

Software development Project NES-NN

Project Plan

1 Introduction

The NES-NN project is designed as a two part project to put all of our skill and teamwork abilities to the test. This project focuses on Neural Networks and sets us up to challenge ourselves to build a Neural Network and integrate it into a Nintendo Entertainment System Classic Edition Emulator. This project will allow us to use that AI as a second player in Super Mario Bros.

2 Project organization

The team is made up of three members: Loic Nyssen, Joshua Beemster, Jasim Schluter.

The three members have not been assigned unique roles in the team. Instead the team creates a backlog of work-items, and assigns the items for the two week sprint at the beginning of the sprint.

We are documenting work on GitHub as well as on CSU Interact. Communication will be via email and Discord.

The GitHub repository can be found at <https://github.com/orgs/NES-NN/>.

The main project wiki page (home) can be found at:

https://interact2.csu.edu.au/webapps/Bb-wiki-BBLEARN/wikiView?course_id= 33735_1&group_id= 36295_1

3 Project practices and measurements

We will be following the Unified Process of iterative development. We will be planning the work into 2 week sprints. Starting the sprints with a planning meeting and ending with a review meeting.

We will be running continuous integration tests via AppVeyor integration with GitHub.

4 Deployment

All members of the team will have an identical Virtual Machine installed on their hosts for development purposes - avoiding the "but it works for me" discussion.

Code will be submitted to an online CI service for automated cloud testing using [AppVeyor](#).

For production and demoing purposes we will be provisioning an online Windows Server which we will configure to run the binaries that we produce. The release process will involve:

1. Building final versions of all required binaries
2. Committing these files to Interact
3. Pushing assets to production windows server
4. Launching application via PowerShell script

5 Project milestones and objectives

Subject	Phase	Iteration	Dates	Primary objectives (risks and use case scenarios)
ITC303 – Software Development Project 1	Inception Phase	I-0	26/02 – 11/03	Establish Major Project Theme Establish Team Members Establish Version Control Established Push Communication Medium Established Documentation Management Inception-level Research on Prior Art
ITC303 – Software Development Project 1	Inception Phase	I-1	12/03 – 26/03	Establish Vision Establish Initial Use Case Model Complete Preliminary Non-functional Requirement Analysis Identify/Document Candidate Architectures
		I-2	27/03 – 9/04	Establish Risk List Complete Full Description for Critical Core Risky Difficult (CCRD) Use Case Implement Technical Competency Demonstrator Create Test Plan Establish Initial Project Plan Deliver Life Cycle Objectives Milestone (LCOM) Complete Inception Phase Project Assessment

	Elaboration Phase	E-1	10/04 – 23/04 (Session Break)	Mitigate Highest Priority Risk(s) Implement Highest Priority Architectural Element(s) to Support CCRD Use Case Complete Development Testing for Highest Priority Architectural Element(s)
		E-2	24/4 – 7/05	Mitigate 2 nd Highest Priority Risk(s) Implement 2 nd Highest Priority Architectural Element(s) to Support CCRD Use Case Complete Development and Integration Testing for 2 nd Highest Priority Architectural Element(s)
		E-3	8/05 – 21/05	Mitigate 3 rd Highest Priority Risk(s) Implement 3 rd Highest Priority Architectural Element(s) to Support CCRD Use Case Complete Development and Integration Testing for 3 rd Highest Priority Architectural Element(s) Deploy Executable Architecture in Trial Environment Complete Internal User Acceptance Testing for CCRD Use Case in Trial Environment
		E-4	22/05 – 4/06	Contingency Deliver Life Cycle Architecture Milestone (LCAM) Complete Elaboration Phase Project Assessment
		Mid-year Semester Break		

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ITC309 – Software Development Project 2	Construction Phase	C-1	10/07 – 23/07	Implement 2 nd Highest Priority Use Case(s) Complete Development and Integration Testing for 2 nd Highest Priority Use Case(s) Complete Internal User Acceptance Testing for 2 nd Highest Priority Use Case(s)
		C-2	24/07 – 6/08	Implement 3 rd Highest Priority Use Case(s) Complete Development and Integration Testing for 3 rd Highest Priority Use Case(s) Complete Internal User Acceptance Testing for 3 rd Highest Priority Use Case(s)

		C-3	7/0 – 20/08	Implement 4 th Highest Priority Use Case(s) Complete Development and Integration Testing for 4 th Highest Priority Use Case(s) Complete Internal User Acceptance Testing for 4 th Highest Priority Use Case(s)
		C-4	21/08 – 3/09 (Session Break)	Contingency Deliver Initial Operation Capability Milestone (IOCM) Complete Construction Phase Project Assessment
	Transition Phase	T-1	4/09 – 17/09	Deploy Application in Trial Environment Complete 1 st Round External User Acceptance Testing Resolve Any Identified Issues
		T-2	18/09 – 1/10	Complete 2 nd Round External User Acceptance Testing Resolve Any Identified Issues
		T-3	2/10 – 13/10	Contingency Deliver Product Release Milestone (PRM) Complete Final Project Assessment