Campus Guide Mobile App

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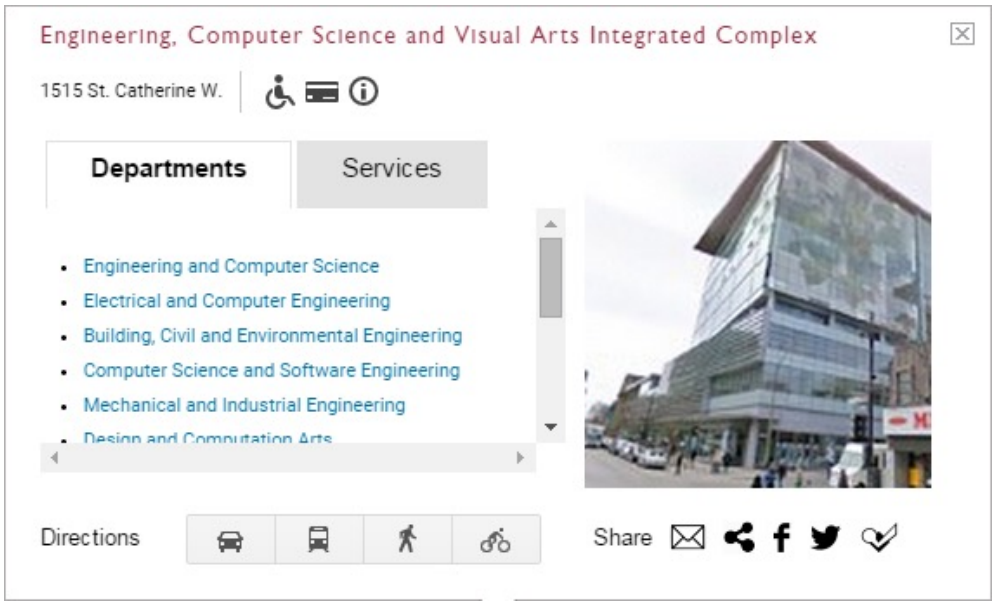
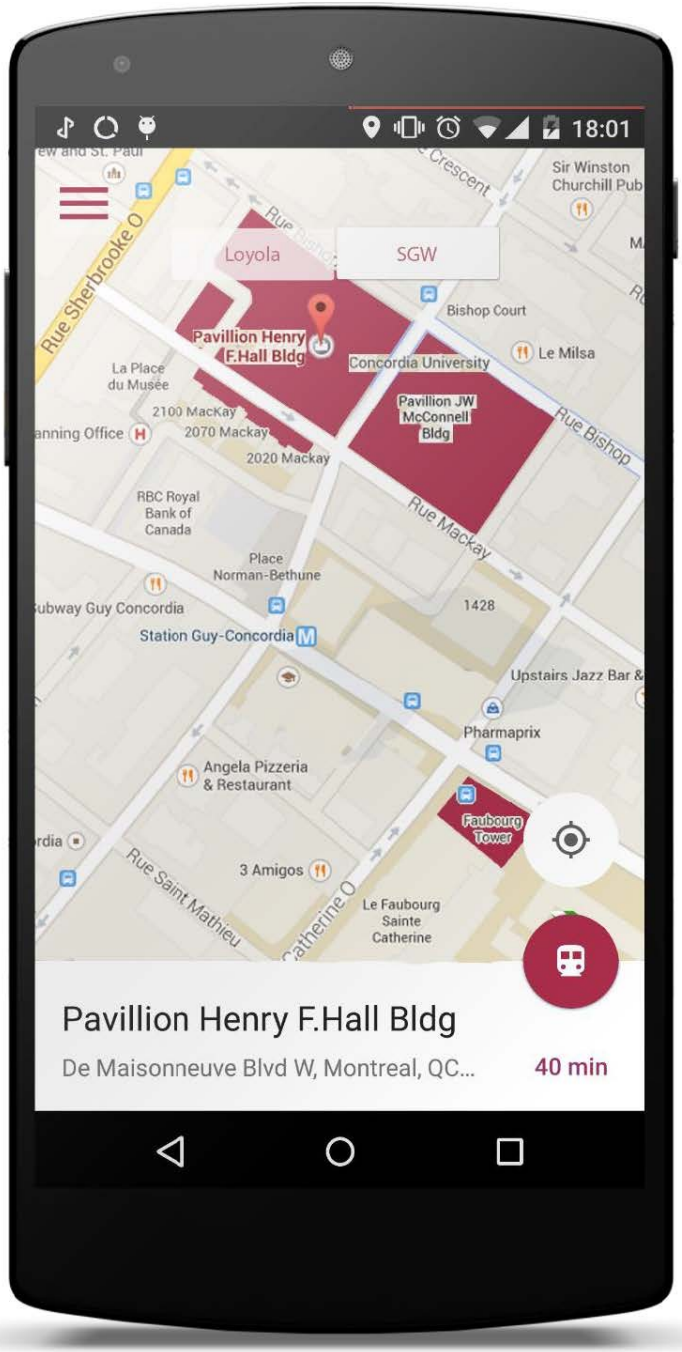
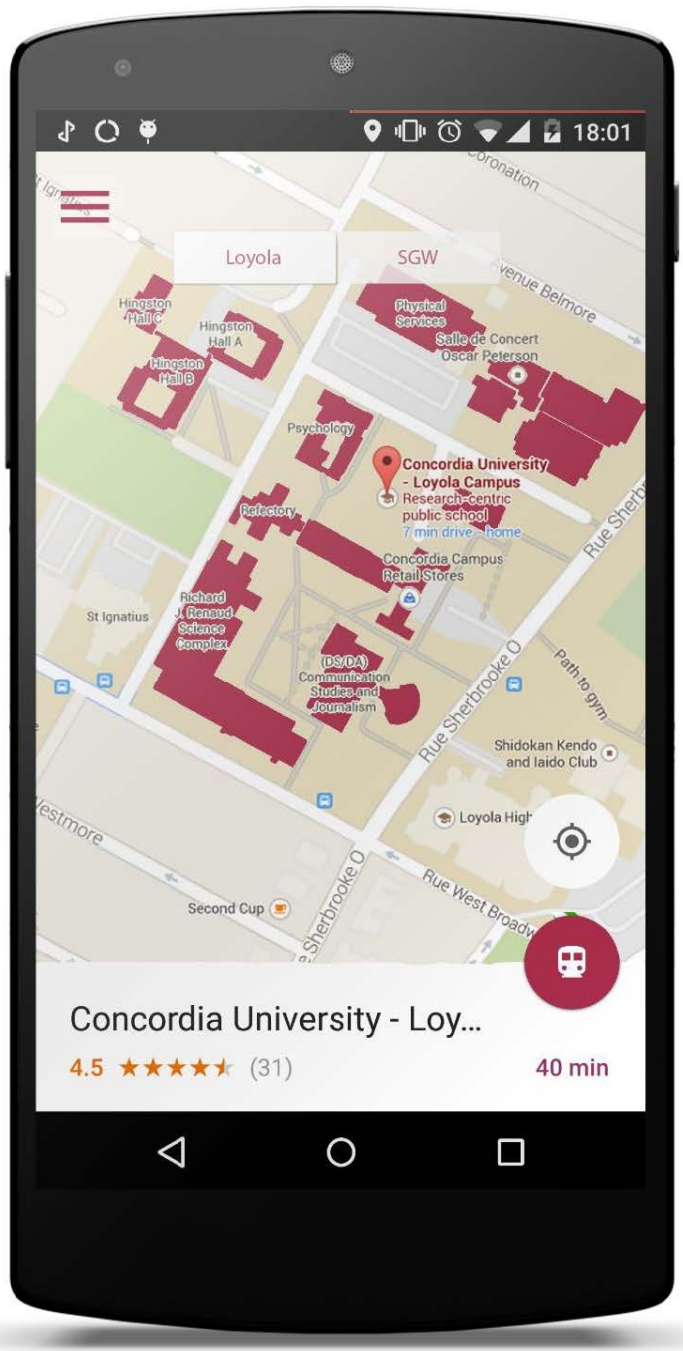
Feature #1
Show my location on campus

Feature #1

- http://plancampus.umontreal.ca/ Campus Plan
- Show the user the building he/she is currently in
- Switch between SGW and Loyola campus
- The user can hover over nearby buildings and get some basic information.



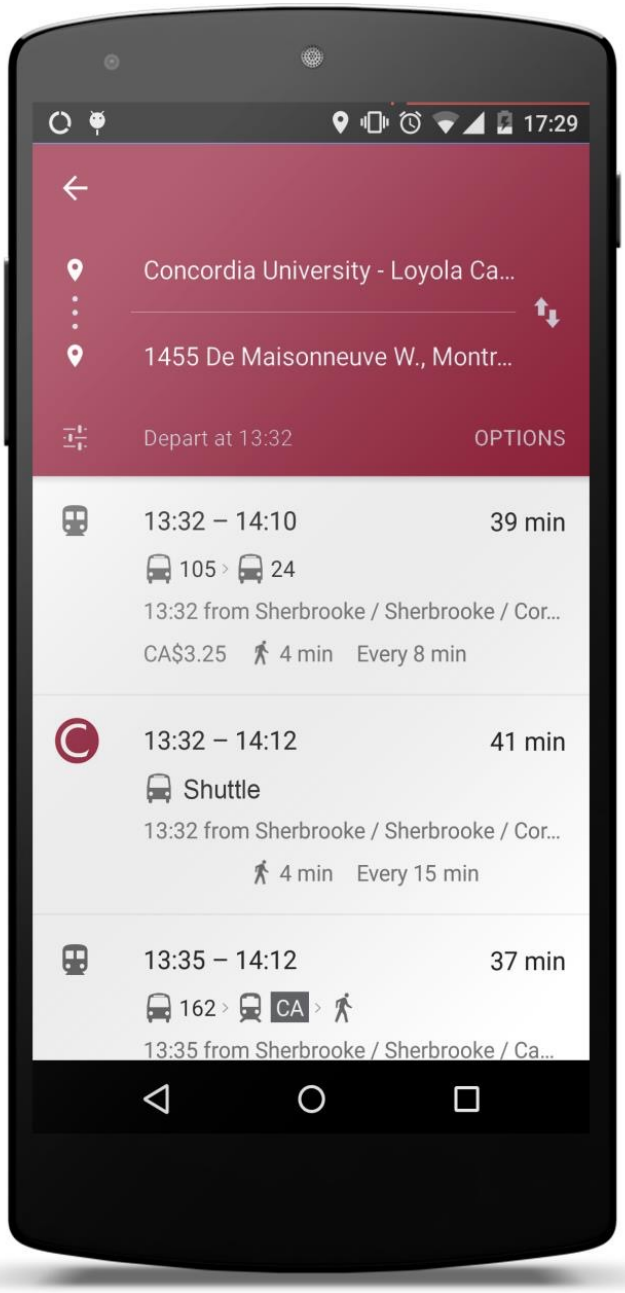

18:01
Loyola
SGW
Rue Sherbrooke O
Sir Winston Churchill Pub
Bishop Court
Pavillion Henry F.Hall Bldg
Concordia University
Le Milsa
La Place du Musée
Pavillion JW McConnell Bldg
2100 MacKay
2070 Mackay
2020 Mackay
Rue Bishop
RBC Royal Bank of Canada
Rue Mackay
Place Norman-Bethune
1428
Station Guy-Concordia
Upstairs Jazz Bar &
Pharmaprix
Angela Pizzeria & Restaurant
Faubourg Tower
3 Amigos
Rue Saint Mathieu
Le Faubourg Sainte Catherine
Pavillion Henry F.Hall Bldg
De Maisonneuve Blvd W, Montreal, QC...
40 min


18:01
Loyola
SGW
Hingston Hall C
Hingston Hall A
Hingston Hall B
Physical Services
Salle de Concert Oscar Peterson
Psychology
Concordia University - Loyola Campus
Research-centric public school
7 min drive - home
Refectory
Concordia Campus Retail Stores
St Ignatius
Richard J. Renaud Science Complex
(DS/DA) Communication Studies and Journalism
Rue Sherbrooke O
Shidokan Kendo and Iaido Club
Loyola High
Second Cup
Rue West Broadway
Concordia University - Loy...
4.5
(31)
40 min

Feature #2
Show me outdoor directions from X to Y

Feature #2

- The user selects a Start Building & Destination on the Campus Plan
- Start Building can be determined based on the current location
- Call Google directions service + **Concordia Shuttle**
- Display directions on the Campus Plan


17:29
Concordia University - Loyola Ca...
1455 De Maisonneuve W., Montr...
Depart at 13:32
OPTIONS
13:32 – 14:10
39 min
105
24
13:32 from Sherbrooke / Sherbrooke / Cor...
CA$3.25
4 min
Every 8 min
13:32 – 14:12
41 min
Shuttle
13:32 from Sherbrooke / Sherbrooke / Cor...
4 min
Every 15 min
13:35 – 14:12
37 min
162
CA
13:35 from Sherbrooke / Sherbrooke / Ca...

Feature #3
Show me directions to my next class

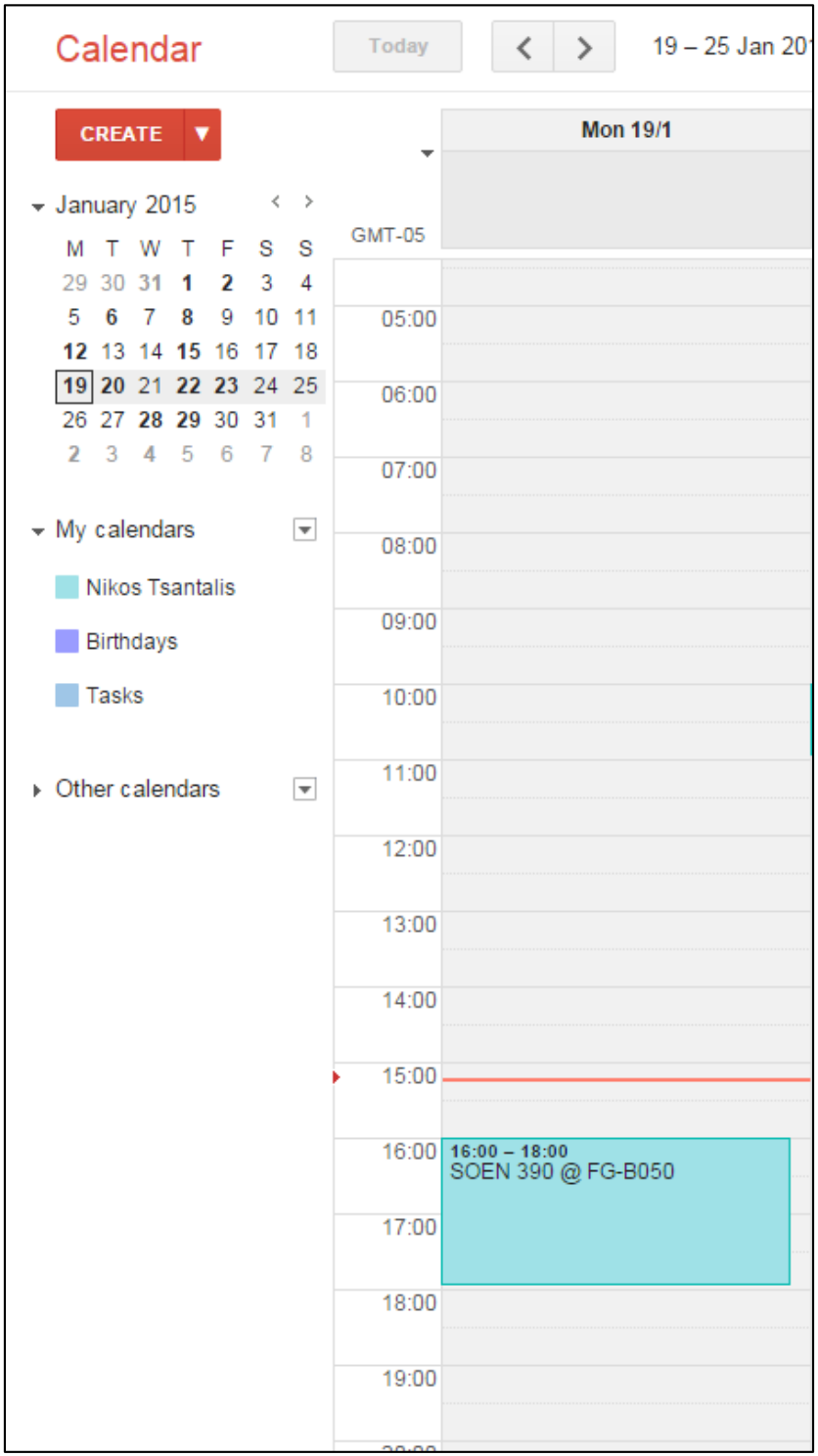
Feature #3

- Time-aware and location-aware service
- Based on Google Calendar Service, or Concordia Open Data API

Google™ Calendar

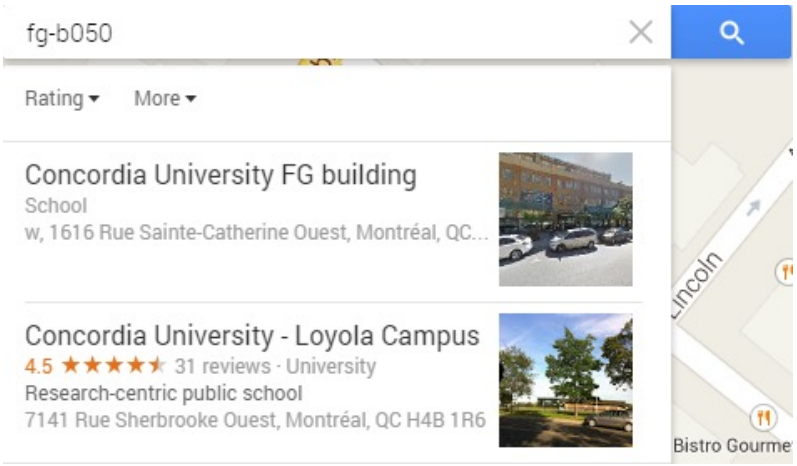
Feature #3

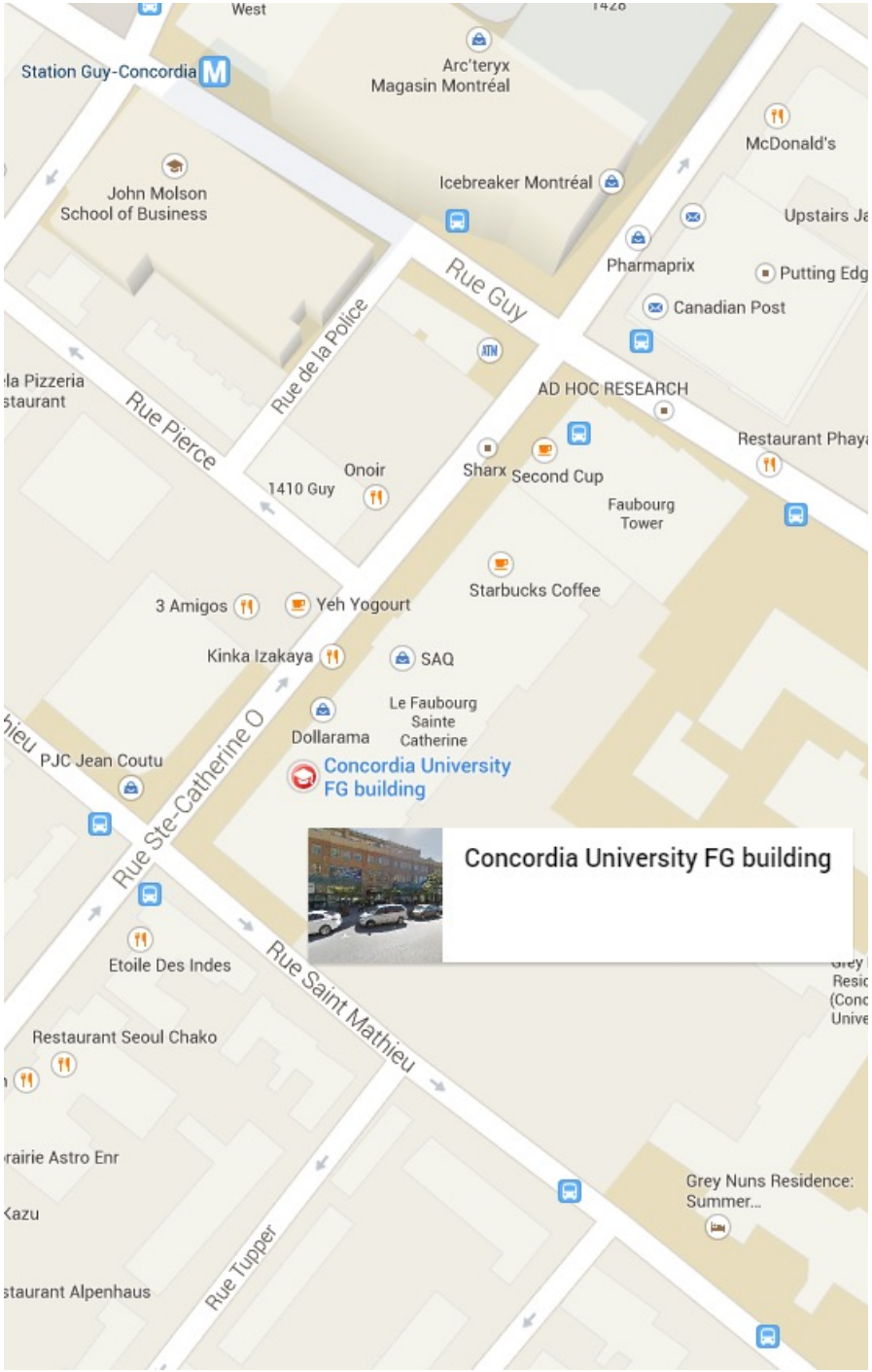
- Connect to user's calendar
- Find next class
- Find it's location



Feature #3

- Find the building of the next class
- Show directions from my **current location**

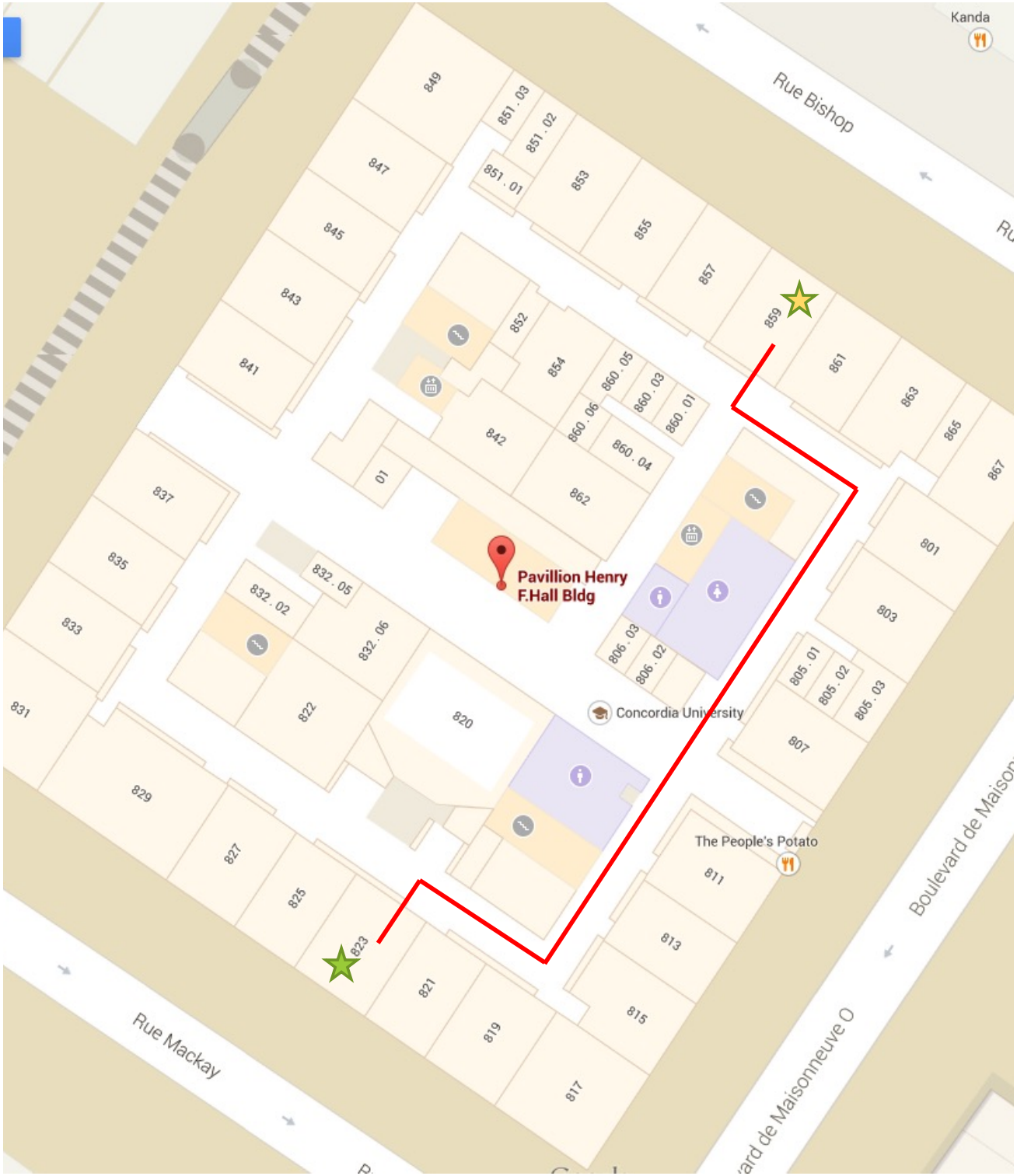




Feature #4
Show me indoor directions

Feature #4

- User selects starting room and destination room.
- Show shortest path directions
- Consider accessibility directions (avoid stairs)
- Features 4 can be utilized in Feature 3 to show indoor directions to the destination classroom



Feature #5
Show me the nearest
??

Feature #5

- ?? can be: washroom, elevator, stairs, coffee shop, fast food, groceries store

Optional Feature #6
Smart Planner

- Given a list of tasks, create a plan to execute all tasks
- The plan should optimize (minimize) the total walking time
- There are two kinds of tasks:
  - Tasks with a fixed start time (e.g., attend a class) and optional duration.
  - Tasks without any time constraints (e.g., buy coffee)
  - All tasks have a single or multiple locations that can be satisfied (e.g., “buy coffee” task has multiple nearby coffee shops)
- The problem is essentially an optimization problem with time and location constraints, where the goal is to minimize the total travelling time. It can be considered as a variation of the Travelling salesman problem