Overview

This document,

- Details the features and functions available in the first version of demo app, aka Messi v1.0, which was designed and developed according to the initial specification requirements;
- Details the features and functions available in the second version of demo app, aka Messi v2.0, which was enhanced based on v1.0;
- Compares v1.0 and v2.0, and describes the enhancements made.
- Gives ideas for future enhancement.

Messi v1.0 Documentation

APP DEFINITION STATEMENT

"Messi" is an incoming SMS text message management mobile application to be used together with Ford's SYNC system on vehicle head unit.

Messi implements Ford's AppLink APIs, allowing vehicle occupants to have control of Messi's features through the use of in-vehicle Human Machine Interfaces (HMI).

ABSTRACT

This application runs on Android phones.

It serves as a simple temporary incoming SMS text message management application while connecting to the SYNC system in vehicle. Any messages received during this period would not be stored in the application in a persistent manner.

Messages in the application contain the following properties:

- Sender of the message
- Body of the message
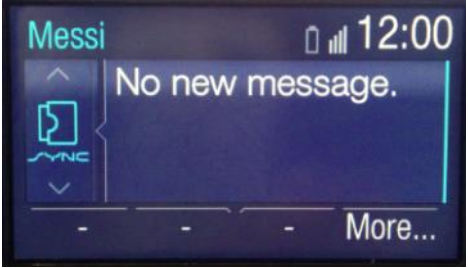- Index of the message in current message list

Features:

- Alerting user to an incoming SMS text message immediately, if no other alert is in progress, via HMI;
- Reading an incoming message's body aloud via HMI;
- Viewing a particular message's details via HMI;
- Viewing the next message's details, if there is a message received after the current one, via HMI;
- Quick replying to a particular message via HMI;
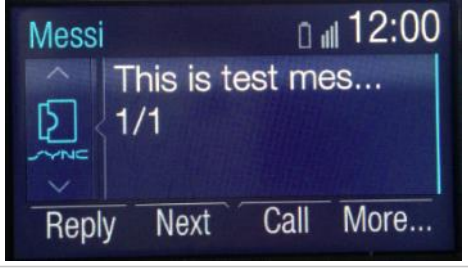- Calling the sender of a particular message via HMI.
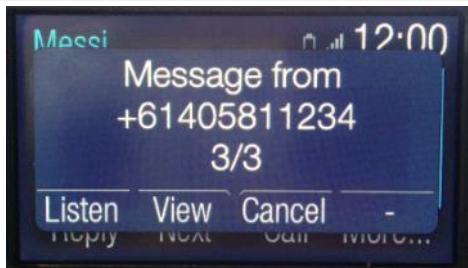
BRIEF WALKTHROUGH

1: Home screen

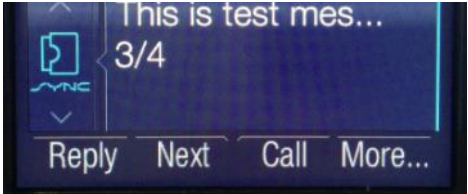| NO.	ACTION	RESULT	VIEW (Version 1.0)
1-1	Enter the app from SYNC.	Welcome message is displayed.	

| 1-2 | Press "More" then "Exit Messi"; Enter the app again. | The message that was viewed before exit, or "No new message", is displayed. | |

2a: Receive messages one by one

NO.	ACTION	RESULT	VIEW
2a-1	The first new message is received.	Alert for this message is popped up.	
2a-2	Press "View".	This message's details are displayed.	
2a-3	The second new message is received.	Alert for the second message is popped up.	

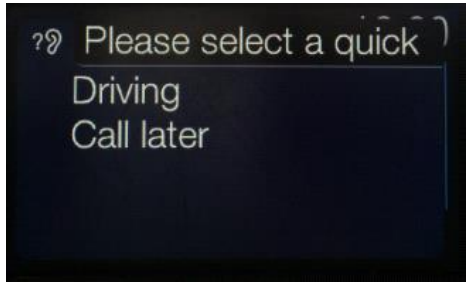## 2b: Receive multiple messages around the same time

NO.	ACTION	RESULT	VIEW
2b-1	The third new message is received.	Alert for the third message is popped up.	
2b-2	The fourth message is received while alert for the third message is still in progress.	No alert is displayed for the fourth message.	As above.
2b-3	Press "View".	The third message's details are displayed. (Note it is showing	

		3/4 instead of 3/3, indicating there is one more message after this.)	
2b-4	Press "Next".	Alert for the fourth message is popped up.	

3: Read message body aloud

NO.	ACTION	RESULT	VIEW
3-1	From 2a-1, press "Listen".	SYNC reads this message's body aloud.	Same as 2a-1.

4: Quick reply

NO.	ACTION	RESULT	VIEW
4-1	From 2a-2, press "Reply".	A VR choice selector is displayed.	
4-2a	Speak "Driving".	A quick reply of "I am driving right now" is sent.	
4-2b-1	Press any button.	A menu choice selector is displayed.	
4-2b-2	Press "OK" to select "Driving".	A quick reply of "I am driving right now" is sent.	Same as 4-2a.

5: Call back

NO.	ACTION	RESULT	VIEW
5-1	From 2a-2, press "Call".	A "Dialling" window is popped up.	
5-2	Press "End Call".	Home screen is shown.	

USAGE

This application requires running on an actual Android phone. Bluetooth access is essential.

BUILD REQUIREMENTS

API level 19 or later

RUNTIME REQUIREMENTS

Android 4.4 or later

CHANGES FROM PREVIOUS VERSIONS

Version 1.0

Messi v2.0 Documentation

APP DEFINITION STATEMENT

"Messi" is an incoming SMS text message management mobile application to be used together with Ford's SYNC system on vehicle head unit.

Messi implements Ford's AppLink APIs, allowing vehicle occupants to have control of Messi's features through the use of in-vehicle Human Machine Interfaces (HMI).

ABSTRACT

This application runs on Android phones.

It serves as a simple temporary incoming SMS text message management application while connecting to the SYNC system in vehicle. Any messages received during this period would not be stored in the application in a persistent manner.

Messages in the application contain the following properties:
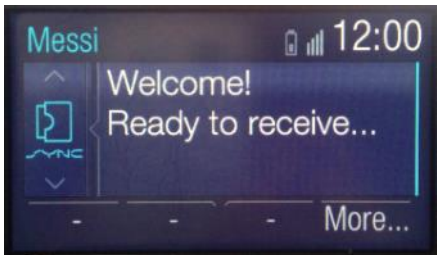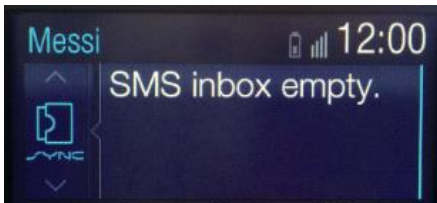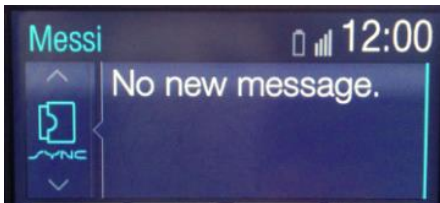
- Sender of the message
- Body of the message
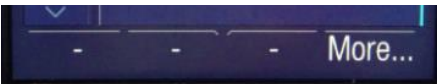- Index of the message in current message list

Features:

- Alerting user to an incoming SMS text message immediately, if no other alert is in progress, via HMI;
- Viewing a particular message's details via HMI;
- Viewing the next message's details, via HMI;
- Reading an incoming message's body aloud via HMI;
- Quick replying to a particular message via HMI;
- Calling the sender of a particular message via HMI;
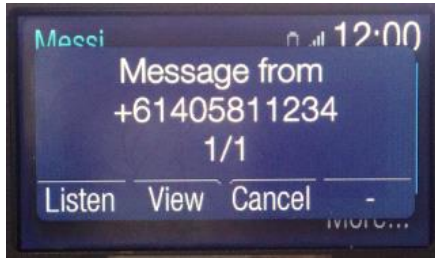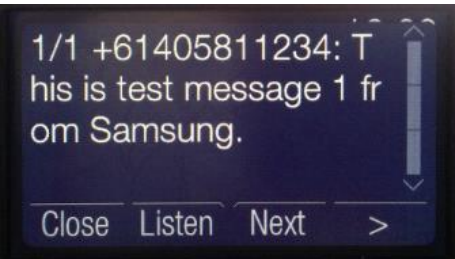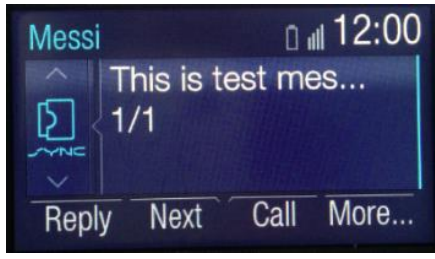- Viewing all incoming SMS text messages in a list, sorted by receiving time, via HMI.
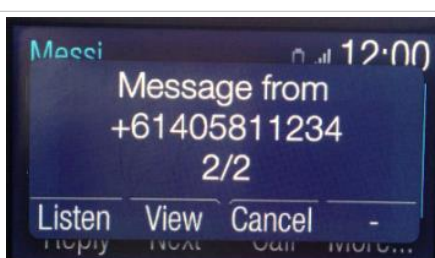
BRIEF WALKTHROUGH (with comparison to v1.0)

1: Home screen

NO.	ACTION	RESULT	VIEW	VIEW (Version 1.0)
1-1	Enter the app from SYNC.	Welcome message is displayed.	Messi 12:00 Welcome! Ready to receive... More...	Messi 12:00 Welcome! More...
1-2a	Press "More" then "Exit Messi"; Enter the app again.	When no message has been received, "SMS inbox empty" is displayed.	Messi 12:00 SMS inbox empty.	Messi 12:00 No new message.

		displayed.			
1-2b	As above.	Otherwise, "More>Inbox" is displayed to remind users of the messages received.	Messi 🔋📶 12:00 More > Inbox More...	The message that was viewed before exit, if applicable, is displayed.

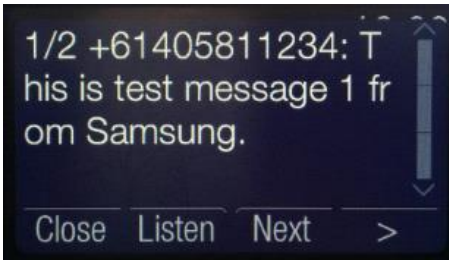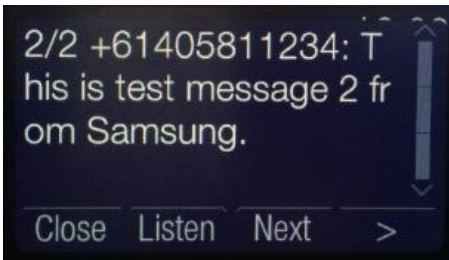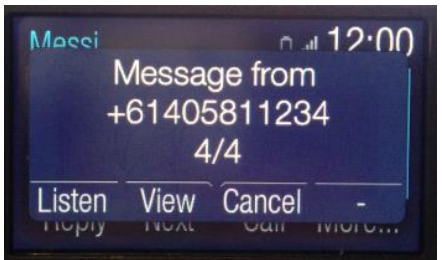## 2a: Receive messages one by one

NO.	ACTION	RESULT	VIEW	VIEW (Version 1.0)
2a-1	A new message is received.	Alert for this message is popped up.	Messi 🔋📶 12:00 Welcome! Incoming msg from +61405811234 Listen View Ignore - More...	Messi 📶 12:00 Message from +61405811234 1/1 Listen View Cancel - More...
2a-2	Press "View".	This message's details are popped up. (Press ">" will show soft buttons "Reply" and "Call".)	1/1 +61405811234: This is test message 1 from Samsung. Close Listen Next >	Messi 🔋📶 12:00 This is test mes... 1/1 Reply Next Call More...
2a-3	Press "Close" or wait until timeout.	Home screen is shown.	Messi 🔋📶 12:00 More > Inbox More...	NA.
2a-4	Another new message is received.	Alert for this message is popped up.	Messi 🔋📶 12:00 Welcome! Incoming msg from +61405811234 Listen View Ignore - More...	Messi 📶 12:00 Message from +61405811234 2/2 Listen View Cancel - Reply Next Call More...

2b: Receive multiple messages around the same time
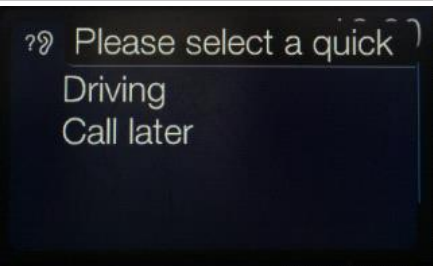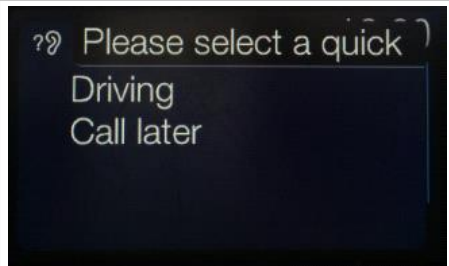
NO.	ACTION	RESULT	VIEW	VIEW (Version 1.0)

2b-1	A new message is received.	Alert for this message is popped up.		
2b-2	Another new message is received while alert for the current one is still in progress.	No alert is displayed for the latest message.	As above.	As above.
2b-3	Press "View".	The current message's details are popped up. (Note it is showing 1/2 instead of 1/1, indicating there is one more message after this.)		
2b-4	Press "Next".	The next message's details are popped up.		

3: Read message body aloud

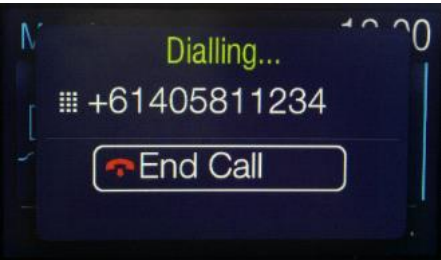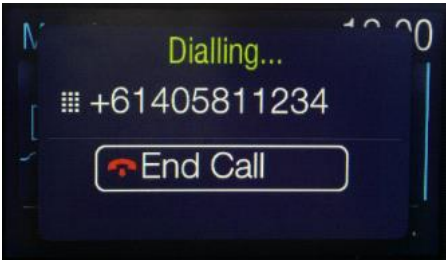| NO.	ACTION	RESULT	VIEW	VIEW (Version 1.0)
3-1	From 2a-1, press "Listen".	SYNC reads this message's body aloud.	Same as 2a-1.	Same as 2a-1.
3-2	From 2a-2, press "Listen".	SYNC reads this message's body aloud.	Same as 2a-2.	Same as 2a-2.

4: Quick reply

NO.	ACTION	RESULT	VIEW	VIEW (Version 1.0)
4-1	From 2a-2, press ">" then "Reply".	A VR choice selector is displayed.		
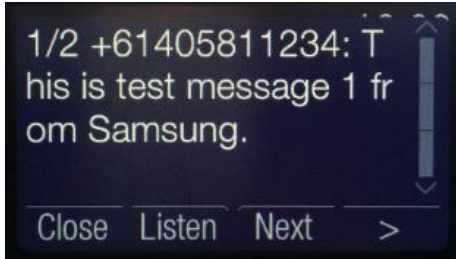
4-2a	Speak "Driving".	A quick reply of "I am driving right now" is sent.		
4-2b-1	Press any button.	A menu choice selector is displayed.		
4-2b-2	Press "OK" to select "Driving".	A quick reply of "I am driving right now" is sent.	Same as 4-2a.	Same as 4-2a.

5: Call back

NO.	ACTION	RESULT	VIEW	VIEW (Version 1.0)
5-1	From 2a-2, press ">" then "Call".	A "Dialling" window is displayed.		
5-2	Press "End Call".	Home screen is shown.		

6: View message list

NO.	ACTION	RESULT	VIEW	VIEW (Version 1.0)
6-1	Press "More".	Submenu "Inbox" is shown.		NA.

6-2	Press "Inbox".	A list of all messages received is show.		NA.
6-3	Use "Up", "Down" and "OK" to select a message.	The selected message's details are popped up.		NA.

USAGE

This application requires running on an actual Android phone. Bluetooth access is essential.

BUILD REQUIREMENTS

API level 19 or later

RUNTIME REQUIREMENTS

Android 4.4 or later

CHANGES FROM PREVIOUS VERSIONS

Feature	Version 1.0	Version 2.0
Viewing a particular message's details via HMI	Details of a message are displayed using operation "Show" -- • Only the beginning of the message body can be seen; • The content of the display text area will remain unchanged until updated by subsequent calls to Show.	Details of a message are displayed using operation "ScrollableMessage" -- • Text of the message body is scrollable; • User can close the popup manually or wait until timeout.
Viewing the next message's details, via HMI	When user chooses to view the next message -- • An "Alert" has to be called, as the "Listen" soft button is only available from an "Alert" popup that notifies an incoming message. • If the current message is the latest one, no other message will be shown.	When user chooses to view the next message -- • Full details of the next message are displayed in a "ScrollableMessage" popup, which also includes the "Listen" soft button; • If the current message is the latest one, the first message in the message list will be shown.
Reading an incoming message's body aloud via HMI	The function is only available by pressing the "Listen" soft button in an "Alert" popup that notifies an incoming message.	The function is available by pressing the "Listen" soft button in either an "Alert" popup that notifies an incoming message, or a "ScrollableMessage" popup that displays the message details.
Viewing all incoming SMS text	Not implemented.	Implemented.

messages in a list, sorted by receiving time, via HMI		

Ideas for Future Enhancement

Below describes how I wish the application would behave in certain contexts ; however, they may be heavily relying on the capabilities of the APIs therefore may be out of scope. (Images below refer to the generic Phone app on HU.)

1. When "Alert" that notifies an incoming message pops up, pressing soft button "Listen" does not dismiss the alert; Instead, HU reads the message body aloud while the "Listen" button is highlighted.

2. In submenu "Inbox", message history is presented in a scrollable list with soft buttons.

3. When a message is closed, go back to Inbox (see image above) instead of Home screen.
4. When "ScrollableMessage" that displays a message's details pops up, pressing soft button "Next" does not dismiss the current pop up then brings up a new one for the next message; Instead, the text field of the current one is updated smoothly.
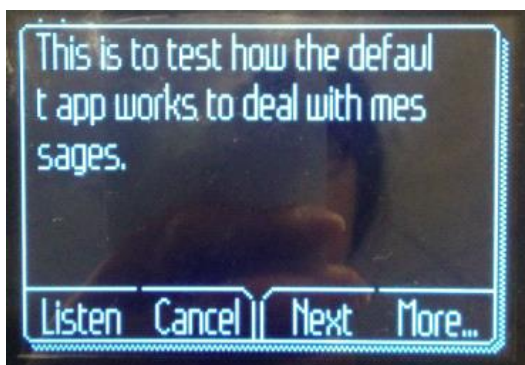
5. When function "Reply" or "Call" is done, go back to the message details pop up (see image above) instead of Home screen.