

Project Report: Creating a Drink Can in Maya

Introduction: This project involves creating a 3D model of a drink can using Maya 2025. The workflow emphasizes precision, symmetry, and a step-by-step approach to achieve a realistic and detailed design. The model incorporates advanced techniques such as blueprint integration, hard surface modeling, and edge reinforcement.

Workflow

1. Blueprint Setup

- Blueprints were downloaded and saved as source image files in the project directory.
- Using the *View → Image Plane → Import Image* option, the blueprint was placed on image planes for reference.
- Initial scaling was done by creating a cylinder primitive, rotating, and aligning it with the blueprint. X-Ray mode was enabled for precise placement in the perspective and top views.



2. Base Modeling

- A cube was created and scaled to define the can's height and curvature in the top view.
- Vertices were adjusted to block out the curvature, maintaining symmetry using the multiline tool.
- Bevels were applied to achieve smooth curves, ensuring "Chamber" was activated to prevent irregular results. The same steps were repeated for the bottom curves.

3. Cap Modeling

- The cap of the can was created by extruding faces symmetrically, repeating the process three times with offsets to define the curvature.
- Proportional editing was used for manual adjustments to ensure smooth transitions.
- The mirror function was applied along the X-axis for symmetry.

4. Body Detailing

- The body was refined by selecting edge loops and extruding downwards to create thickness and the outer lip.

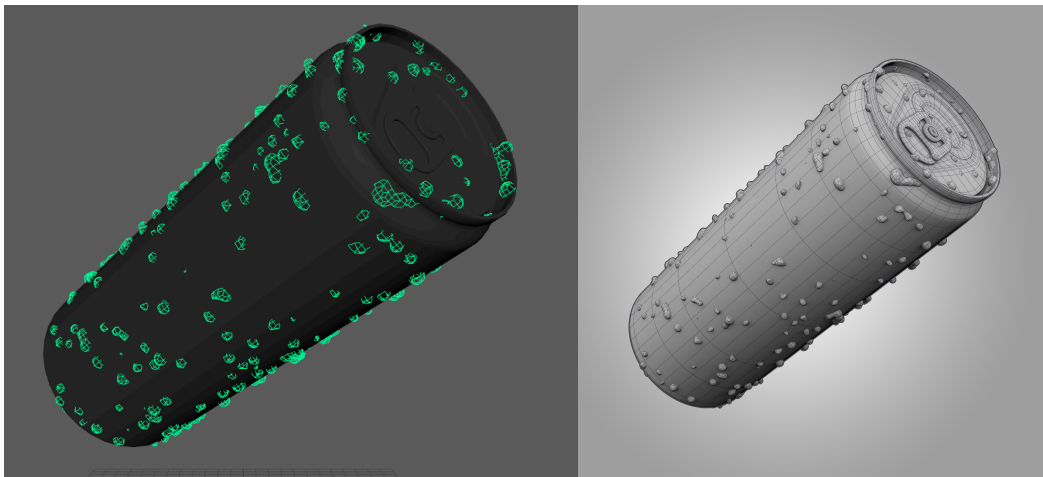
- The upper edge was scaled and bent inward to form a smooth transition, ensuring alignment with the blueprint.
- The bottom was constructed by extruding and scaling inward to form the lip. Merging vertices and edges capped the structure.

5. Material Application

- A Blinn material was applied to the model to add realistic shading. The color was customized, and "Wireframe on Shaded" was toggled off for a cleaner appearance.

6. Final Detailing

- Edge reinforcement was added to maintain shape consistency in Sub-D mode.
- Water particles were applied to the surface for a natural look, enhancing realism.



Challenges and Solutions:

- **Alignment Issues:** X-Ray mode and careful manual adjustments resolved initial misalignments between the blueprint and the model.
- **Irregular Curves:** The bevel tool's "Chamber" option ensured smooth curves throughout the model.
- **Symmetry Maintenance:** The mirror function and multiline tool streamlined the symmetry process, reducing manual corrections.

Conclusion: The project successfully created a realistic 3D model of a drink can in Maya 2023, integrating advanced modeling techniques and attention to detail. The final model is suitable for use in animation and rendering, showcasing clean geometry and a high level of realism.

Future Improvements:

- Adding more intricate textures and labels to enhance visual appeal.
- Exploring advanced rendering techniques for photorealistic output.
- Introducing animation elements, such as opening the can or liquid dynamics, for greater interactivity.

Mannem Shamili
23ec3027