**Smart Application – SMARTBUS (SB)**

**User Groups**

1. School Transport Coordinator (administrator of child bus route allocation)
2. Bus Company (driver/bus assistant)
3. Parents
4. IT Staff

**User - School IT Staff**

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| SPOT | |
| Story | RFID cards issue |
| As a … | an School IT Staff Member |
| I Want… | to allocate student RFID card to new students |
| So That… | so that each student is allocated a unique RFID card |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria - 1 | All students traveling on the school bus to be allocated RFID card with the following details   * Unique number per RFID card * Students full name |
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| SPOT | |
| Story | RFID cards issue |
| As a … | an School IT Staff Member |
| I Want… | to allocate family RFID card to student’s guardian (one or multiple) for those students who require a guardian to assist the student on/off the pass |
| So That… | each student’s guardian(s) has a unique RFID card |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria - 1 | All student’s guardians (one or many) to be allocated RFID card with the following details   * Unique number per RFID card * Guardians full name |
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**User – School Transport Coordinator**

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| SPOT | |
| Story | Identify students and guardians |
| As a … | School Transport Coordinator |
| I Want… | to identify those students who require a guardian to on board/off board on to the bus |
| So That… | those students requiring a guardian are identified on the system as a primary concern for the school transport department |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria - 1 | All student’s requiring a guardian are identified on the system with the following details   * Student’s full name * Guardian’s full name * Guardian’s relationship to student (Father/Mother/Helper) |
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| SPOT | |
| Story | Bus routes planner – student details add/delete |
| As a … | School Transport Coordinator |
| I Want… | to add/delete the address details of all students taking bus routes to and from school |
| So That… | the bus route has accurate address details of each student |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria - 1 | All student’s pick up and drop off address are identified on the system with the following details   * Student’s full name * Unit number * Street number * Street name * Condominium name * Suburb * Postcode * Student mobile \* * Student email |
| Acceptance criteria – 2 | If the student has alternate residential address also identify on the system |
| Acceptance criteria – 3 | Class (Pre K, KG1, KG2, Grade 1-12)   * + - Teacher Name     - Teacher Assistant Name 1     - Teachers Assistant Name 2 |
| Acceptance criteria – 4 | Child Photo (not applicable for summer camp bus routes) |
| Acceptance criteria – 5 | Child Notes   * Motion Sickness/illness/Other |
| Acceptance criteria – 6 | Ability to delete the address details of the student |

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| SPOT | |
| Story | Bus routes planner |
| As a … | School Transport Coordinator |
| I Want… | to create a bus route plan |
| So That… | each student is allocated to a bus route |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to select a calendar to mark week beginning to create the bus route  (bus route creation done on a Wednesday and approved on Thursday) |
| Acceptance criteria – 2 | Ability to have an effective from date and effective to date for bus route |
| Acceptance criteria – 3 | Ability to associate child passenger address to bus route AM/PM |
| Acceptance criteria – 4 | Ability to associate child passenger address to one bus route only (AM/PM) |
| Acceptance criteria – 5 | Ability to associate child passenger address to bus route AM/PM for 7 days in advance |
| Acceptance criteria – 6 | Ability to associate two bus routes for a given child passenger for a PM route   * PM there is a co-circular bus that a child passenger may take in addition to being allocated his normal PM bus route. * Co-circular bus routes are for students who stay behind class and attend co-circular activities. They are allocated to a separate bus route * The system must still allocate the seat to the child passenger normal PM bus route. Seat must be marked as allocated but denote that child is not going to take the bus as he/she taking co-circular bus |
| Acceptance criteria – 7 | Ability to associate a child passenger address to a different AM and PM address vice versa (example in morning the child passenger may get picked up from stop A and dropped off at stop B) |
| Acceptance criteria – 8 | Ability to remove or add child passengers to bus route on daily basis |
| Acceptance criteria – 9 | Ability to remove or add a bus stop to a bus route on a daily basis |
| Acceptance criteria – 10 | Ability to calculate and enforce a rule not to allow a child to be on a bus route for more than 45 minute. Do not allow bus route to be created when such breach. |
| Acceptance criteria – 11 | Ability to calculate total distance of bus route in KM |
| Acceptance criteria – 12 | Ability to display estimated total time of route |
| Acceptance criteria – 13 | Ability to + Add or – Subtract Bus Routes from Bus Route Planner |
| Acceptance criteria – 14 | Ability after bus routes is finalized and rules (no child on bus route for >45 mins) are adhered to send for verification   * Verification must be approved by Campus Manager (Stamford case) |
| Acceptance criteria – 15 | Ability to delete child details from database if child no longer at school |
| Acceptance criteria – 16 | Ability to delete child details from database if child no longer taking bus (must be notified by parent through to transport co coordinator) |

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| SPOT | |
| Story | Bus routes planner – student’s family/guardian details add/delete |
| As a … | School Transport Coordinator |
| I Want… | the contact details of each student’s family or guardian |
| So That… | the School Transport Coordinator and or system can provide message information on child whereabouts to the student’s family and or guardian |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria - 1 | All student’s family/guardian details are identified on the system with the following details   * Family/Guardian Full Name |
| Acceptance Criteria – 2 | * Family/Guardian Contact Number(s) – Work, Home, Mobile, Email |

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| SPOT-2.7 | |
| Story | Bus routes planner – bus details add/delete |
| As a … | School Transport Coordinator |
| I Want… | I want to see the bus details, bus driver and bus assistant contact details (full name, IC, address and mobile) and allocation to bus route |
| So That… | I am able to contact bus driver and or bus assistant |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria - 1 | Bus Driver Details   * Fist Name, Last Name, Driver’s License, Contact Number |
| Acceptance Criteria – 2 | Bus Assistant Details   * Fist Name, Last Name, Drivers License, Contact Number |
| Acceptance Criteria – 3 | Vehicle Details   * Bus Type/Model * Max Seat Capacity * Current Seat Capacity * Registration * Year of operation * Service History Date * Major Service Date |

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| SPOT | |
| Story | Alerts – Control Process |
| As a … | School Transport Coordinator |
| I Want… | to be informed when a student is still sitting on a bus more than 40 minutes |
| So That… | Students on bus routes are not allocated long bus routes |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Student and associated bus route is highlighted as a breach |
| Acceptance Criteria – 2 | School transport Coordinator is messaged immediately |

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| SPOT | |
| Story | Bus Map Display |
| As a … | School Transport Coordinator |
| I Want… | to be able to see the exact location of the bus on a map display |
| So That… | each bus location can be pinpointed at any one time |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to display graphical map view of all bus routes planned into the system as well as ability to display single view of each individual bus run on the map  Around 150 busses potentially (the bus route map data will be overcrowded with this amount. Bus routes need to be displayed easily.  Map display must be easily readable. Map has ability to be resized (zoom in and out) |
| Acceptance Criteria – 2 | Ability to search for a specific bus route and display that exact location of the bus on the route |
| Acceptance Criteria – 3 | Ability to provide filter criteria to reduce the number of bus routes on display. Filter criteria to include   * Bus route number * Bus routes that are delayed * Bus routes that have flagged emergency |

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| SPOT | |
| Story | Bus Route Display – Summary |
| As a … | School Transport Coordinator |
| I Want… | to know what bus stops have been completed or yet to be completed in summary view |
| So That… | every bus route shows what bus stops are completed (percentage completion) |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Icon based display of completed bus stops and yet to be completed bus stops across all bus routes that is dynamically updated |

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| SPOT | |
| Story | Bus Route Display – Summary |
| As a … | School Transport Coordinator |
| I Want… | Dynamic update of bus route information once bus has commenced start of route |
| So That… | I can monitor the entire bus routes |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to provide bus trip information dynamically  Bus Route  AM/PM  Status  Time to Arrival  Duration >45 mins indicator  Child Count (Accounted/unaccounted)  Stop Progress  Bus Driver  Bus Assistant  Schedule Time  Actual Time |
| Acceptance Criteria – 2 | Map View (link to map of specific bus) |
| Acceptance Criteria – 3 | Link to Detail View (link to specific bus information) |

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| SPOT | |
| Story | Bus Route Display – Detail |
| As a … | School Transport Coordinator |
| I Want… | Dynamic update of bus route information once bus has commenced start of route |
| So That… | I can monitor a selected bus routes |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
| Acceptance Criteria – 1 | Ability to provide bus trip information dynamically  Bus Route  Bus Details   * Bus Driver Name, Contact * Bus Assistant, Name Contact   Schedule time to arrival (AM/PM per stop)  Actual time to arrival (AM/PM per stop)  Late Arrival Reason (final destination)   * Bus Accident * Child Sick on board * Breakdown * Child late to stop * Emergency on board * Heavy Traffic   Display current stop progress and highlight completed stops and stops yet to be completed  Display how many students picked up or dropped off at each stop  Ability to see passenger details address book when selecting child  Display current distance along route  Display current bus duration and highlight if > than 45 minutes  Display start and end time of bus route actual  Display if breaching SLA for stop pickups and drop-offs and highlight which stop (AM/PM) |
| Acceptance Criteria – 2 | Icon display of accounted passengers with count   * tagged on with RFID by bus assistant * tagged off with RFID by bus assistant * received by guardian and tagged as received with RFID by bus assistant |
| Acceptance Criteria – 3 | Display of accounted away passengers (passengers that are not on the bus and are not present i.e. have notified bus that not requiring transport) |
| Acceptance Criteria – 4 | Icon display of unaccounted passengers with count   * tagged on with RFID by bus assistant * tagged off with RFID by bus assistant * not received by guardian and therefore not tagged with RFID by bus assistant   These student passengers are flagged and highlighted |
| Acceptance Criteria – 5 | Map View (link to map of specific bus) |

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| SPOT | |
| Story | Alerts – Control Process |
| As a … | School Transport Coordinator |
| I Want… | to be alerted if a student is not on boarded/off boarded at his or her designated bus stop |
| So That… | I am able to contact the bus driver/assistant to find out reason |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to receive text message for those students who have been off boarded at an incorrect stop |
| Acceptance Criteria – 2 | Text message contains  Text message header (child unaccounted incorrect stop)  students name  family/guardian contact details  bus route number |

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| SPOT | |
| Story | Alerts – Control Process |
| As a … | School Transport Coordinator |
| I Want… | to be alerted for those students who require guardian sign off but have not been received by the guardian |
| So That… | I can inform the guardian on the whereabouts of the child |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to receive text message for those students who have not been received by the guardian |
| Acceptance Criteria – 2 | Text message contains  Text message header (child unaccounted not received by guardian)  students name  family/guardian contact details  bus route number |

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| SPOT | |
| Story | Alerts - Parent Communication |
| As a … | School Transport Coordinator |
| I Want… | to send text messages out to all or selected registered parents/guardians |
| So That… | I can perform mass communication updates (bus delays, emergency communications etc) |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to send bulk text messages to parents/guardians simultaneously |

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| SPOT | |
| Story | Alerts – Bus Communication |
| As a … | School Transport Coordinator |
| I Want… | to send text messages to all or selected bus drivers and or assistants |
| So That… | bus drivers and assistants are able to receive communication updates from the school transport office |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to send predefined text messages to all or selected bus drivers and or assistants  Examples – “Please call Transport Office immediately” |
| Acceptance Criteria – 2 | Ability to send free text messages to all or selected bus drivers or assistants |

**User – School Bus Assistant/Bus Driver**

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| SPOT | |
| Story | Bus - On Boarding Off Boarding |
| As a … | Bus Assistant/Bus Driver |
| I Want… | to acknowledge students when on/off boarding |
| So That… | students are accounted for when boarding and off boarding the bus |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Use of RFID cards for verification |
| Acceptance Criteria – 2 | Audible sound and large icon display for verification of on boarding/off boarding |
| Acceptance Criteria – 3 | Display of students who have been successfully on/off boarded at given bus stop |
| Acceptance Criteria – 4 | Display of students requiring guardian/parent verification at a given bus stop |

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| SPOT | |
| Story | Bus - On Boarding Off Boarding |
| As a … | Bus Assistant/Bus Driver |
| I Want… | to acknowledge students that require parent/guardian verification |
| So That… | students with parent/guardian verification are accounted |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| --- | --- |
| Acceptance Criteria – 1 | Use of RFID cards for verification by parent/guardian |
| Acceptance Criteria – 2 | Audible sound and large icon display for verification for those students who have been received by parent or guardian |
| Acceptance Criteria – 3 | Successful verification of students that have been verified by parent/guardian |

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| SPOT | |
| Story | Bus - On Boarding Off Boarding |
| As a … | Bus Assistant/Bus Driver |
| I Want… | to mark a student as unaccounted |
| So That… | the student is flagged as unaccounted and will remain on the bus and taken back to school |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to flag student as unaccounted with visual highlight |
| Acceptance Criteria – 2 | Ability to override unaccounted status (in instance of parent/guardian turning up late) but has valid RFID card |
| Acceptance Criteria – 3 | Ability override ??? |

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| SPOT | |
| Story | Bus - On Boarding Off Boarding |
| As a … | Bus Assistant/Bus Driver |
| I Want… | to be alerted to the relevant student’s bus stop prior to approaching |
| So That… | students are identified and prepared prior to off boarding |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | After a completion of a stop and approaching the next stop only the relevant child passengers are displayed for on boarding or off boarding |
| Acceptance Criteria – 2 | Display in different icon or colour those students that are accounted or unaccounted (unaccounted if pre-determined from parent informing school transport office or if student has failed to board bus from start of bus route) |

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| SPOT | |
| Story | Bus - On Boarding Off Boarding |
| As a … | Bus Assistant/Bus Driver |
| I Want… | to be mark a student as unaccounted |
| So That… | students are identified as unaccounted if they fail to on board the bus |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to mark student as unaccounted if they are not present to on board |
| Acceptance Criteria – 2 | Ability to override the unaccounted status by a valid RFID card (in cases where student is late but just manages to make bus) |

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| SPOT | |
| Story | Bus - On Boarding Off Boarding |
| As a … | Bus Assistant/Bus Driver |
| I Want… | to be alerted if a student has missed or failed to be off boarded to their allocated bus stop |
| So That… | students that have missed their allocated bus stop are identified |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Visual alert if student has missed or failed to be off boarded to their allocated bus stop |
| Acceptance Criteria – 2 | Audible sound on such events |
| Acceptance Criteria – 3 | Ability to message school transport office that child has failed to be off boarded to their allocated bus stop |
| Acceptance Criteria – 4 | Ability for student to be off boarded and verified at the correct allocated bus stop after the event |
| Acceptance Criteria – 5 | (in case a student is off boarded to incorrect bus stop require the system to continue to process the next bus stop but display the student that has been misallocated) |

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| SPOT | |
| Story | Bus - Communication |
| As a … | Bus Assistant/Bus Driver |
| I Want… | to be alert school transport office of any emergencies |
| So That… | The school transport office is given emergency information |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Predefined text message notification detailing emergency  Bus breakdown  Car accident  Road block  Sick child  Other |

**User – Parents/Guardians**

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| SPOT | |
| Story | Bus - On Boarding Off Boarding |
| As a … | Parent/Guardian |
| I Want… | to acknowledge acceptance of my child when on/off boarding using RFID card |
| So That… | my child is acknowledged as being received |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Audible sound when RFID verification made |
| Acceptance Criteria – 2 | Text message stating that your child has been successfully on/off boarded |
| Acceptance Criteria – 3 | Ability to turn on/off text message notification |

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| SPOT | |
| Story | Bus Map – Parent/Guardian View |
| As a … | Parent/Guardian |
| I Want… | to view whereabouts of bus location |
| So That… | I can view the exact location of the bus at any one time |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Bus displayed on map view with accurate location (define location tolerance for accuracy) |
| Acceptance Criteria – 2 | Only one bus is displayed which is the students allocated bus |
| Acceptance Criteria – 3 | Bus display is refreshed every 5 secs (define rate) |

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| SPOT | |
| Story | Bus Notification – Parent/Guardian |
| As a … | Parent/Guardian |
| I Want… | to receive message that the bus is 5, 10 mins away from bus stop |
| So That… | I am aware of approaching bus and can be at bus stop on time |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to set up notification based on estimated time of arrival |
| Acceptance Criteria – 2 | Ability to turn on/off notifications |

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| SPOT | |
| Story | Bus Notification – Parent/Guardian |
| As a … | Parent/Guardian |
| I Want… | to receive message that the bus has successfully on/off boarded student |
| So That… | I am aware of student’s status along the bus route |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to receive message notification upon on boarding/off boarding |
| Acceptance Criteria – 2 | Ability to turn on/off notifications |

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| SPOT | |
| Story |  |
| As a … | Parent/Guardian |
| I Want… | To send text notification that a student is not requiring bus |
| So That… | I am able to inform the School Transport Office |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to notify system that child is not requiring AM/PM bus route by either School |
| Acceptance Criteria – 2 | Ability to provide reason why the child is not requiring to take AM/PM bus with predefined text message   * + - Child ill     - Parent pick up     - On holiday     - Emergency     - Other |
| Acceptance Criteria – 3 | Ability to provide advanced notification of child not requiring to take bus via calendar (up to 3months in advance) |

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| SPOT | |
| Story | Bus Details – Parent/Guardian |
| As a … | Parent/Guardian |
| I Want… | to view details of my designated bus driver, bus assistant and school transport office |
| So That… | I can contact bus driver / bus assistant /school transport office |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to view address book of bus driver, bus assistant and school transport office  Address book includes   * Full Name * Mobile |

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| SPOT | |
| Story | Bus Notification – Parent/Guardian |
| As a … | Parent/Guardian |
| I Want… | the ability to turn on/off automated bus notification |
| So That… | No notifications are sent to the application |
| Acceptance Criteria | The above functionality will be deemed acceptable when the following criteria has been satisfied |
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| Acceptance Criteria – 1 | Ability to suppress message communication in app settings |

**Questions**

1. How to start the system?
2. How fast to use RFID tag
3. How accurate bus location
4. What will be refresh rate

Still to consider

Bus Trip Reporting Portal (Bus Trip Analytics)

Expose data to Salesforce API (must have)

Change terms to be consistent

parent/guardian = guardian/parent