BRIDGING LANGUAGE AND GOVERNANCE: ANIMATED STORYTELLING IN KONKANI FOR GOA'S PUBLIC SCHEMES

SHREEDATTA SAWANT
Dept. Computer Engineering
Agnel Institute of Technology and Design
Mapusa, India
ssa@aitdgoa.edu.in

KEDAR SAWANT
Dept. Computer Engineering Agnel Institute of Technology and Design
Mapusa, India
ksa@aitdgoa.edu.in

RIYA TAR
Dept.Computer Engineering Agnel Institute of Technology and Design
Mapusa, India
21co45@aitdgoa.edu.in

SHRUTI PATIL
Dept. Computer Engineering
Agnel Institute of Technology and Design
Mapusa, India
21co57@aitdgoa.edu.in

SIMRAN PALIENKAR
Dept. Computer Engineering
Agnel Institute of Technology and Design
Mapusa, India
21co59@aitdgoa.edu.in

PRASMITA NAIK
Dept. Computer Engineering
Agnel Institute of Technology and Design
Mapusa, India
20co57@aitdgoa.edu.in

***Abstract*— Promoting awareness of government schemes in regional languages is vital for inclusive governance and cultural preservation.This project uses animated videos in the Konkani language to help people easily understand and learn about government schemes in Goa. To maximize reach and comprehension, we employed a structured animation workflow incorporating scripting, character modeling, rigging, lip synchronization, and audio integration using tools such as Adobe Character Animator, Photoshop, Premiere Pro, and After Effects. The animations were crafted to reflect culturally relevant contexts, with scripts designed in authentic Konkani dialects. The project was evaluated through feedback from 51 respondents, including students and general public viewers. The testing revealed significant improvement in awareness of government schemes, enhanced viewer engagement, and a strong emotional connection due to the use of the native language. The results indicate that regional-language animation is an effective tool for both civic education and language revitalization, offering a scalable model for digital outreach in other linguistic communities.**

***Keywords:*Regional language preservation, Culture, Animation,Government Schemes, Digital Storytelling, Adobe Character Animator, Educational Media**

I .INTRODUCTION

Language plays an important role in preserving culture, heritage, and identity. However, in today's globalized world, many regional and native languages are at risk of being forgotten. This is because commonly spoken languages are used more often in media, education, and technology, while local languages get less attention [1][2]. Konkani, the official language of Goa and spoken by many people along India's western coast, is one such language. Even though it has a rich history and culture, Konkani is not widely used in modern education or digital platforms [2].To help promote and preserve Konkani, our project uses animation as a fun and powerful way to share information. We created animated videos in Konkani that explain different schemes offered by the Goa government. These videos help people understand the benefits of the schemes in their own language and in a way that is easy to follow [3][8][12]. Animation serves as an accessible and compelling platform to bridge the gap between policy and people. By delivering important governmental information in Konkani, this project not only supports language promotion but also empowers communities with knowledge in their mother tongue [17]. Through this work, we highlight the potential of technology and creative media in the preservation and propagation of regional languages in the digital age. Using animation makes the content interesting and easier to remember. At the same time, hearing and seeing Konkani in digital videos

encourages people to use and appreciate the language more [7][10]. Our goal is to make sure Konkani stays alive and is used more often, especially in modern and digital forms of communication [2][17].

II. RELATED WORK

This part includes a literature review on Unveiling Goa Through Animations focusing on Government Schemes through Kokani Kaniyo.

A paper by Shweta Patil and Shivani U Patole et al.[1]discusses that Marathi dialectal variations in Satara,Kolhapur, and Khandesh, emphasizing the influence of education, socioeconomic factors, and migration on linguistic diversity.It highlights the research gap in underdevelopment of automatic speech recognition (ASR) development for Marathi compared to Hindi and Bengali The study uses audio recordings and data analysis to examine dialects. It highlights the need to promote Marathi through research, community efforts, and technology for its preservation and growth.

In the paper authored by Asha Sarangi et al. [2] The paper explores Konkani's language diversity and its relation with regional identity, its effect on self-determination in India. Written in five scripts—Kannada, Malayalam,Nagari, Perso-Arabic, and Roman—Konkani which shows a mix of the different cultural influences. It challenges in gaining official recognition, and its addition in the Eighth Schedule of the Indian Constitution.Indah Wardaty Saud is associated with the EnglishmLiterature Study Program and Yurni Rahman a Primary

Teacher et al. [3]their aim is to make use of animated videos for incorporating local Gorontalo cultural values to enhance English language learning and character building in elementary schools.There is a lack of cultural integration in current teaching methods, as teachers rely mostly on textbooks and are unfamiliar with multimedia resources.The research uses surveys and interviews to find gaps in teaching materials. It also highlights the need for more engaging content.The study involved 250 students from 15 schools and used an R&D method to create animated learning tools.

The paper by Soraia Sobeih et al.[4]the focus is on how identity affects animated characters, exploring identity struggles, cultural influences, and emotional bonds. It examines films such as Finding Nemo, Astro Boy, and Ponyo, highlighting how character development is driven by identity struggles.The study discovers the gaps in how the culture, emotions, and visuals affect audience interest and storytelling. It uses film analysis to show how identity makes animated movies powerful. Future studies could explore cultural representation, audience perception, and deviations in narrative structure.

A paper authored by Mr. Junaid Hushain et al. [5] The paper explores different animation types like hand-drawn, Computer generated imagery (CGI), stop motion, motion graphics, and 3D, highlighting their features,benefits, and challenges.The study identifies research gaps suchas the technologica limitations,cross-platform compatibility, ethical concerns, and the need for further exploration of AI in animation and then Various tools like Autodesk Maya, Blender, and Cinema 4D are discussed, alongwith methodologies used in animation production.The paper highlights the need for ongoing research to improveanimation, storytelling,and its use in different industries.

A paper by Nida Rashid, Nadira Khanum,Fazil Raheem Khan et al. [6] studies the impact of cartoon-style educational videos on student motivation and learning in an advanced university accounting course.The study points out several research gaps, such as the lack of exploration into interactive animations, how animation affects long-term memory, and how it influences different learning styles,subjects, and age groups.The study used a quantitative design with an experimental group using animated videos and a control group using traditional methods, measuring attention, retention, and motivation.The paper is presented in English.

A paper by Chelsea Liu & Philip Elms et al. et al.[7] investigates how animated videos impact students' learning compared to traditional teaching methods.The analysis,featuring 170 students from grades 3 to 6, showed that those taught with animations had better attention, memory, understanding, and motivation. Several research gaps,including the long-term impact of animation, its effect on different learning styles and subjects, and the role of culture and technology. Further research is needed to compare animation with other multimedia tools and its impact on different age groups.It also used a quantitative experimental design and analyzed data through t-tests, based.

III. .PROPOSED WORK

A.Methodology:

The main goal of this project was to promote the Konkani language by creating animated videos that explain various government schemes in Goa. The methodology followed a structured multimedia production pipeline combined with language and cultural considerations to ensure both educational effectiveness and cultural relevance.

i) Scriptwriting and Language Integration

Scripts were written in the Konkani language, incorporating local dialects, idiomatic expressions, and cultural references. Native speakers were involved to ensure linguistic authenticity and emotional tone. This helped maintain the cultural context while making the information more relatable to local viewers.

ii).Storyboarding and Animation

The script was broken down into visual scenes through detailed storyboards. These included camera angles, scene transitions, and character movements. Emotional expression and body language were used to enhance understanding of the narrative.

iii)Audio Integration and Lip Synchronization

Voiceovers in Konkani were recorded using Adobe Audition or directly within the editing environment. These audio tracks were imported into Character Animator, where the Compute Lip Sync from Audio feature auto-generated corresponding mouth movements. Manual corrections were applied for accuracy. Background music and sound effects were layered to enhance viewer engagement, with audio markers used to align key beats and dialogue.

iv)Character Design and Modeling

Puppet Design and Rigging:

Character creation started by creating culturally representative puppets with Adobe Photoshop and Illustrator. Puppets were built with layered artwork, where body parts like the head, arms, mouth, and facial expressions were added to independent named layers. Layers adhered to Adobe Character Animator naming conventions (e.g., Head, Mouth/Smile, Left Arm) to allow for automatic rigging. These layered designs were then brought into Adobe Character Animator, where the rig adjustments were further done using the Rig panel, consisting of the definition of anchor points, draggable handles, and actions like head turns, lip sync, and eye gaze.

v)Manual Animation and Scene Recording

Animation was manually recorded within Adobe Character Animator using its take-based system, which allows for multiple passes. Real-time facial capture using webcam and microphone inputs was combined with manual controls such as the Dragger tool, Transform behavior, and Triggers for gestures and expressions. Each puppet's movement and dialogue were recorded scene-by-scene to ensure narrative consistency and emotion.

vi)Scene Stitching and Sequencing

After recording individual scenes, the animations were exported as clips using Dynamic Link or in .MOV format. These clips were then imported into Adobe Premiere Pro, where they were arranged sequentially to form a coherent storyline. Transitions, trimming, and timing adjustments were applied to ensure a smooth narrative flow.

vii)Final Editing and Output

The finalized animation was polished in Adobe Premiere Pro and After Effects. Visual enhancements such as color correction, camera movement, and motion blur were applied. The animation was then exported using the H.264 codec for web platforms or QuickTime (MOV) for transparent backgrounds.

viii) Testing and Feedback

Initial versions of the videos were shared with small focus groups, including local residents and students. Their feedback on clarity, cultural accuracy, and appeal was used to refine the animations for the final output

Fig 1.

Fig 2

Fig.3

Fig.4

B. BLOCK DIAGRAM

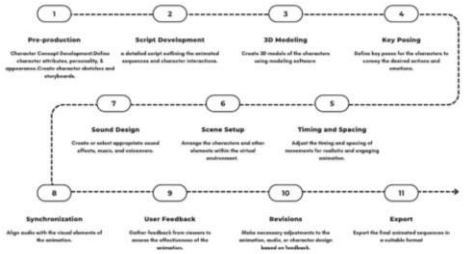

Fig 5.Flow Of Work

The animation production process followed a structured 11-step workflow to develop the animated videos for language promotion in Konkani. Each phase contributed to the creation of engaging, informative, and culturally relevant content. The flow is as follows:

1)Pre-production

This phase involved conceptualizing characters by defining their attributes, personalities, and appearances. Sketches and storyboards were developed to visualize the scenes.

2)Script Development

A detailed script was created that outlined the animation sequences and character interactions. The script served as the foundation for all subsequent stages.

Example:

10. कला सम्मान योजना
(बाबू आनी लीला गोठ्यांत आसात.)
लीला: बाबू मास्तो हांगा यो आनी थंयसरल्ली सारण दी पळोवया.
(बाबू सारण घेवन येता आसतना ताका आलमारींत तबलें दिसता.)
बाबू: मम्मा, हें तें तबलें कोणाचें गे?
मम्मा: बाबालें रे.
बाबू: हय रे बाबा?
सदाशिव: हय. हांव पयलीं तबलें वाजयतालों.
बाबू: (अजापान) किदें सांगता रे बाबा. तूं तबलें वाजयतालो?
सदाशिव: हय. गांवा गांवांनी भजनांक वचून तबलें वाजयतालों. तबला वादक म्हणून फामाद आशिल्लों. म्हाका खूब पुरस्कार मेळ्यात.
बाबू: वाह! मागीर तूं आतां किदयाक वाजयना तर?
सदाशिव: ना रे. तबलें वाजवपाक खूब ताकत जाय पडता आनी पयलीं भशेन आतां म्हजेकडेन सारकें वाजवपाक जमना.
बाबू: हांव पयर खेळपाक गेल्लेकडेन शामूकाका आनी जयवंतबाबा गजाली करताले. त्यो म्हज्या कांनांर पडल्यो. ते उलयताले की, कला सन्मान म्हणून एक सरकारी योजना आसा खंय. व्हडले कलाकार आसात तांकां म्हयन्याक २५०० रुपये मेळटात खंय.
लीला: किदें सांगता रे बाबू! आमकां ती योजना लागू जातली?
बाबू: हय गे मम्मा, ती योजना ६० वर्सां वयर अशा कलाकारांक लागू जाता आनी वर्सांचें उत्पन्न ४८००० रूपया परस कमी आसपाक जाय.
लीला: म्हणजे बाबाक म्हयन्याक २५०० रुपये मेळटले तर.
सदाशिव: म्हणजे आतां हावंय घराखातीर पयशे दिवं शकतां. बाबू, तूं फाल्यां शंकराक घेवन चल आनी ती योजना लागू करून घे.

Fig.6

3) 3D Modeling

Characters were modeled in 3D using software tools such as Blender or Maya. The models included detailed geometry to support realistic animation.

4)Key Posing

Important poses were defined to express specific actions and emotions. These poses acted as the keyframes around which the animation was built.

5)Timing and Spacing

Movements of characters were refined by adjusting the timing and spacing between keyframes to ensure smooth and realistic motion.

6)Scene Setup

Characters and background elements were arranged in a virtual environment. Camera angles and scene compositions were planned in this stage.

7)Sound Design

Appropriate sound elements such as background music, sound effects, and Konkani voiceovers were created or selected to support the animation.

8)Synchronization

Audio was synchronized with visual elements, ensuring lip-sync accuracy and emotional alignment between dialogue and expressions.

9)User Feedback

The preliminary animation was shown to a focus group to gather feedback on clarity, cultural relevance, and engagement.

10)Revisions

Based on feedback, necessary changes were made to animations, audio, and visual design to improve effectiveness and viewer experience.

11)Export

The final animation sequences were rendered and exported in formats suitable for distribution, such as .MP4 or .MOV

IV. EXPERIMENT AND RESULTS

Based on feedback from 51 respondents, including college students and members of the public, the animated videos created for promoting the Konkani language and raising awareness about Goa government schemes received a positive response [3][12]. Quantitative data showed that most viewers found the voiceovers clear and well-synced, although a few noted that certain character voices, such as those of the grandmother and daughter, sounded too similar [10].Viewers reported an increase in awareness about government schemes after watching the animations, with many admitting limited prior knowledge.The use of Konkani was especially appreciated, as it helped viewers feel more emotionally connected and culturally engaged [2][14].The animations were described as informative and engaging, though some respondents suggested introducing more diverse characters and background settings to avoid visual repetition [5][13]. Qualitative feedback praised the way intergenerational conversations were portrayed, showing how family members could learn and share information about various schemes. Suggestions for improvement included adding clearer explanations on how to fill government forms, enhancing character voice differentiation, and expanding the visual variety. Overall, the project demonstrated that animation in Konkani is an effective method for both language promotion and civic education, with high viewer engagement and valuable insights for future enhancements [3][6][7][15].

The questions that were asked were:

Q1)What is your primary language of communication at home?

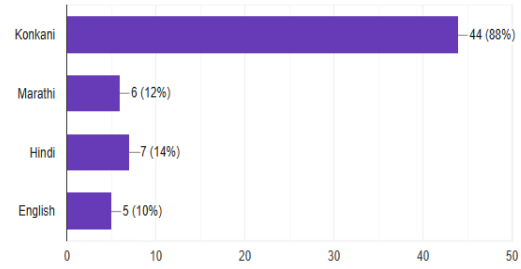

Fig.7

Q2)Were the voice overs clear and well-integrated?

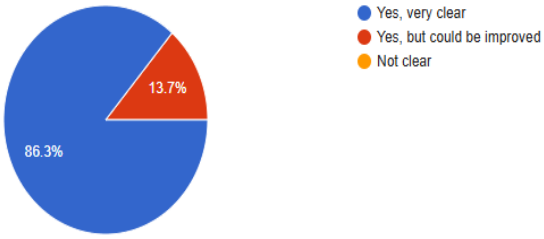

Fig.8

Q3)Before watching the animation, how familiar were you with Goa government schemes?

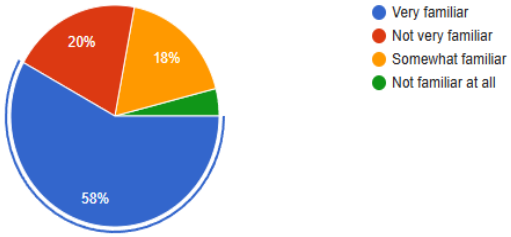

Fig.9

Q4)Did the animation help you understand any schemes?

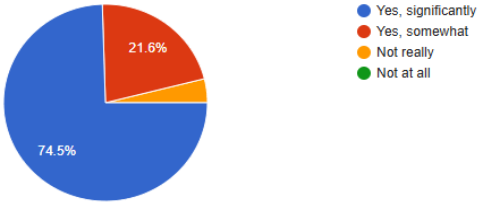

Fig.10

Q5)How engaging did you find the animation?

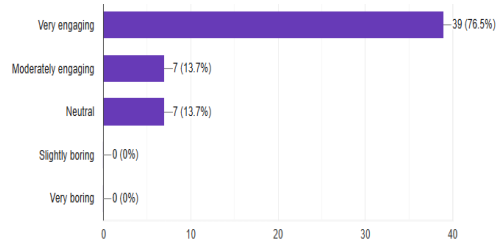

Fig.11

Q6)Did the use of Konkani in the animation make you feel more connected to the content?

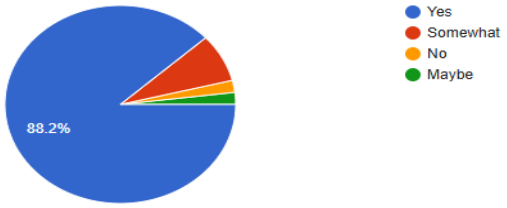

Fig.12

V. CONCLUSION

This project showed that animation is a powerful way to help people understand government schemes, especially when the content is in their own language, Konkani[2][8][12][15]. By creating short animated videos about different Goa government schemes, we made the information easier for local people to follow and relate to [15]. Using tools like Adobe Character Animator, Premiere Pro, and Illustrator helped us make the videos look professional and culturally relevant. We combined traditional storytelling with modern animation techniques to create clear and meaningful content[4][16].We received feedback from 51 people, including students and members of the public. Most of them said that hearing Konkani in the videos helped them understand and connect with the content better. They also liked the realistic characters and stories. Some people suggested small improvements like using different voices for characters and giving more details about filling forms [15]. Overall, this project shows that using animation in local languages can be a great way to teach and spread awareness, and it can be used in other places and languages too[3][12].

REFERENCES:

[1]Patil, Shweta & Patole, Shivani. (2024). Study of Variation in the Dialect of Various Regions of India: Review. International Journal of Scientific Research in Science and Technology. 11. 542-544. 10.32628/IJSRST2411298.

[2]Sarangi, Asha. (2017). Scripts, regions and states of the Konkani language in i n d e p e n d e n t India . South Asian History and Culture . 1 - 2 1 . 10.1080/19472498.2017.1411051.

[3] Saud, Indah & Rahman, Yurni. (2019). Integrating Local Cultural Animated Video as a Media in English Language Teaching to Promote Students' Character in Gorontalo Elementary Schools. ETERNAL (English Teaching Journal). 10. 10.26877/ eternal.v10i2.5124. [4] Sobeih, Soraia. (2017). The Role of Identity of an Animated Character in the Story Line. The Academic Research Community publication. 1. 8. 10.21625/ archive.v1i1.130.

[5]Mr. Junaid Hushain1, Dr. Vandana Gupta2, Miss. AayushiSharma374194617_An_Analysis_of_the_ Various_Kinds_of_Animation

[6]381376172_The_Effect_of_Animation_as_a_Teaching_Tool_on_Students'_Learning_-an_Experimental_ Study

[7]Liu, Chelsea & Elms, Philip. (2019). Animating student engagement: The impacts of cartoon instructional videos on learning experience. Research in Learning Technology. 27. 10.25304/rlt.v27.2124.

[8]Dr Irvine CA 92618,. (2020).Using Animated Explainer Videos for Government Organizations.

[9] Thompson, M. L. (2022). Interactive Storytelling: Enhancing Character Arcs Through Animated Sequences. Journal of Interactive Media and Animation, 7(1), 66-79.

[10] Schmidt, N. K. (2019). The Role of Language and Voice Overs in Animated Storytelling. Language and Media Studies, 15(4), 101-116.

[11] Rosen, Yigal. (2009). The Effects of an Animation-Based On-Line Learning Environment on Transfer of Knowledge and on Motivation for Science and Technology Learning. Journal of Educational Computing Research. 40. 451-467. 10.2190/EC.40.4.d.

[12] Ibrahim, Faten. (2022). Employing motion graphics videos in public awareness advertisements on social media جرافيك فيديوهات توظيف الحركة platforms االجتماعي التواصل منصات على العامة التوعية إعالنات في.

[13] Stadlinger, Bernd & Jepsen, Søren & Chapple, Iain & Sanz, Mariano & Terheyden, Hendrik. (2021). Technology-enhanced learning: a role for video animation. British Dental Journal. 230. 93-96. 10.1038/s41415-020-2588-1.

[14] Machado, Adelaide. (2020). A Goan reading of The Cultural impact of the Colonial Act: Introducing intellectuals and periodic press through the Anglo-Lusitano o f July 7 , 1 9 3 4 . R e v i s t a d e H i s t ó r i a d a s I d e i a s . 3 8 . 1 1 9 - 1 5 3 . 10.14195/2183-8925_38_6.

[15]https://www.goa.gov.in/government/schemes/?undefined&dept=36565

[16]Sontag, S. E. (2018). The Art of Animation: A Study of Animation as a Storytelling Medium. Animation Studies Journal, 14(3), 45-58.

[17]Nandkumar, M & Kamat, Nandkumar. (2014). The Tribal Origin of Konkani Language. 10.13140/2.1.4739.0725.