m-body

OPEN-SOURCE DATA AND TOOLS
**FOR GENERATIVE ANIMATION**

CONTENT

SUMMARY

Mbody is an open-source, applied research project aiming to accelerate the advancement and adoption of generative character animation technologies. Federally funded by the **National Sciences and Engineering Research Council of Canada (NSERC)**, and led by a diverse team of researchers from four post-secondary applied research centers, our goal is to provide value to both industry and academia in the following specific ways:

For **animators**, we're developing a free, open-source generative character animation tool designed to improve the efficiency and quality of their daily work.

For **animation tool developers**, we're creating free, open-source software systems designed to streamline the integration of generative character performance models into industry-standard content creation tools.

For **academic and applied researchers**, a free, novel dataset of multi-modal, multi-agent interactions will be developed to support training new and improving existing generative models with diverse, high-quality data.
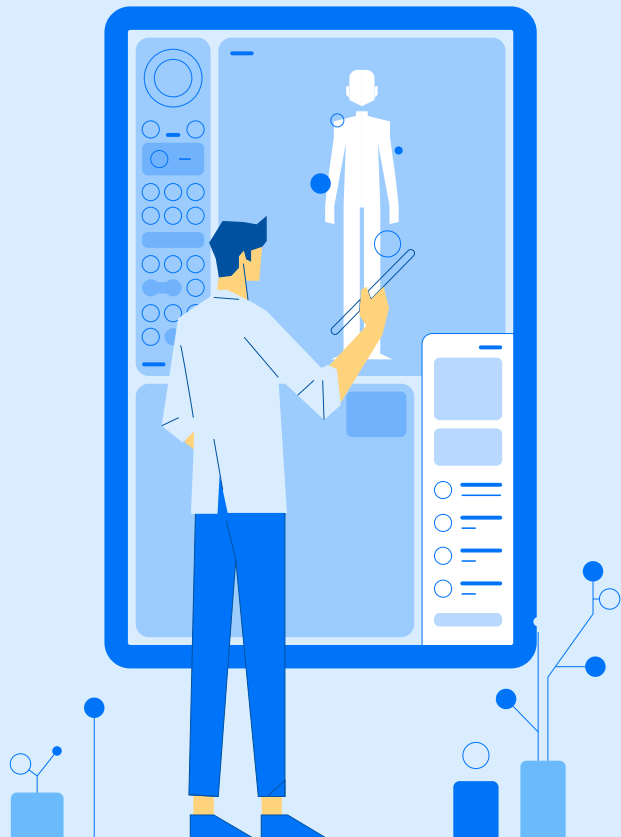
Reach out to learn more

Throughout the project, the research team will engage with industry companies and academic institutions to help guide the research work and ensure that the outputs fulfill the above-stated goals. Although all materials produced through this project work will be made openly available, industry and academic partners who engage with us can expect some additional benefits; for example:

The ability to **help guide** the project work to ensure their own business needs are met

Early access to project outputs such as software tools and datasets so that early validation and integration work can be conducted

The opportunity to **connect** with other industry innovators to stay current on technological developments in this area

RESEARCH TEAM

This applied research project is being led by four Canadian research centers, each offering their own unique expertise critical for the success of this cross-disciplinary work:

Sheridan College's **Screen Industries Research and Training Centre (SIRT)**, based in Ontario, is providing a wealth of experience in the areas of performance capture, character animation, and interactive software development

Link to SIRT

Le Centre de développement et de recherche en intelligence numérique (CDRIN), based in Quebec, is contributing their expertise in artificial intelligence (AI) technologies for the entertainment industry

Link to CDRIN

Durham College's **Mixed Reality Capture Studio (MRC)** and **AI Hub**, based in Ontario, are bringing additional expertise in the areas of performance capture, interactive software development, and artificial intelligence

Link to MRC   **Link to AI Hub**

Le Laboratoire en innovation ouverte (LLio) of the Cégep de Rivière-du-Loup, based in Quebec, is supporting the collaboration processes both internal and external in this project with their expertise in user-centered design and other open innovation practices

Link to LLio

WORK CONDUCTED SO FAR

The preliminary work on this project has focused on defining a clear project plan which ensures that deliverables will contribute real value to our target end-users. Toward this goal, the following high-level activities have been completed:

1 **Interviews** were conducted with professionals working in areas related to character animation to identify common pain points and needs that aren't currently being addressed.

2 A broad **environmental scan** and literature review was conducted in the area of generative character animation in order to identify the current state of research and commercial adoption in this area.

3 Candidate applied research areas related to generative character animation were identified, and insights from the industry interviews and **background research** were analyzed to identify a project focus which is both technically feasible and provides real value to industry stakeholders.

4 **Detailed plans** were formulated for the development of initial deliverables in the three major project areas: generative character animation tools; software tools to ease machine learning integration into content creation tools; and a multi-agent, human motion dataset.
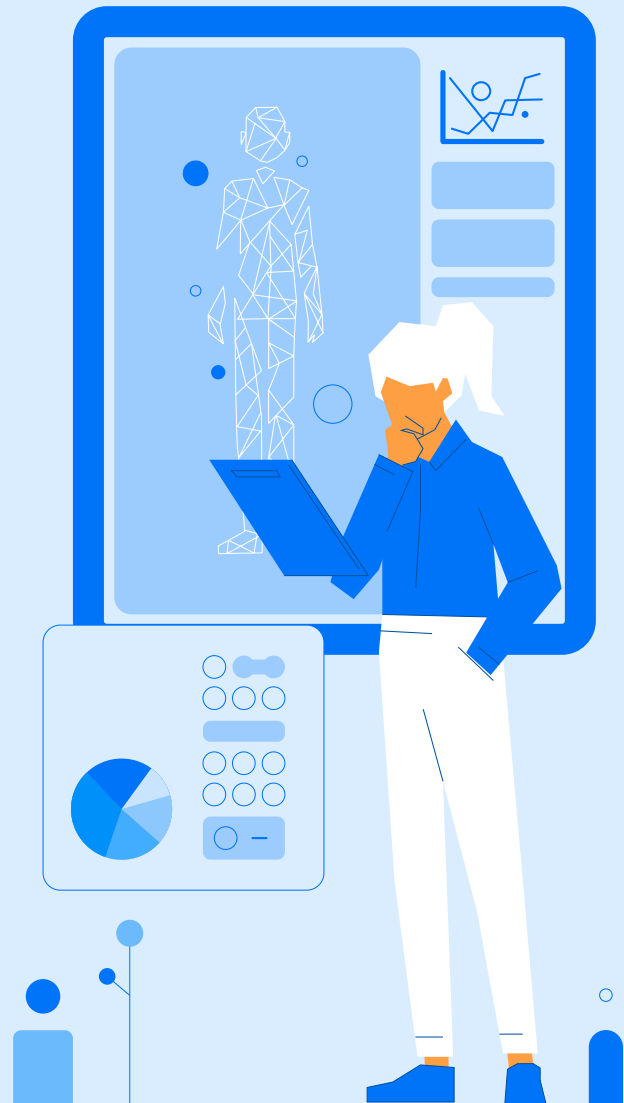
FUTURE PLANS

2024

Q1 — Conduct additional interviews with industry partners to refine our requirements

Q2 — Release an open source project for our prototype generative character animation tools

Release a sample dataset of multi-agent conversational animations

Q3 — Demonstrate our prototype animation tools and dataset to gather feedback

Test and validate the prototype tools with industry to help steer our project direction

Q4 — Release an open source project for the beta-version of our generative character animation tools

Release a complete dataset of multi-agent conversational animations

2025

Q5 — Work with partners to integrate our generative tools into animation workflows and identify additional improvements and features

Finalize the maintenance plans for our open source project outputs

Q6 — Release an open source project for the production version of our generative character animation tools

Release the final dataset of multi-agent conversational animations