



Dartfish Case Study in Canoeing and Kayaking

Canoeing and Kayaking Case Study

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In 2004 I started working for the English Institute of Sport as a Performance Analyst and was appointed to provide performance analysis services to the sport of Canoe/Kayak Slalom. The Great Britain Canoe/Kayak Slalom team has been using Dartfish for over 6 years in their World Class Coaching Programme.

They have produced Olympic medalists in both kayak and canoe classes over the past Olympic cycles with the latest being a Silver in Beijing by David Florence (single canoe class). The use of Dartfish is filtered down through the whole world class programme (podium to development programmes) and plays an important role in aiding the coaching process during both competition and training environments.

How Dartfish is Used

The coaches use Dartfish on a daily basis to enhance their key coaching messages through visual interpretation. The main functions used are the DV Import, Player and Analyzer modules.

The coaches use the DV Import module during key training sessions. To import video through Dartfish is extremely easy and involves a quick process to turn footage around

for viewing. This is an important benefit to the coaches who are always looking for an immediate impact which doesn't negatively affect the coaching session for the athlete. This means that they can use Dartfish during a session down at the river bank and immediately post the session back in the coach's office.

During competitions the DV Import module is used as the main capture source within a very large set-up involving a minimum of three camera positions along the slalom course. The competition video set up is run by a minimum of four people (1 capturing and 3 camera operators). This ensures that quality coverage of the performance is captured for effective coaching feedback on technique/tactics. In both canoe and kayak slalom the competition format is the same, involving 2 qualification runs and a semi-final



and final run. This means that between runs there is a window of opportunity for coaching impact through the use of Dartfish. The video is captured via the 3 camera set-up and copied across to coach's laptops within minutes. This is when the analyzer module plays its part...



In the analyzer, the coaches have the flexibility to play any clip and make quick comparisons across a number of performances. The minute detail is explored by slow motion and frame by frame playback of key areas of the course that require fine technical wizardry. The ability to synchronize clips enables coaches to identify specific time losses and gains from any position on the course... a very powerful tool for canoe/kayak slalom. Having all these tools in the bag for the GB canoe/kayak slalom coaches is invaluable and combined with the experience that they have ensures that they have more understanding in how to use these tools to have the positive impact on performance.

Being an outdoor sport there are many challenges that the analyst/coach is faced with when videoing canoe/kayak slalom. Therefore it is important to prepare equipment needs well before a session/competition.





Some Practical Advice for Filming Canoe/Kayak Slalom

- > Use a tripod when possible to increase the quality of the footage.
- > Sometimes the environment doesn't allow for a tripod so a steady hand is needed!
- > Always be prepared for the rainy weather... camera rain covers, rain coat.
- > Always be prepared for the sunny weather... umbrella to protect from the sun, sun cream, water to stay hydrated, place camera positions away from direct view of sun, increase shutter speed for higher quality video.
- > Maintain same camera positions to enable comparisons in analyzer.



The amount of zoom, panning and angles of videoing canoe/kayak slalom is very coach specific. However there are some basic guidelines for those that are starting out for the first time in using video :

- > Ensure all of the slalom boat and paddler is in full view of picture.
- > When filming from the riverbank it is important to keep the boat to one end of the video picture. For example, when panning from left to right ensure that the boat is to the left side of the video picture and when panning from right to left ensure that the boat is to the right side of the video picture.
- > When filming from a bridge looking upstream then the boat should be positioned at the top of the video picture with the water ahead at the bottom of the video picture.
- > When filming from a bridge looking downstream then the boat should be positioned at the bottom of the video picture with the water ahead at the top of the video picture.
- > With the above points in mind you can then zoom out enough to see the path ahead on the course. This ensures that the video shows enough detail of the water ahead to identify key lines/approaches into moves etc.

What They Say About Dartfish

“Awesome tool; it gives you quick accurate evidence to back up technical sessions.”

Mark Delaney,
GB Canoe Slalom Olympic Coach,
Coach of David Florence, Olympic Silver Medalist 2008

“An irreplaceable tool and an absolute must, for a detailed and precise performance analysis by our Olympic Slalom Coaches in Beijing!”

Jurg Gotz,
GB Kayak Slalom Olympic Coach,
Coach of Campbell Walsh, European Champion 2008 and
Olympic Silver Medalist 2004

“Dartfish is a great piece of software. It allows you to be totally evidence based in technical situations. This is the best video software I have ever used.”

Shaun Pearce,
GB Kayak Slalom Olympic Coach,
Coach of Fiona Pennie, Olympian 2008 and World Silver
Medalist 2006

“I use Dartfish in head-to-head mode to analyse boat position and stroke timing on an almost daily basis in training, and more importantly, at all races. With time constraints and the added pressure of a race day environment, the intuitive user interface allows me to quickly find the information I need to know about both my performance, and that of the opposition.”

Campbell Walsh, GB
Kayak Slalom athlete,
Olympic Silver Medalist 2004, European Champion 2008

“The use of Dartfish has allowed us to go that one bit further than the rest of the world. When you are looking to gain fractions of time against your competitors, you need to look at the smallest details and this can only be done with analysis of our training and racing using Dartfish.”

Fiona Pennie,
GB Kayak Slalom athlete,
Olympian 2008 and World Silver Medalist 2006

“Dartfish enables me to find a way to measure and track my progress on making technical improvements.”

David Florence,
GB Canoe Slalom athlete, Olympic Silver Medalist 2008