

# SDP Group 8: Milestone $\alpha$ Individual Report

Blake Hawkins

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Mentor: Katharina Heil

Members: Blake Hawkins, Lubomir Vikev, Borislav Ikonov, Yordan Stoyanov,  
James Linehan, Lukas Dirzys, Iain Brown, Emanuel Martinov, Robaidh  
Mackinnon, Aneesh Ghosh

## 1 Contribution Summary

It's been three weeks since our last performance review so identifying my most substantial contributions has been difficult. I would say the most useful things I've done this week include:

- Made substantial improvements to trac, javadoc, noted "TODO" regions in code, and made major refactorings
- Built an abstract Robot class with all the features of our milestone code
- Built a basic strategy system after mapping all the necessary states and actions for both robots in different scenarios.
- Built a system for recognising collision walls using the vertices accessible from Yordan's vision refactoring
- Did some testing and made some unit tests regarding Vision distortion and vector maths
- Made enormous updates to the ball prediction system including recursive reflection recognition, coefficient of restitution, friction abstraction, goal line recognition, and smoothing using Yordan's gaussian filter code
- Fixed some code regression since the vision refactoring
- Implemented boundary recognition and made many tests on its behaviour

## 2 Self Assessment, Exceptional Contributions

I would award myself an 8/10 due to the substantial amount of time I put into SDP, all of which was used in the assessed friendly.

I would award an 9/10 to Lubomir Vikev for going above and beyond the call of duty in SDP, spending all night until 6AM before the friendly building a new robot. James was unexpectedly busy with other courseworks and without Lubo's last-minute contributions we would have performed very poorly.

I would award an 8/10 to Iain Brown for putting a huge amount of time into SDP, doing his best working on the ball prediction code and keeping in close contact with myself nearly every day. He has been one of highest contributing members of our team in the last couple weeks.

I would also award an 8/10 to Borislov Ikonov for spending all possible time (when our robots were available) testing and making sure we were ready for the matches. No amount of code production from myself can account for the practical calibration and testing done by him during crunch time.