

Joshua Platt Project Proposal Slides

by Joshua Platt

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BA (Hons) Animation & VFX – Project Proposal

Joshua Platt – 2304399

22/10/2025

Making complex rigging systems that are user-friendly for animators

- I want to learn rigging, with a focus on constraints, IKs and set-driven keys.
- I want to make rigs that are practically usable for animators
- Common difficulties using rigs
 - Non-intuitive controls
 - Unorganized or poorly named bones and controls
 - Too many controls that it makes it overly complex to do simple animations, or too little controls which means it's not flexible enough to do what the animator wants
- Freedom vs Constraint
 - Too easy to push a rig further than it is designed to be, and then not easily be able to get it back to a usable state
 - Unnecessarily rigid range of movement without the versatility needed



Aims and Objective

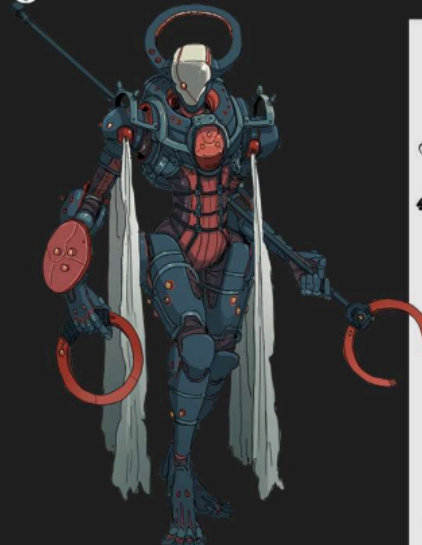
- Learn rigging in Maya, to the level of being able to rig full animation ready model
- Create a high quality rig of a mech, while also making it user-friendly for animators
 - Relatively simple mechanical model, focusing on controllers and constraints, rather than weight-painting or squash and stretch
- Get feedback from other animators to see what difficulties they have using the rig
- Timeline
 - Get a model and functional rig (basic limbs) finished by Interim, then create the rig with full controls during the second semester, final month to get feedback from animators

What I will rig

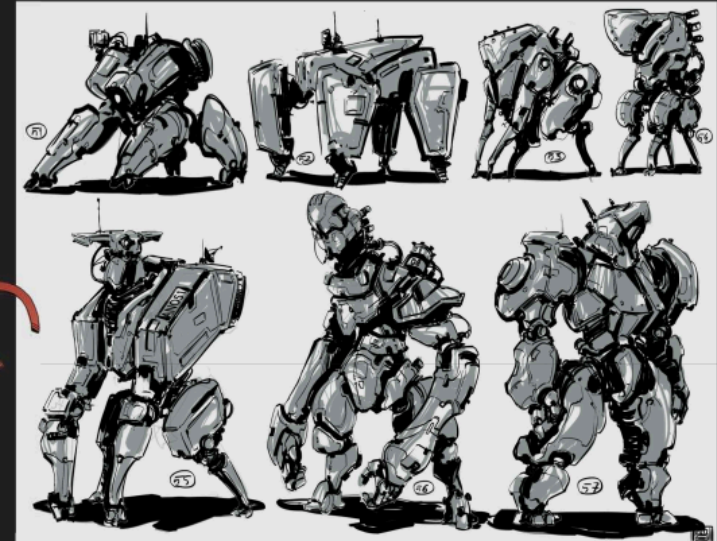
- Priority for this project is learning constraints and controls interacting with joints
- Less focus on weight painting and squash-and-stretch
- Because of this, this will be a rig for something mechanical rather than organic
- Options
 - Mech/Robot
 - Clockwork humanoid



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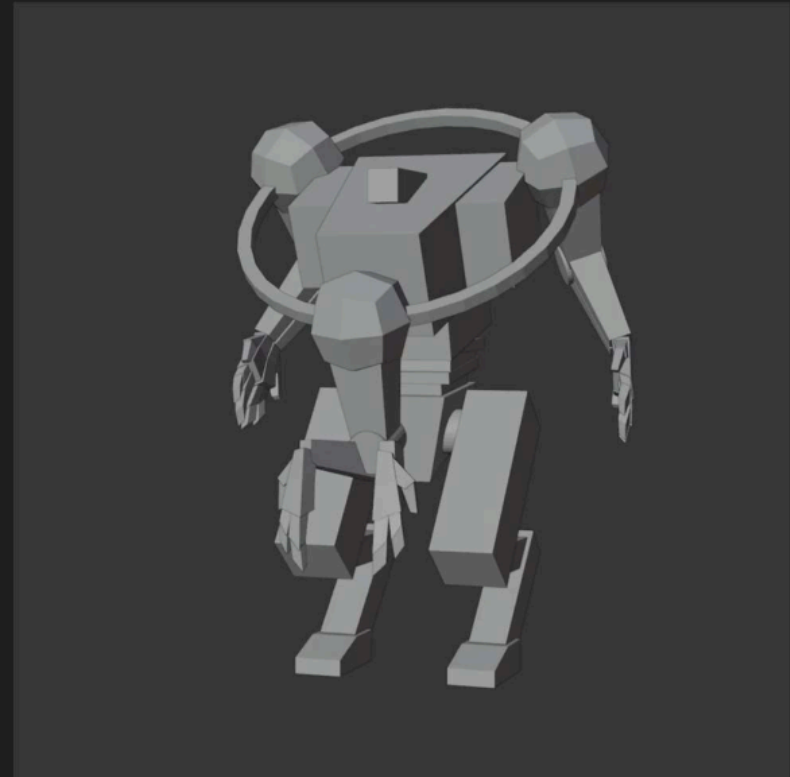
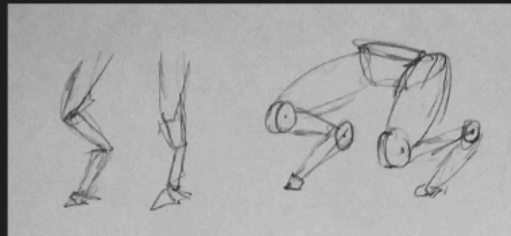
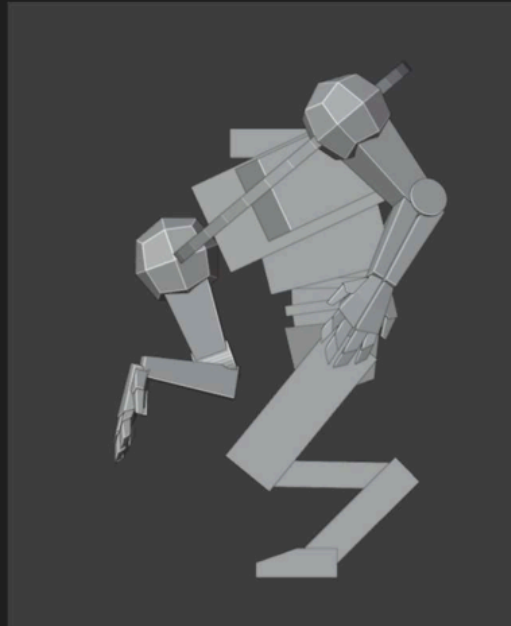
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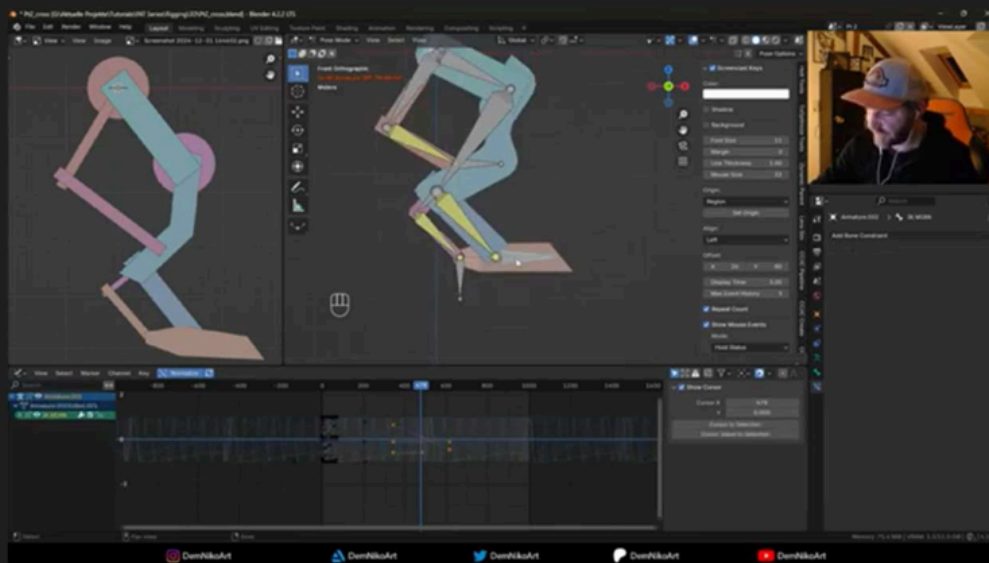
Mech Design

- A mech with 3 arms, where the shoulders can rotate around the body
- When an arm is in the front position, it can split at the forearm to make two smaller hands for more precise actions
- Common industry-standard rig features
 - IK legs
 - IK/FK switcher
 - Finger poses/sliders
 - UI controller
 - Physics?
- Rig specific features:
 - Spinning shoulder
 - Arm splitting
 - Digitigrade legs



Research

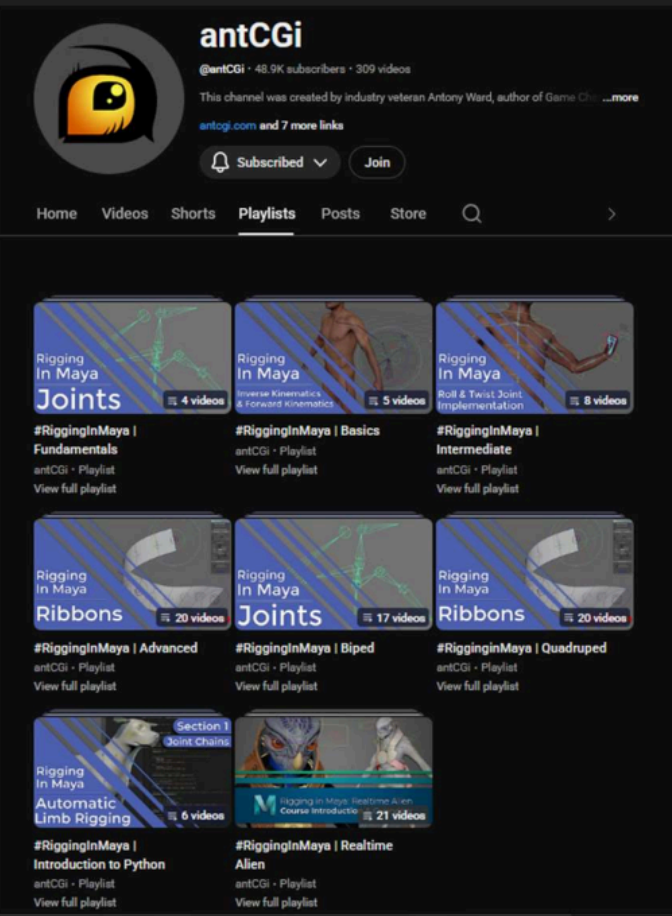
- Rigging in Maya (YouTube) – antCGI
 - Free Youtube course going over every step of rigging, from basics to advanced (scripting and UI)
- Mechanical Rigging in Blender – DemNikoArt
 - Course (for Blender) about creating mechanical joints and springs with IK controls



Mechanical Rigging Course

Unlisted DemNikoArt · 2 / 8

- 1 Mechanical Rigging Course Pt. 1 // STARTING with IKs 10:49 DemNikoArt
- 2 Mechanical Rigging Course Pt. 2 // ROBOT LEGS 15:55 DemNikoArt
- 3 Mechanical Rigging Course Pt. 3 // PISTONS 21:23 DemNikoArt
- 4 Mechanical Rigging Course Pt. 4 // GEARS 20:36 DemNikoArt
- 5 Mechanical Rigging Course Pt. 5 // ROBOT ARM 22:05 DemNikoArt
- 6 Mechanical Rigging Course Pt. 6 // CABLES 25:10 DemNikoArt



Research

- Advanced Character Rigging in 3D - Àngel Cónsola López
 - Dissertation from a student re-rigging a Tom (Tom & Jerry) model from scratch
 - 260 pages and 30k words
 - Very in-depth records of every stage of set up
- Rig It Right (2024) – Tina O'Hailey
- Art Of Rigging (2005) - CG Toolkit



Existing Experience

- 3D VTuber models
- Cyborg ice skate animation
- Digitigrade leg rig (in Blender)



Feedback

- The rig will be given to fellow students and animators to test it and see how easy it is for them to use
- To gather information and quantify their experience using the rig, I will use the System Usability Scale
 - Commonly used for websites and apps
- <51 is generally bad, 70 is about average, and >80 is very good

The System Usability Scale		Strongly Disagree					Strongly Agree				
Standard Version											
		1	2	3	4	5					
1	I think that I would like to use this system frequently.	☐	☐	☐	☐	☐					
2	I found the system unnecessarily complex.	☐	☐	☐	☐	☐					
3	I thought the system was easy to use.	☐	☐	☐	☐	☐					
4	I think that I would need the support of a technical person to be able to use this system.	☐	☐	☐	☐	☐					
5	I found the various functions in this system were well integrated.	☐	☐	☐	☐	☐					
6	I thought there was too much inconsistency in this system.	☐	☐	☐	☐	☐					
7	I would imagine that most people would learn to use this system very quickly.	☐	☐	☐	☐	☐					
8	I found the system very awkward to use.	☐	☐	☐	☐	☐					
9	I felt very confident using the system.	☐	☐	☐	☐	☐					
10	I needed to learn a lot of things before I could get going with this system.	☐	☐	☐	☐	☐					

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GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

81 / 100

BA (HONS) ANIMATION & VFX – 2025/6		
ACCA6020 - INDEPENDENT PROJECT / #1 / PROJECT PROPOSAL (10%)		
Student: JOSHUA PLATT		MARK: 81%
INTRO / AIMS & OBJECTIVES (500 WORDS)		

· Project title; · Outline and targeting of specific area of study / project outline to be investigated; · Aims and identifiable SMART objectives; · Justification for project scope and approach; · Statements on the potential deliverables and rationale for success; · Project specification details (e.g. shots, running time, pipeline plan).	20%	90
RESEARCH & REFERENCES (500 WORDS)		
· Relation and comparative links to Literature Review; · Ethics and values considered in work undertaken in the past ~ and in this new endeavour; · Depth of research findings and case studies (e.g. animators, film knowledge, VFX methods); · Research methods and information sourcing and quotes (beyond online webpages alone); · Visual influences and contributing factors, in undertaking the project, in covering the references, techniques, anticipated process, etc.	30%	83

PROPOSAL PITCH & IMPACT (ORIGINAL IMAGERY)		
· A single – or short series – of initial designs or conceptual art; · To act as a visual hook or promotional piece for this first pitch / proposal; · Portraying a key moment or scene or action ~ from the intended narrative / sequence; · Demonstrating a keen sense of framing, colour scheme, character shaping , etc; · Other pre-production elements may be considered, but these will need to feature more prominently in the subsequent INTERIM presentation (to develop for later section and reviews of the portfolio).	40%	75
LAYOUT & PROFESSIONAL SKILLS		
· SPAG (Spelling, punctuation & grammar); · Literacy and structure; · Descriptive / analytical insights; · Clarity and presentation; · Referencing, bibliography and appendices; · Adherence to word	10%	80

TOTAL	100%	81%
FEEDBACK / COMMENTS:		
• A strong confident manner adopted throughout, with an attention to detail and assured presentation style. All the work was presented with clarity and visual / diagrammatic flair. • Aspects or obstacles to overcome were clearly targeted and examples provided. Although a technically demanding selection, with lots of procedural hoops to leap through, the project parameters and scoping were realistic and feasible within the next 6 months or so. Phrasing and anecdotal touches (e.g. <i>"pistons not principles"</i>) helped to define and specifications and intended directions / goals. • Solid, comprehensive appreciation of research(able) forms of reference and investigation, that included notable texts (e.g. O'Hailey's latest revised edition of 'Rig It Right') and notable online tutors and stages. • All the material was covered with authority and control, informing all present of the possible avenues for further exploration and development and project-as-journey. • The work mirrors R&D departments and TD roles in the industry, and to accompany the sources and references we had work-currently-in-progress, as initial proof of concepts. Great to see the progress and the thinking / considerations behind visualising the articulation, motion, mechanics, etc. • As a pitch component, the visuals helped to illustrate and focus the principal rationale towards the next checkpoint (i.e. Interim' in January). Good to hear there is room for incorporating rigging-reel demo's and possible <i>in situ</i> / <i>locis</i> animations, later in the process.		

- An excellent presentation, packed with insights and depth of study, with lots to take away from what is to be conducted, and intended quality / level of detail.
- Good to hear comments (throughout) on the recognition and importance of usability, together with an underlying ethos to create a compelling and memorable 3D / technically orientated final project.

Well done!

PmO / November 2025.

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