# Conclusion

While the VM we have implemented does not really implement the techniques that have been at the core of this course it believe it has been very productive. Our starting point was not knowing anything about the construction of a VM from the ground up, and thus we were not able to apply the techniques taught. Now we know how to build a VM and can see how the techniques we have learned can be applied. Obviously we still have a long way to go before we can create high performance VM able to beat V8, but we are closer to that ability than when we started the project.

As for the VM itself we would have liked to expand on the garbage collector. Because we stopped prior to implementing compaction we have not had to actually update memory references in live objects and because we only have one generation we also have not had to deal with references from older to newer generations. These are to issues that are non-trivial to get right and some experience in their implementation would be nice.

Generally though we are very pleased with the amount of stuff we got working. It is always nice to see that design decisions made early on are not complete invalidated later. From a language design point of view we would probably do a lot of things differently (unifying classes and message handlers, eliminating fields and streamlining visibility) but the fact that the language actually works with all intended features gives a nice sense of accomplishment. Seeing that first program run through without barfing is something one could get hooked on.