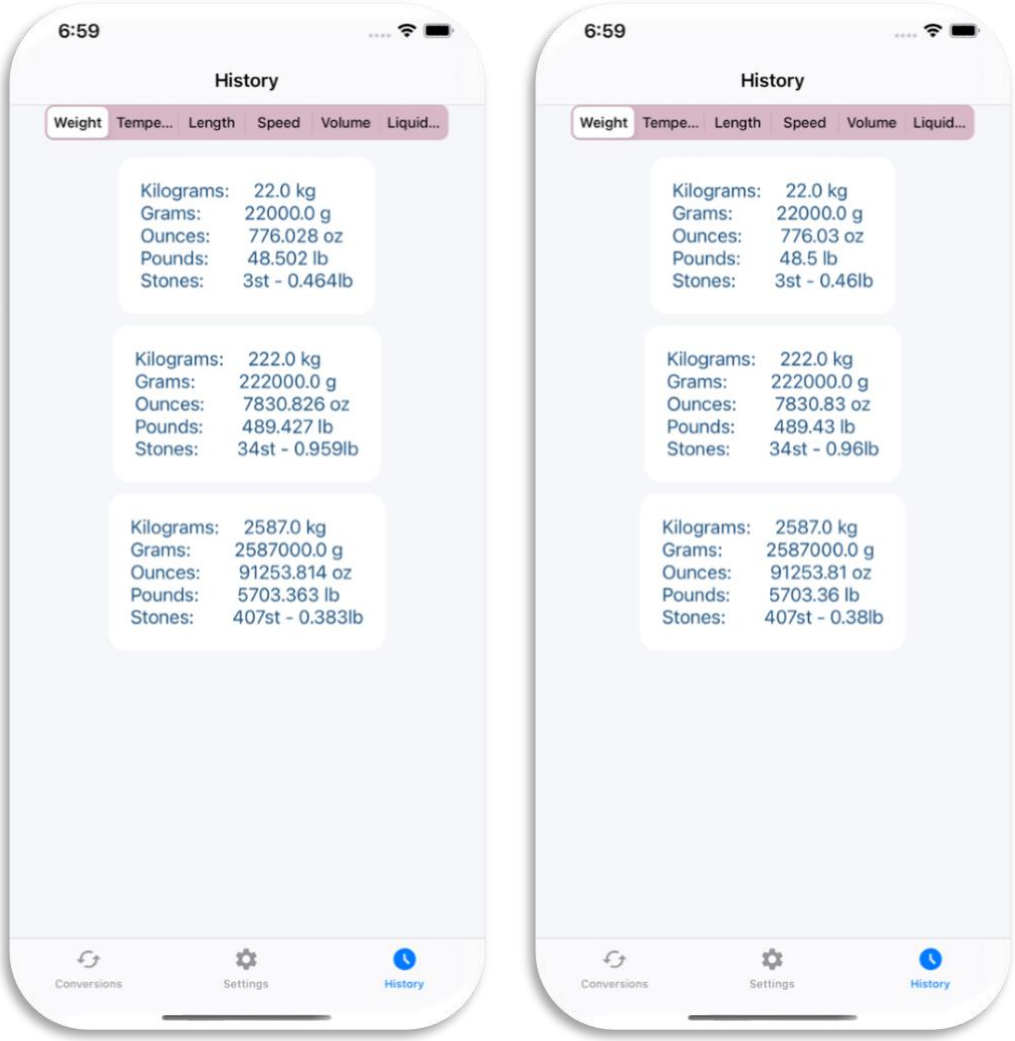





6:56
Back
Weight
Kilograms
222.0
kg
Grams
222000.0
g
Ounces
7830.826
oz
Pounds
489.427
lb
Stones
Conversions
Settings
History


6:57
Back
Weight
Kilograms
222.0
kg
Grams
222000.0
g
Ounces
7830.83
oz
Pounds
489.43
lb
Stones
Conversions
Settings
History


6:57
Back
Weight
Kilograms
222.0
kg
Grams
222000.0
g
Ounces
7830.8259
oz
Pounds
489.4266
lb
Stones
Conversions
Settings
History
6:58
History
Weight
Tempe...
Length
Speed
Volume
Liquid...
Kilograms: 22.0 kg
Grams: 22000.0 g
Ounces: 776.0278 oz
Pounds: 48.5017 lb
Stones: 3st - 0.4644lb
Kilograms: 222.0 kg
Grams: 222000.0 g
Ounces: 7830.8259 oz
Pounds: 489.4266 lb
Stones: 34st - 0.959lb
Kilograms: 2587.0 kg
Grams: 2587000.0 g
Ounces: 91253.814 oz
Pounds: 5703.3634 lb
Stones: 407st - 0.383lb
Conversions
Settings
History



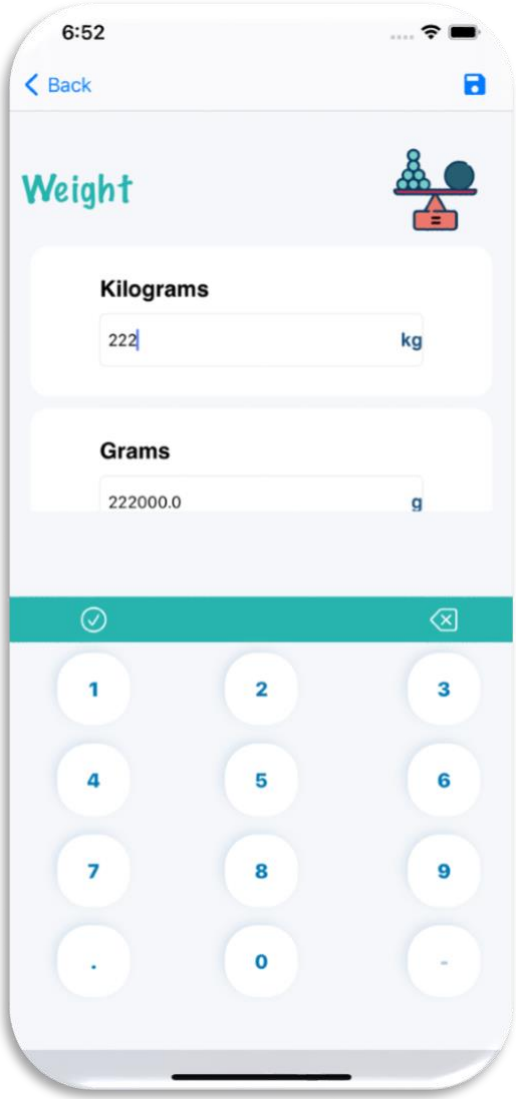
Other Required Functions

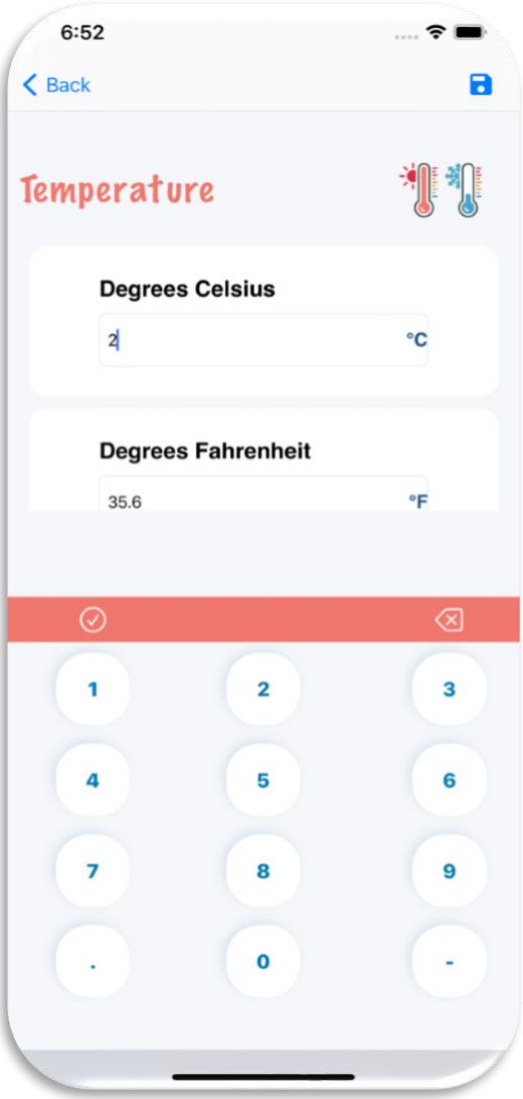
Requirement	State
As soon as the user begins to type numbers on the keyboard the conversions shall appear in the other text fields.	Done
If the user wishes to save the current conversion, then they must select the save icon on the toolbar.	Done
The user can change the accuracy of the displayed conversion via the settings view.	Done

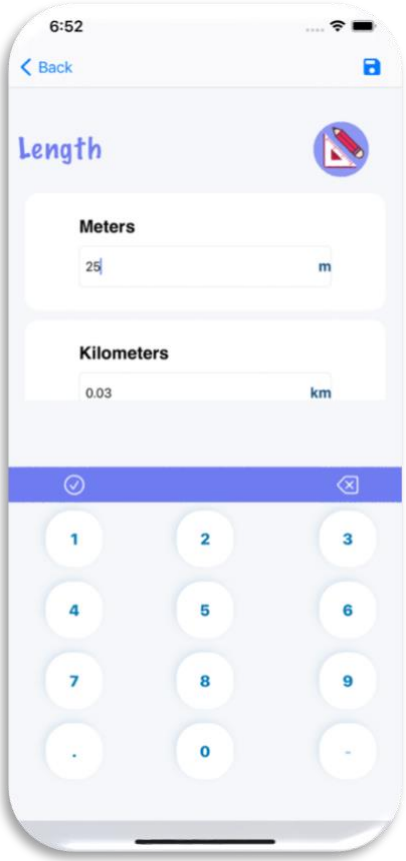
Keyboard Requirements

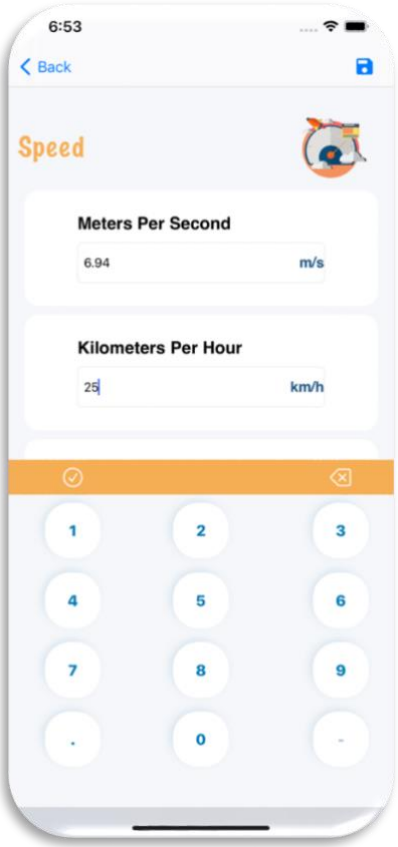
The app shall have a custom keyboard and shall have keys 0-9, delete last entry key, decimal point, and a negative key (only used for temperatures) – **Done**

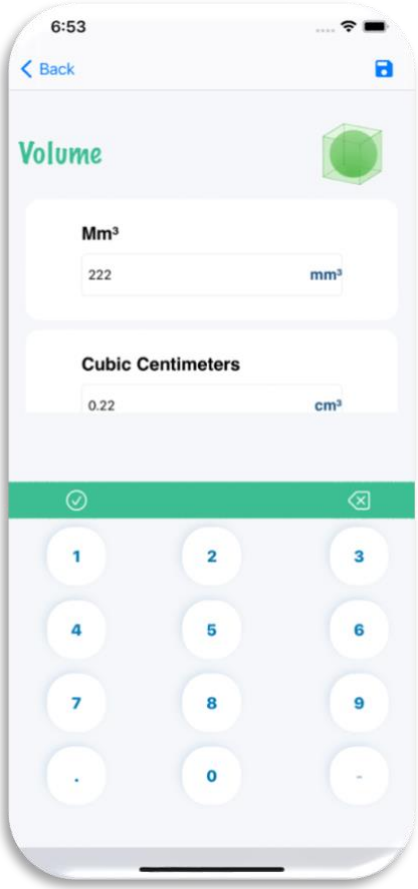
Styled according to the theme of the conversion type.
Negative key is disabled for conversions except Temperature
Animated button click.

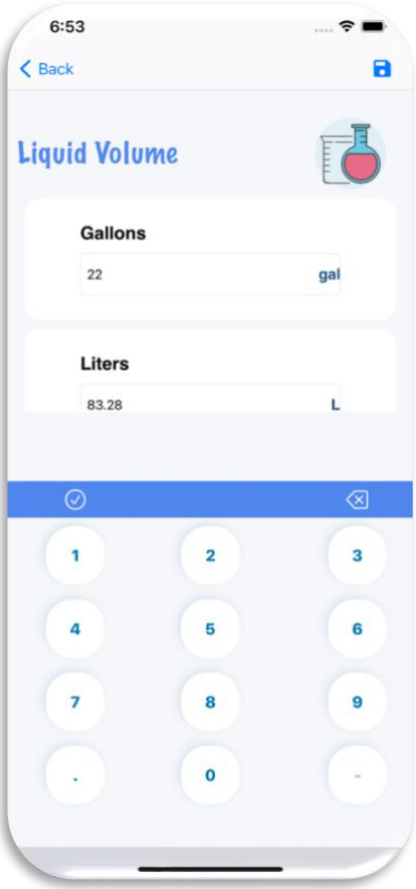





6:52
Back
Length
Meters
25
m
Kilometers
0.03
km
1
2
3
4
5
6
7
8
9
.
0
-


6:53
Back
Speed
Meters Per Second
6.94
m/s
Kilometers Per Hour
25
km/h
1
2
3
4
5
6
7
8
9
.
0
-


6:53
Back
Volume
Mm³
222
mm³
Cubic Centimeters
0.22
cm³
1
2
3
4
5
6
7
8
9
.
0
-


6:53
Back
Liquid Volume
Gallons
22
gal
Liters
83.28
L
1
2
3
4
5
6
7
8
9
.
0
-

Non Functional Requirements

Requirement	State
The app shall render well in all iPhone from 8 to iPhone 12 series	Done
The app shall only support portrait mode.	Done
All strings must be well formatted and correctly spelt.	Done
All units must be correctly labelled.	Done
All conversion calculations shall be correct	Done
Conversion history must be persistent, even when the app has been closed (this means killed and not just backgrounded)	Done

Additional Works

1. Responsive Mosaic Layout (Work responsively in all iPhone from 8 to iPhone 12 series. Also, in the iPod 7 – 7th generation)
2. Unique theme for each conversion type
3. Animated the button press in the custom keyboard
4. Splash screen, App Icon
5. Negative key disabled for conversions except Temperature
6. Precision works also for the history view (for previous calculations)
7. Added history views for other two conversions as well (length, solid volume).
8. Added solid volume conversions among Mm^3, Cubic Centimeters, Cubic Meters