Abstract

The purpose of this Request for Proposal is to frame an opportunity to improve paddlers’ synchronization during War Canoe competitions, with a particular focus on athletes who train at and compete with the Mississauga Canoeing Club (MCC).

Within the MCC community, there are many people with different paddling techniques, skill levels, etc. We chose to focus on synchronization, a skill used by most canoe/kayak athletes, but most vital to a type of racing called War Canoeing. War Canoes typically have a fifteen-person capacity, with seven athletes on each side and a coach in the stern/back calling the shots. Normally, paddling exerts a backward force in the surrounding static water, which results in a reaction force that pushes the boat forward. However, when paddling shortly after someone else has paddled, the water already has a backward acceleration as a result of the first person’s paddle. So, the reaction force is reduced, decreasing the acceleration and slowing down the average speed of the boat. Out of sync paddling can reduce the average speed by 25%.

Currently, MCC solely relies on tacit knowledge to increase the synchronization among team members, which requires hundreds of hours of training. The potential solution for the opportunity must, first and foremost, demonstrate measurable reduction in training time used to achieve the same race speed. It must also be usable and safe for all team members. Other necessary design considerations include ease to use, manufacturability and reusability for multiple training sessions. After exploration of existing solutions such as The PaddleMate, we have concluded further cemented why our existing requirements are so important and that no current solution solves our problem.

REFERENCES:


[4] Interview With National-Level Athlete MCC athlete regarding synchronization