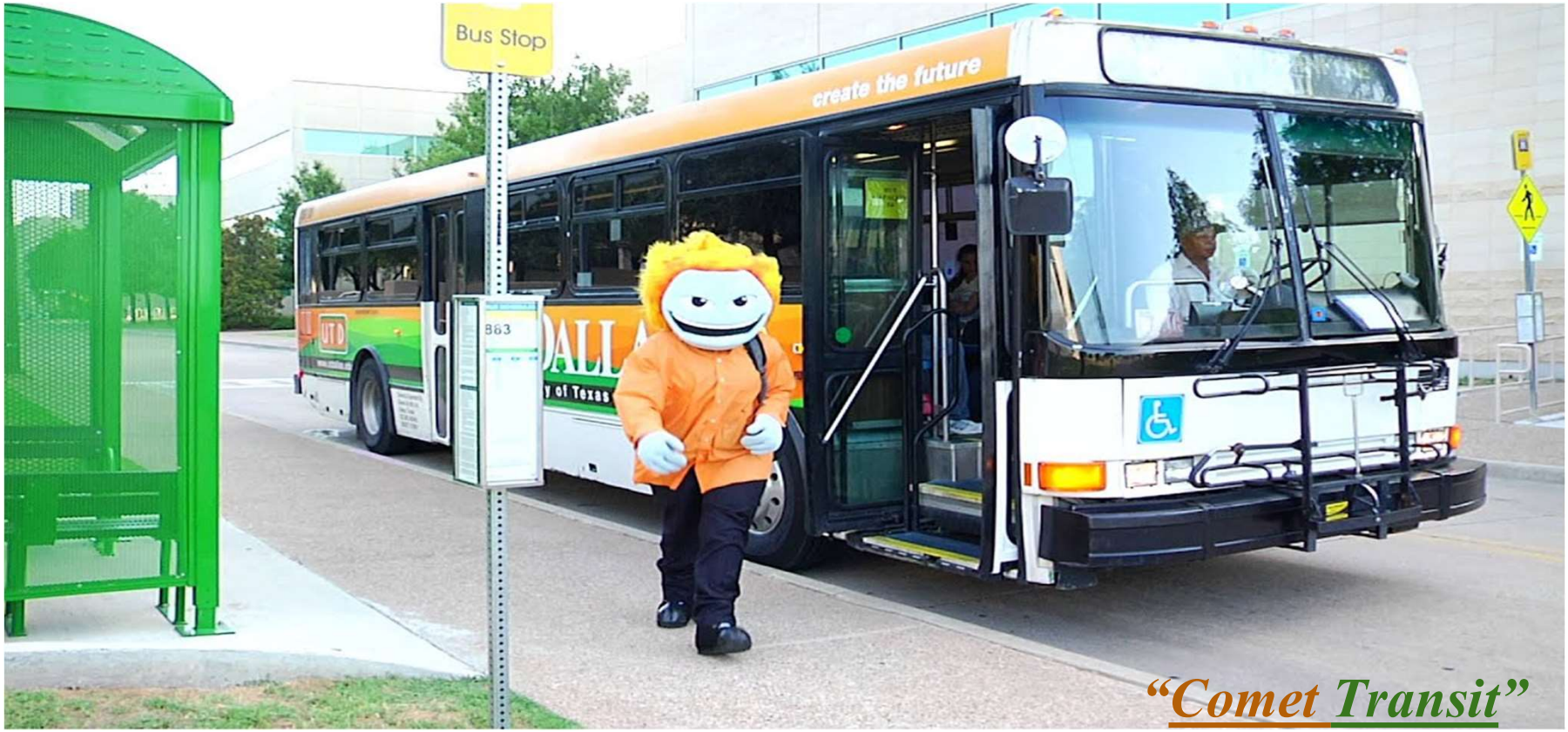
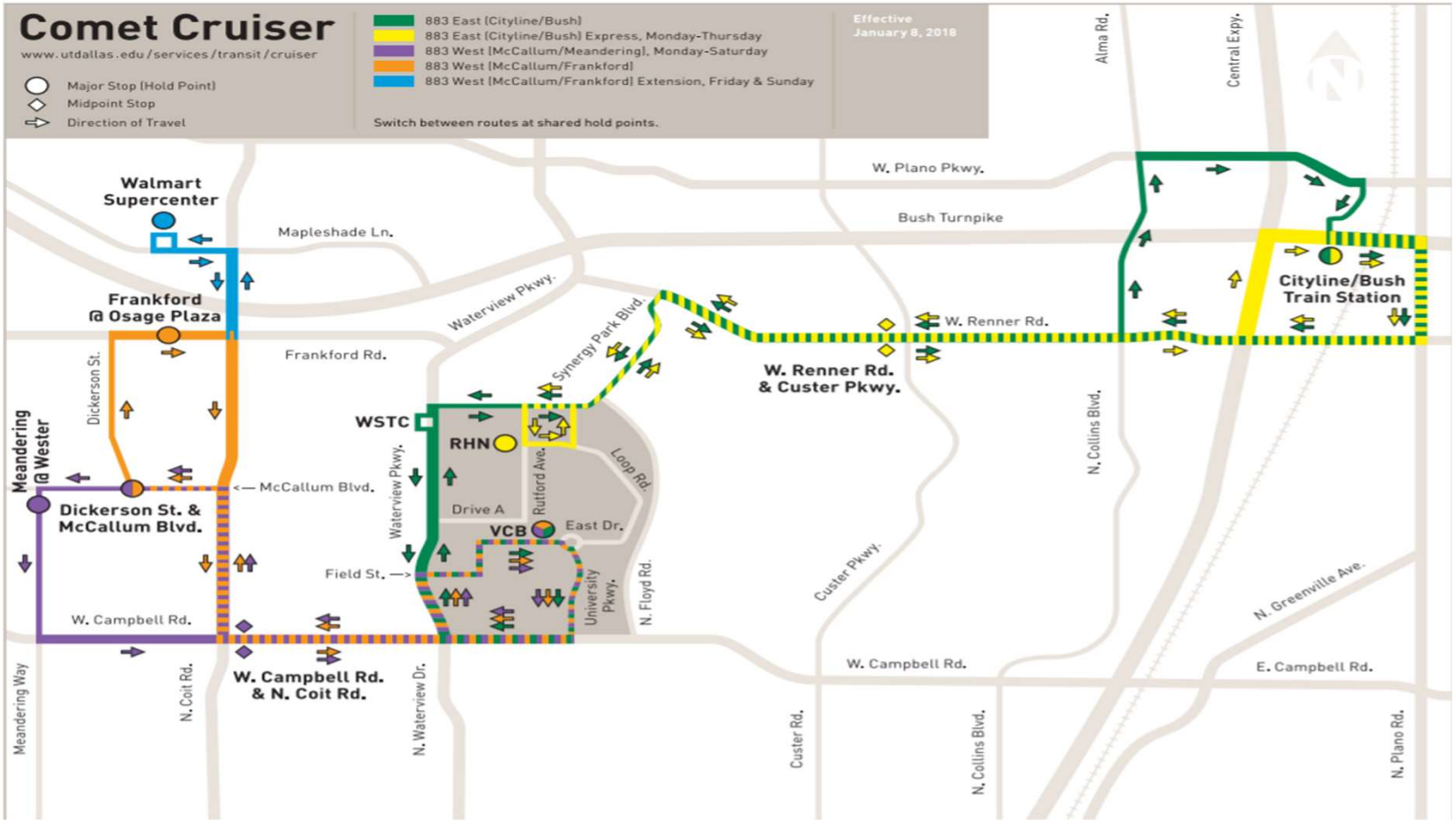


Group 4: Ayush Singh, Nishi Shah, Prasanth Ramanathan, Shruthi Gopal, Surya Varma

Contents


Comet Cruiser
www.utdallas.edu/services/transit/cruiser
Major Stop (Hold Point)
Midpoint Stop
Direction of Travel
883 East (Cityline/Bush)
883 East (Cityline/Bush) Express, Monday-Thursday
883 West (McCallum/Meandering), Monday-Saturday
883 West (McCallum/Frankford)
883 West (McCallum/Frankford) Extension, Friday & Sunday
Switch between routes at shared hold points.
Effective January 8, 2018
Walmart Supercenter
Mapleshade Ln.
Frankford @ Osage Plaza
Frankford Rd.
Dickerson St.
Meandering @ Wester
Dickerson St. & McCallum Blvd.
<— McCallum Blvd.
W. Campbell Rd.
W. Campbell Rd. & N. Coit Rd.
Meandering Way
N. Coit Rd.
N. Waterview Dr.
Waterview Pkwy.
WSTC
RHN
Drive A
Rutford Ave.
Loop Rd.
East Dr.
VCB
Field St. —>
University Pkwy.
N. Floyd Rd.
Synergy Park Blvd.
W. Plano Pkwy.
Bush Turnpike
W. Renner Rd.
W. Renner Rd. & Custer Pkwy.
Cityline/Bush Train Station
Alma Rd.
Central Expy.
N. Collins Blvd.
Custer Pkwy.
Custer Rd.
N. Collins Blvd.
W. Campbell Rd.
N. Greenville Ave.
E. Campbell Rd.
N. Plano Rd.

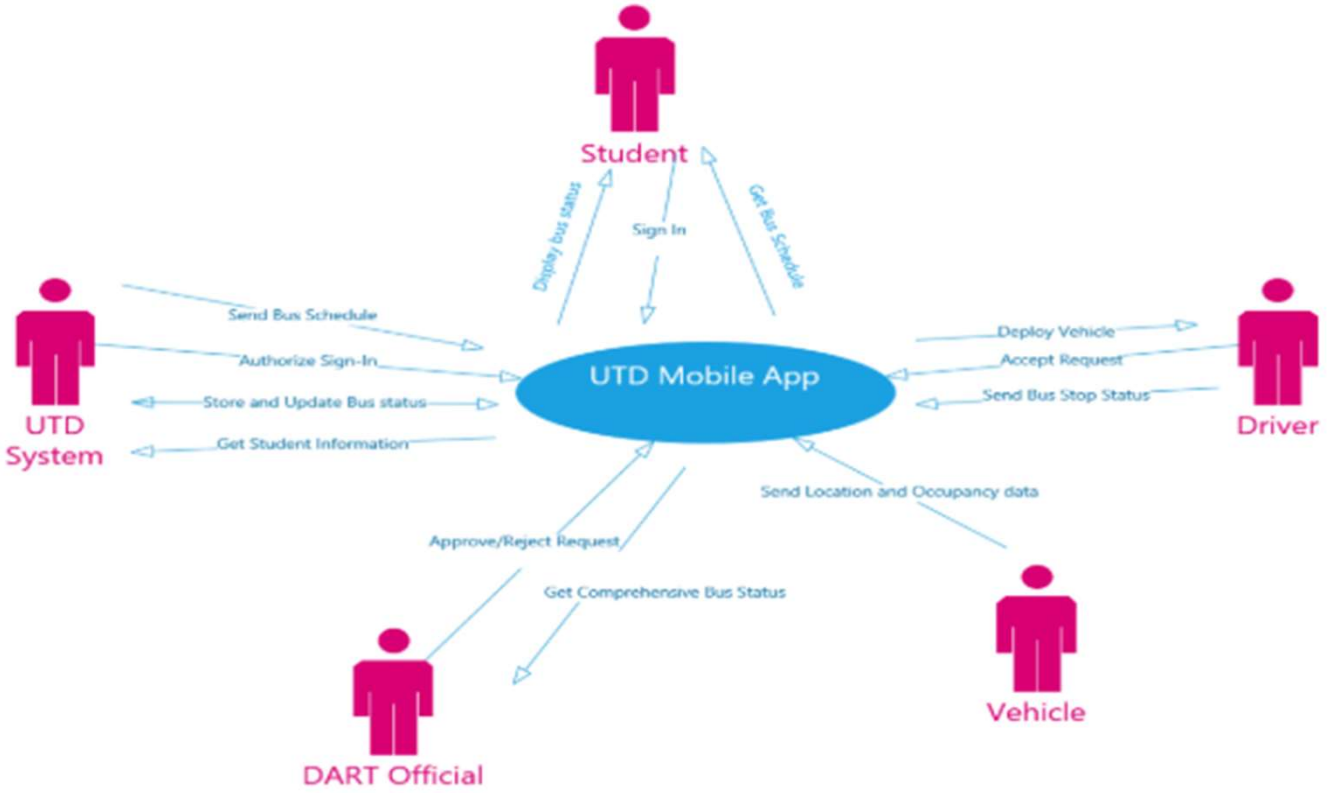
Current System: Problem Statement

1. UTD DART/Comet Cruisers are often overcrowded resulting in longer wait time for students.
2. During peak hours, buses get full, due to which some students end up getting delayed for classes.
3. UTD Mobile App allows students to track bus location. However, the system lacks a feature that can check if the bus is fully or partially filled.
4. A customized student transit feature that can help students plan on which bus to take for a particular day is currently missing.
5. At present, the DART officials do not have access to the count of people left to be picked so as to deploy a new bus/van.

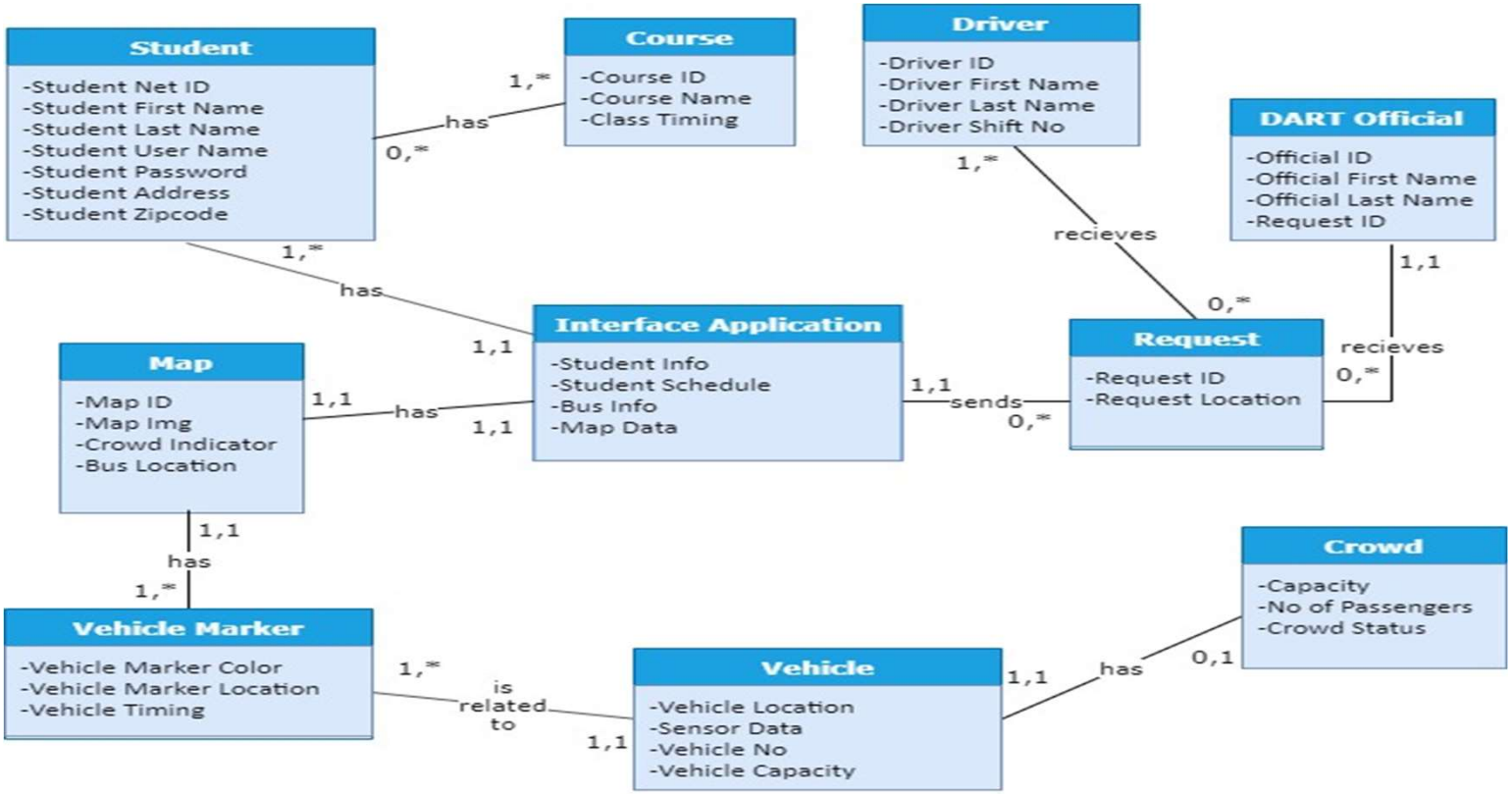
Proposed System Enhancements

1. Attach sensors to the bus that can report real-time occupancy data to the UTD System.
2. Color coding feature can help students to decide whether to board the current bus or not.
3. Map student class schedule to the bus schedule. Based on the prediction, alert/notify students with an ideal boarding time.
4. Introduce a vehicle deployment system that can cater to the left-out students with a new bus/van.

Context Diagram

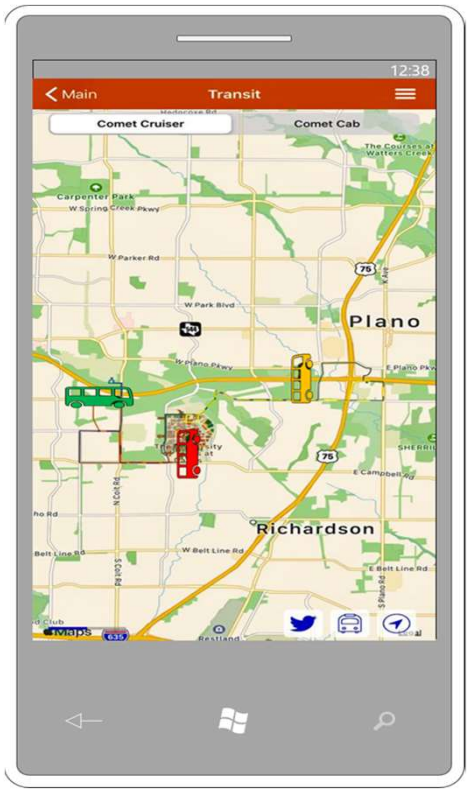


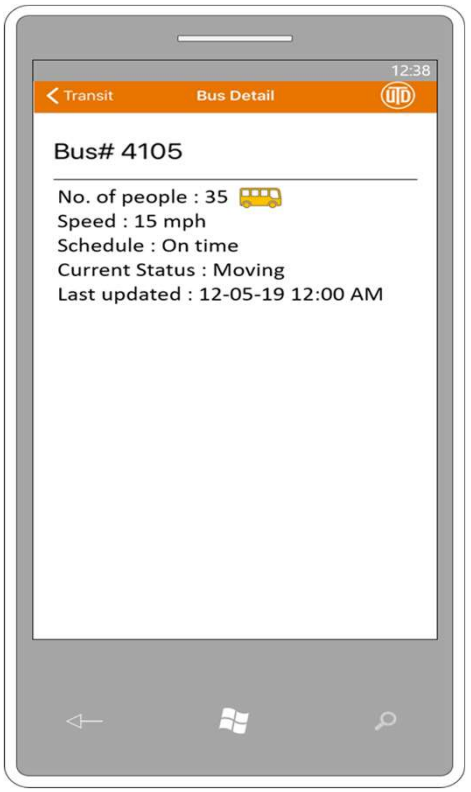
Class Diagram



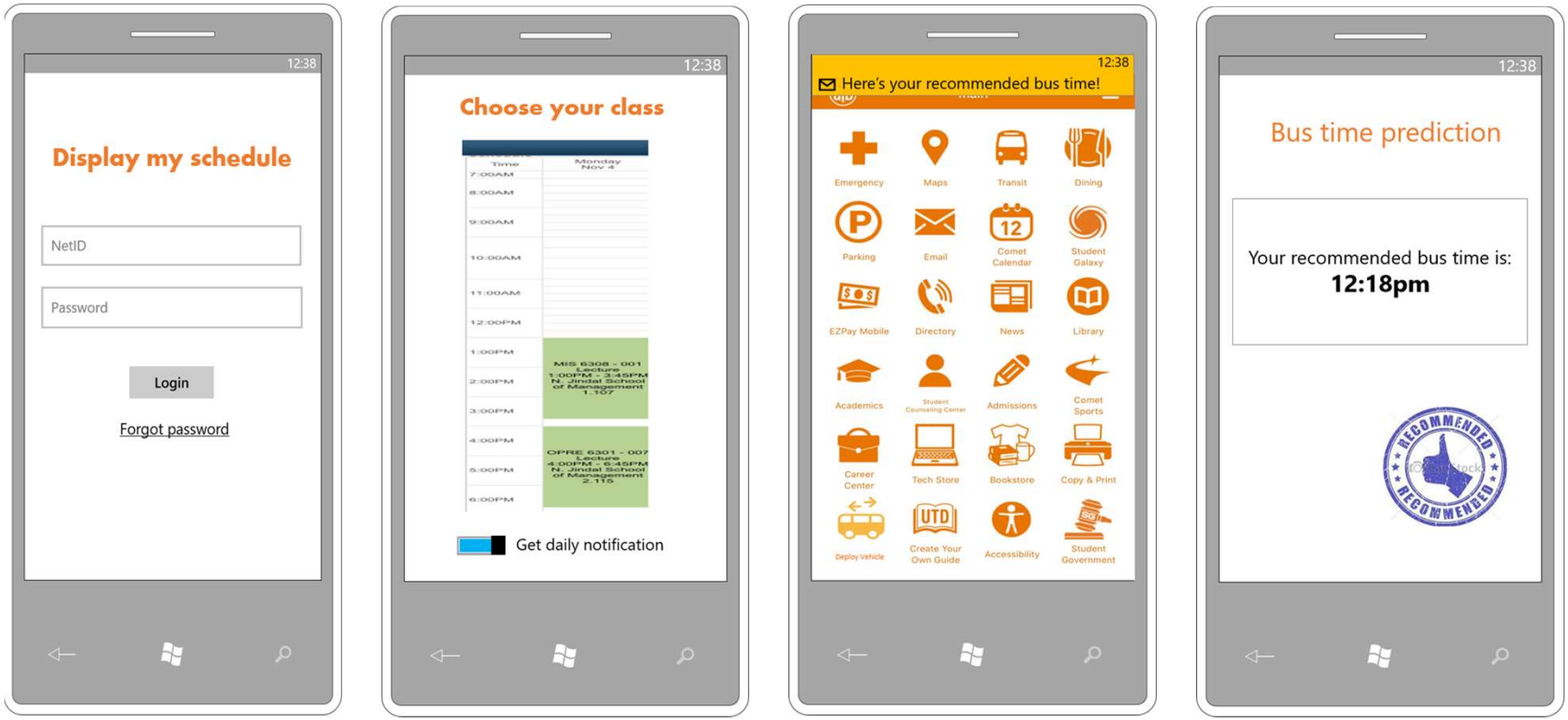
Interface


12:38
Main
Emergency
Maps
Transit
Dining
Parking
Email
Comet Calendar
Student Galaxy
EZPay Mobile
Directory
News
Library
Academics
Student Counseling Center
Admissions
Comet Sports
Career Center
Tech Store
Bookstore
Copy & Print
Deploy Vehicle
Create Your Own Guide
Accessibility
Student Government


12:38
Main
Transit
Comet Cruiser
Comet Cab
Plano
Richardson
Maps

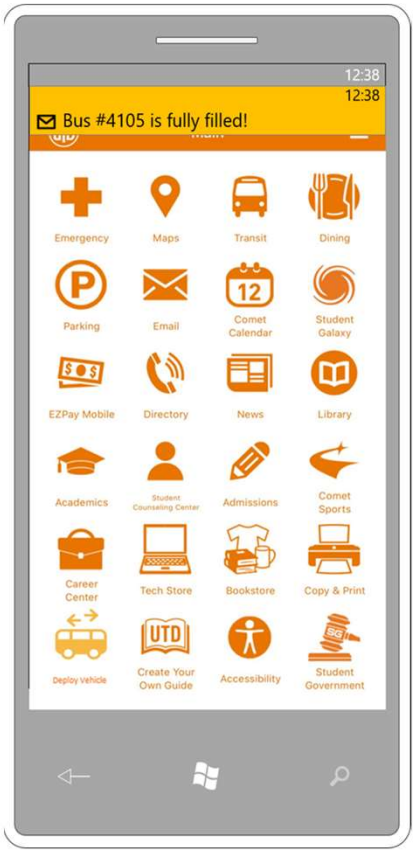

12:38
Transit
Bus Detail
Bus# 4105
No. of people : 35
Speed : 15 mph
Schedule : On time
Current Status : Moving
Last updated : 12-05-19 12:00 AM

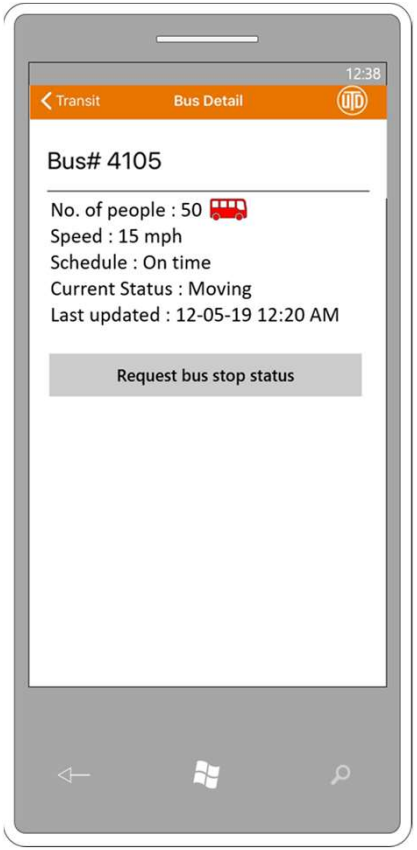
Interface

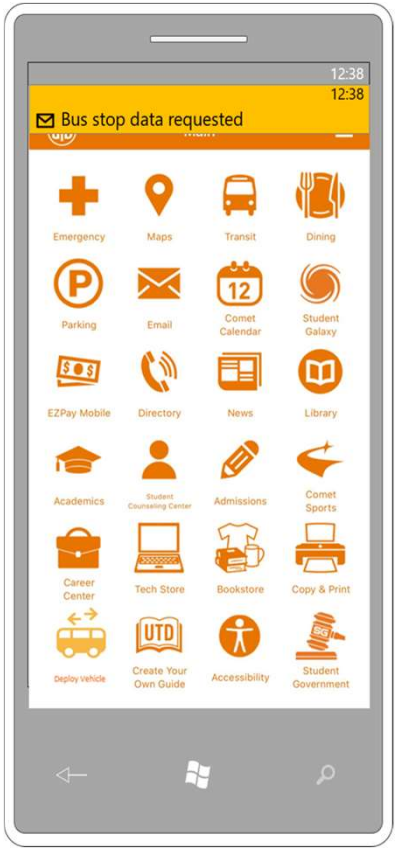

12:38
Display my schedule
NetID
Password
Login
Forgot password
12:38
Choose your class
Time
Monday Nov 4
7:00AM
8:00AM
9:00AM
10:00AM
11:00AM
12:00PM
1:00PM
2:00PM
3:00PM
4:00PM
5:00PM
6:00PM
MIS 6308 - 001 Lecture 1:00PM - 3:45PM N. Jindal School of Management 1.107
OPRE 6301 - 007 Lecture 4:00PM - 6:45PM N. Jindal School of Management 2.115
Get daily notification
12:38
Here's your recommended bus time!
Emergency
Maps
Transit
Dining
Parking
Email
Comet Calendar
Student Galaxy
EZPay Mobile
Directory
News
Library
Academics
Student Counseling Center
Admissions
Comet Sports
Career Center
Tech Store
Bookstore
Copy & Print
Deploy Vehicle
Create Your Own Guide
Accessibility
Student Government
12:38
Bus time prediction
Your recommended bus time is:
12:18pm
RECOMMENDED

Interface

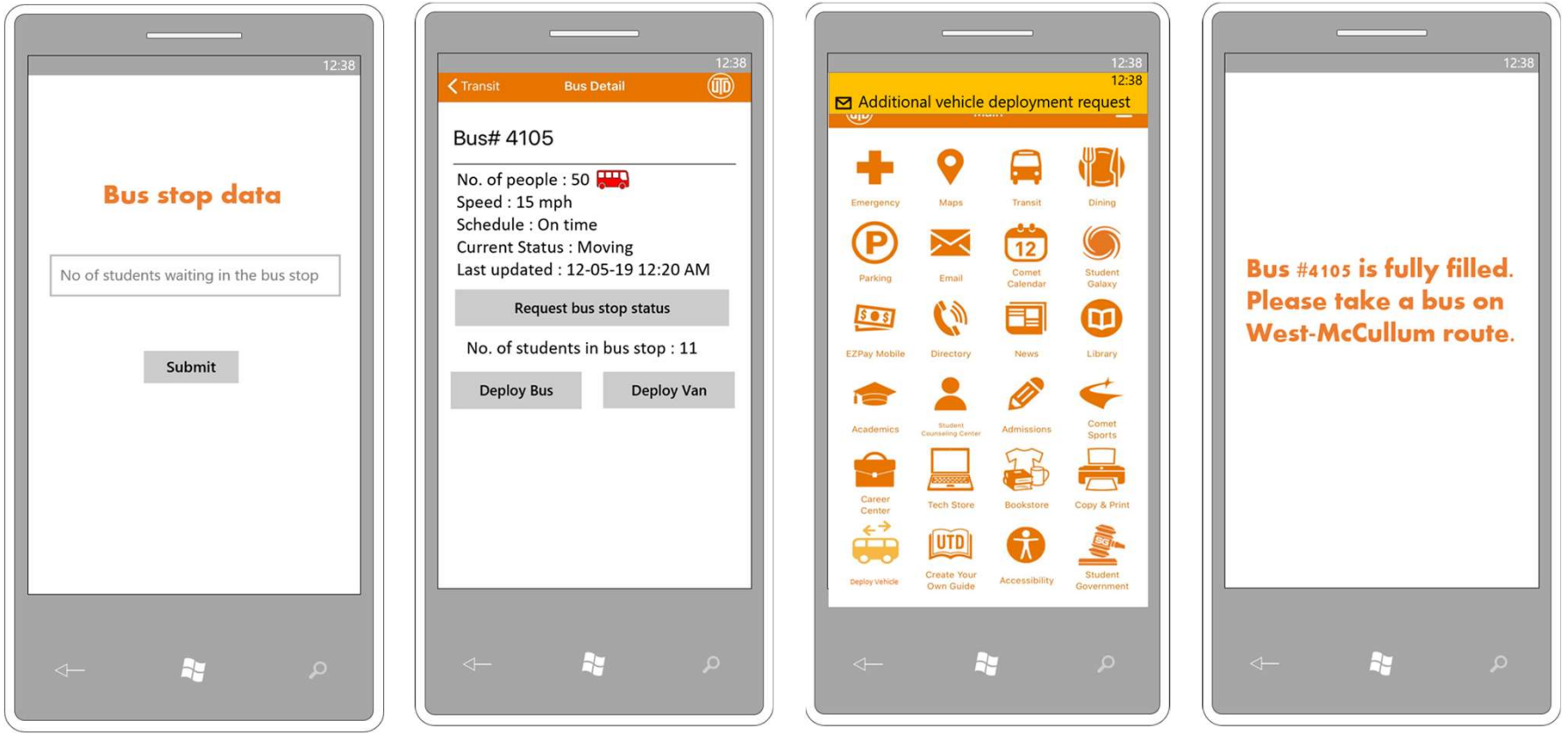

12:38
DART login
DartID
Password
Login
Forgot password


12:38
12:38
Bus #4105 is fully filled!
Emergency
Maps
Transit
Dining
Parking
Email
Comet Calendar
Student Galaxy
EZPay Mobile
Directory
News
Library
Academics
Student Counseling Center
Admissions
Comet Sports
Career Center
Tech Store
Bookstore
Copy & Print
Deploy Vehicle
Create Your Own Guide
Accessibility
Student Government


12:38
Transit
Bus Detail
Bus# 4105
No. of people : 50
Speed : 15 mph
Schedule : On time
Current Status : Moving
Last updated : 12-05-19 12:20 AM
Request bus stop status


12:38
12:38
Bus stop data requested
Emergency
Maps
Transit
Dining
Parking
Email
Comet Calendar
Student Galaxy
EZPay Mobile
Directory
News
Library
Academics
Student Counseling Center
Admissions
Comet Sports
Career Center
Tech Store
Bookstore
Copy & Print
Deploy Vehicle
Create Your Own Guide
Accessibility
Student Government

Interface


12:38
Bus stop data
No of students waiting in the bus stop
Submit
12:38
Transit
Bus Detail
Bus# 4105
No. of people : 50
Speed : 15 mph
Schedule : On time
Current Status : Moving
Last updated : 12-05-19 12:20 AM
Request bus stop status
No. of students in bus stop : 11
Deploy Bus
Deploy Van
12:38
12:38
Additional vehicle deployment request
Emergency
Maps
Transit
Dining
Parking
Email
Comet Calendar
Student Galaxy
EZPay Mobile
Directory
News
Library
Academics
Admissions
Comet Sports
Career Center
Tech Store
Bookstore
Copy & Print
Deploy Vehicle
Create Your Own Guide
Accessibility
Student Government
12:38
Bus #4105 is fully filled.
Please take a bus on
West-McCullum route.

Future Enhancements

1. Install sensors at major bus stops to automate the crowd density check process
2. Improve the system by predicting bus part failures. This will avoid any bus breakdowns.
3. Improve transit management interface for UTD Dart Officials by creating a standalone app