Introduction

For this Olympic year, we will grab inspiration from the games to our project theme. In summer Olympics, water sports are especially attractive, and rowing/canoeing presents interesting features and challenges for a game you will develop in the next 7 weeks. In this game, your heroic athlete will conduct their boat/canoe through obstacles and dangers using either a double paddle (canoeing) or two oars (rowing).
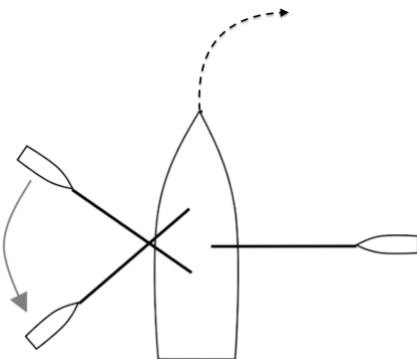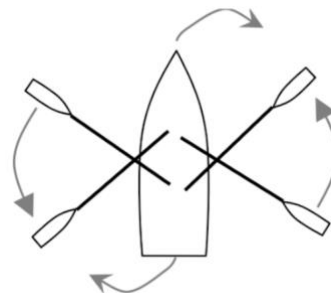

One double paddle

Two paddles

Each paddle/oar stroke will add forward velocity to the boat/canoe, but will also cause a slight turn to the opposite side. Alternating sides cause straight motion, while repeating one side will cause a turn. Back strokes slows down, and one side forward and the other back, causes a spin.


Paddle left to turn right

Back paddle with the right to spin clockwise

Work to do

The main goal of AVT laboratory work this year is to recreate the Olympic scenario using **C++** and **OpenGL version 3.3**. The idea is to model both the canoe and the landscape in 3D, in such a way that an interactive animation can be produced. Then, you have to provide an interface to drive the athlete to the finish line fast and safely. The itinerary is not a straight line, nor a river full of rapids. Take the liberty to create a route through buoy marked tracks, around islands and narrow passages.
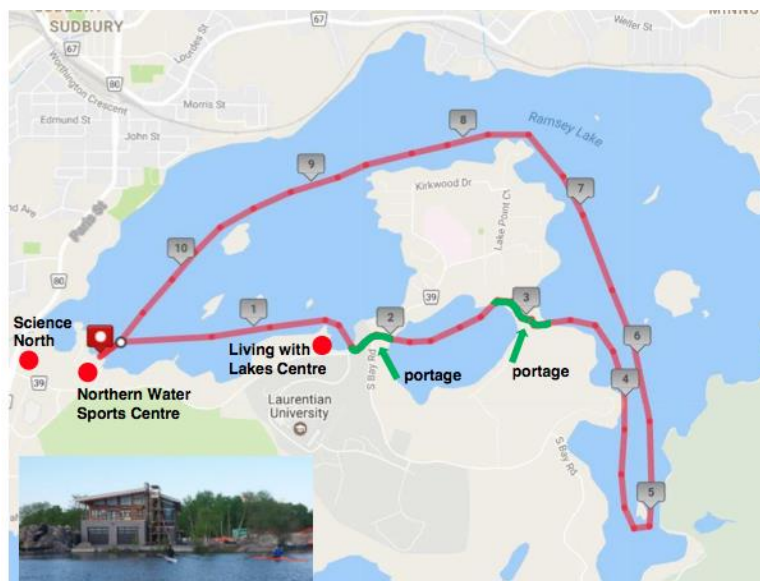
Possible route map

The laboratory work corresponding to the RowGL project is divided into 12 lab classes where each group will perform the resolution of several exercises and 2 assignments. <u>Each assignment will be evaluated according to a calendar provided in the Presentation class and corresponds to a certain percentage of the final grade</u>. In each of these assessments there are specific objectives and tasks so they can explore the various components of the AVT program.

The rest of this document refers to the tasks for Exercise 2 to be developed in the two lab classes of week 2 (September 18 and 20).