1. **Report No.1 Introduction**
2. **Project Information**
3. **Introduction**
4. **Current Situation**
5. **Problem Definition**
6. **Proposed Solution**

**5.1 Feature functions:**

* Web app: For Staff only.
* Manage routing: staff edit information for bus route and bus timetable.
* Notify new update data from server to staff: if official website (<http://www.buyttphcm.com.vn/>) has new data, background process will notify to staff and staff will decide approve this update or not.
* Background process:
* Check new data periodically: Background process will check new data at 0 AM each day. If background process detects that data has been changed, background process will write new data to temporary database and notify messages for staff.
* Mobile app:
* Find bus route through from two points to four points: user inputs start point, two optional middle points and end point and optional departure time. Application will find the best bus route from start point through middle points to end point which optimize condition (shortest time, least number change route)
* Find bus route through from two points to four points with optimize: user inputs start point, two optional middle points and end point and optional departure time, then choose “optimize” option. Application will find the best bus route from start point through three points which optimize condition (shortest time, least number change route), no matter order last three points.
* Find motorcycle route through from two points to four points: user inputs start point, two optional middle points and end point and optional departure time. Application will find the best motorcycle route from start point through middle points to end point which optimize condition shortest time.
* Find motorcycle route through from two points to four points with optimize: user inputs start point, two optional middle points and end point and optional departure time, then choose “optimize” option. Application will find the best motorcycle route from start point through three points which optimize condition shortest time, no matter order last three points.
* Wear app:
* Bus:
* App will notify for user when bus  nears the station that user should to leave:  if bus in  circular range of station of  the route's plan, application will show the message name of the next station  in two minutes and will notify again one minutes later with special sound and vibrate the smart watch until user turn off.
* Motorcycle:
* App will notify when user has to turn route: if user drives in circular range of next turn, application will automatically show message which should to do next and vibrate until user out of this range.
* Map:
  + Show your current location: show current user location on map with route user should to go (including bus or motorbike).

**5.2 Advantages and disadvantages:**

* Advantages:
* Support optimization passes through multi points.
* Support on smart wear, they can look up information easy. User don't need to use mobile phone. Decreased ability to stolen.
* Disadvantages:
* Smart wear has high price and these screen is slightly small, hard to use for newbie.
* Have not supported directly from the transportation office as other applications, so accurate data are limited.

1. **Functional Requirements**
2. **Role and Responsibility**