**(1a) At QRF app: Screen 1 (login information screen)**

**App -> Server**

<msg>

<session>28a92ba6-80f7-11e7-bb31-be2e44b06b34</session>

<device\_identifier> 00:g1:d5:a3:b4:c23 </ device\_identifier >

<class\_name> Meigs\_Grade6\_2017 </ class\_name >

</msg>

*<device\_identifier> can be any unique identifier of the mobile, like MAC address.*

*Length of <class\_name> is 5 to 20 characters*

**(1b) Server -> App**

**IF** class\_name does not match with offering name at server [App remains at same screen]:

<msg>

<string> No <string>

</msg>

**ELSE** [App moves to screen 2]

<msg>

<string> Yes </string>

</msg>

**(1 or 2?) At QRF app: Screen 2 ----------------**

<msg>

<List>

<Item1>

<Name> John </Name>

<ID> A01 </ID>

</Item1>

<Item2>

<Name> Mary </Name>

<ID> A02 </ID>

</Item2>

<item3>

. . .

</List>

</msg>

*Length of <Name> is 1-20 characters.*

*Length of <ID> is 2-5 characters.*

**(2a) After researcher clicks “Done” on Screen 2**

**App -> Server**

(Request signaling that app is ready to receive messages)

<msg>

<session>28a92ba6-80f7-11e7-bb31-be2e44b06b34</session>

<request\_to\_server> I AM READY !!</ request\_to\_server >

<device\_identifier> 00:g1:d5:a3:b4:c23 </ device\_identifier >

</msg>

**(2b) Server -> app**

<msg>

<name> Mary </name>

<ID> A02 </ID>

<time\_when\_occurred> 10:40:58 AM </time\_when\_occurred>

<was> Bored </was>

<is> Confused </is>

<occurrence\_type> Change in affect </occurrence\_type>

</msg>

*Length of <time\_when\_occurred> is 5-20 characters.*

*Length of <Was>/<Is>/<occurrence\_type> is 3-30 characters.*

*[ <time\_when\_occurred> can, instead of the above format, also show the difference of current time and time when the pattern occurred (for example, <time\_when\_occurred> 1 min 20 sec before </time\_when\_occurred> ]*

**(3a) At QRF app: Screen**

(Message sent by server is displayed here)

**App -> Server**

**IF** researcher clicks on “Accept msg”:

<msg>

<session>28a92ba6-80f7-11e7-bb31-be2e44b06b34</session>

<acknowledgement\_to\_server>MESSAGE ACCEPTED </acknowledgement\_to\_server>

</msg>

**ELSE IF** researcher clicks on “Drop message”:

<msg>

<session>28a92ba6-80f7-11e7-bb31-be2e44b06b34</session>

<acknowledgement\_to\_server> MESSAGE DROPPED </acknowledgement\_to\_server>

</msg>

**(4a) At QRF app: Screen 3 (Researcher clicks “Next student”, indicating that it is again ready to receive messages) – Again request is sent to server, and server replies with message.**

**App -> Server**

(Request signaling that app is ready to receive messages)

<msg>

<request\_to\_server> I AM READY !!</request\_to\_server>

<device\_identifier> 00:g1:d5:a3:b4:c23 </device\_identifier>

</msg>

…………………..The same process (Steps 3 & 4) is repeated till end of session………………………..

**(5a) At the end of session (Researcher clicks “End session”)**

**App -> Server**

<msg>

<session>28a92ba6-80f7-11e7-bb31-be2e44b06b34</session>

<list>

<item1>

<name> John </name> <id> A01 </id>

<data> ….Entire session data for this student… </data>

</item1>

<item2>

. . .

</item2>

. . .

</list>

<username\_of\_researcher> AB001 </username\_of\_researcher>

<current\_date\_and\_time> 08.01.2017 02:15:30 PM </current\_date\_and\_time>

</msg>

<data> includes both audio and text data collected from the student, along with time when the data was collected, and the pattern message sent by the server which prompted the collection of this data.

**(5b)**

**Server -> App**

<msg>

<acknowledgement\_for\_receipt\_of\_session\_data> Data received </acknowledgement\_for\_receipt\_of\_session\_data>

</msg>

**App ends session, and is ready for next session.**