Rugby Moves to 3D

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In addition to strength, speed and ball skills, decision-making is a vital part of any ball sport, and rugby is no exception. Rugby players make split second decisions throughout a game – these decisions determine the outcome of a game and sometimes their decisions are poor. Improving these decisions was the challenge set by the client for a capstone project in the Bachelor of Information Technology.

The project team explored several potential solutions – attaching GPS units to the players; attaching a camera to a player etc – before settling on a decision making tool. This tool was developed to help the players analyse decisions that they might make on the field, particularly position and timing.

The system developed allows the coaches to be able to set up rugby scenarios and put the player in the scenario and allow them to make decisions. They can then view the scenario from multiple angles, seeing the move develop in an immersive environment from within the game and from their opponents' viewpoint.

The system has two components:

- A 2D side to set up the plays.

- A 3D side to simulate the plays.

Features include

- The user can create rugby scenarios themselves.

- Import of GPS information.

- Save and open scenarios.

- Adjusting individual player speed (can save whole teams)

- Multiple camera angles.

- Annotating the move.

The system enables teams to analyse and develop both offensive and defensive strategies. Player characteristics, field positions tackles and passing moves are combine to create plays in 2D (Figure 1a). This can be prepared done by the coaches

(usually based on actual game plays Figure 1b), or collaboratively with players as a learning tool (Figure 1c). The move is then experienced in 3d (Figure 1d).
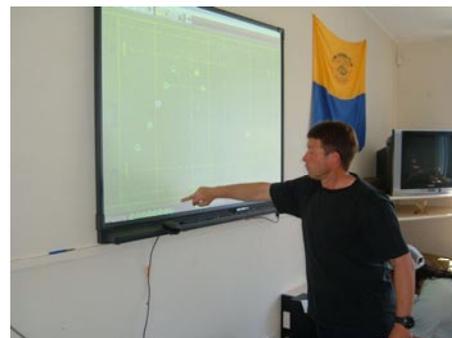

Figure 1 a-d (from top)