

AN ONLINE MEETING TOOL FOR AFRICA

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Problem

- Africa has **low bandwidth** and **unstable** Internet connections
- 40 Gbps for 50 millions users
=> 0,84 kbps per user
- Difficult to achieve satisfactory online meetings

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Project objective

Develop a tool to reliably host online meeting with low bandwidth

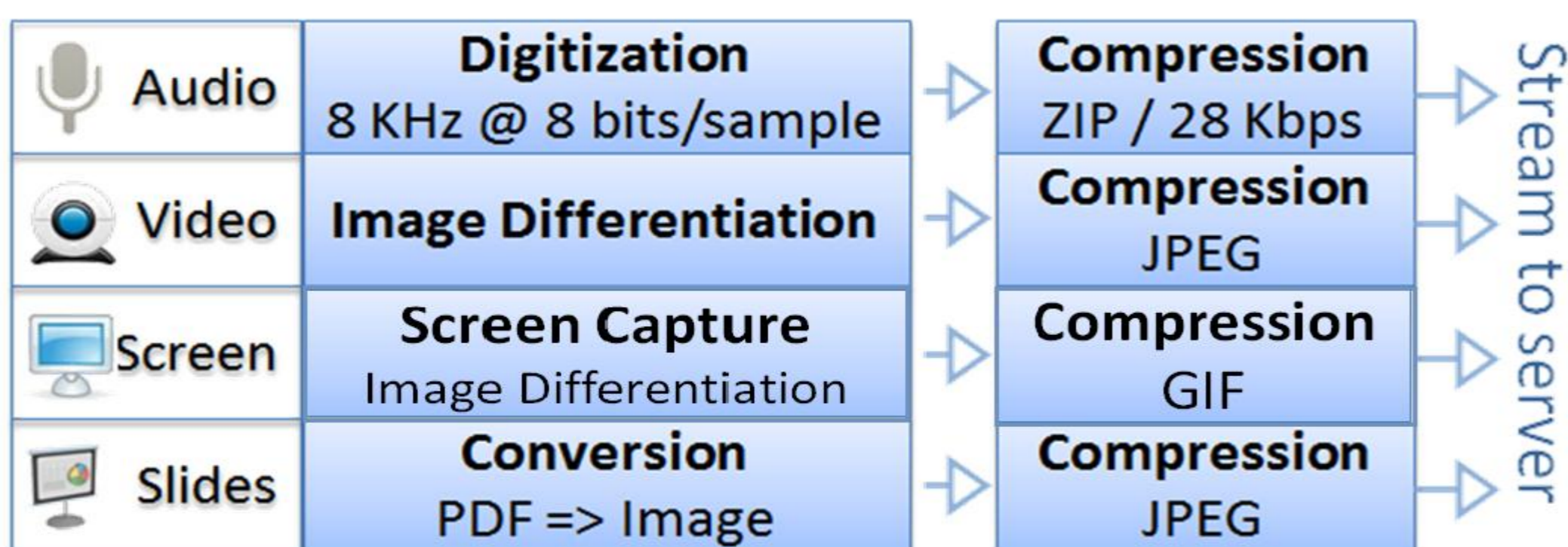
3

How ?

- Prioritization of features
 - * Chat: top priority
 - * Audio prioritized over video
 - * Participant list prioritized over screen sharing
- Video key framing
- Data compression
- Pre-loading of static data
- Image differentiation

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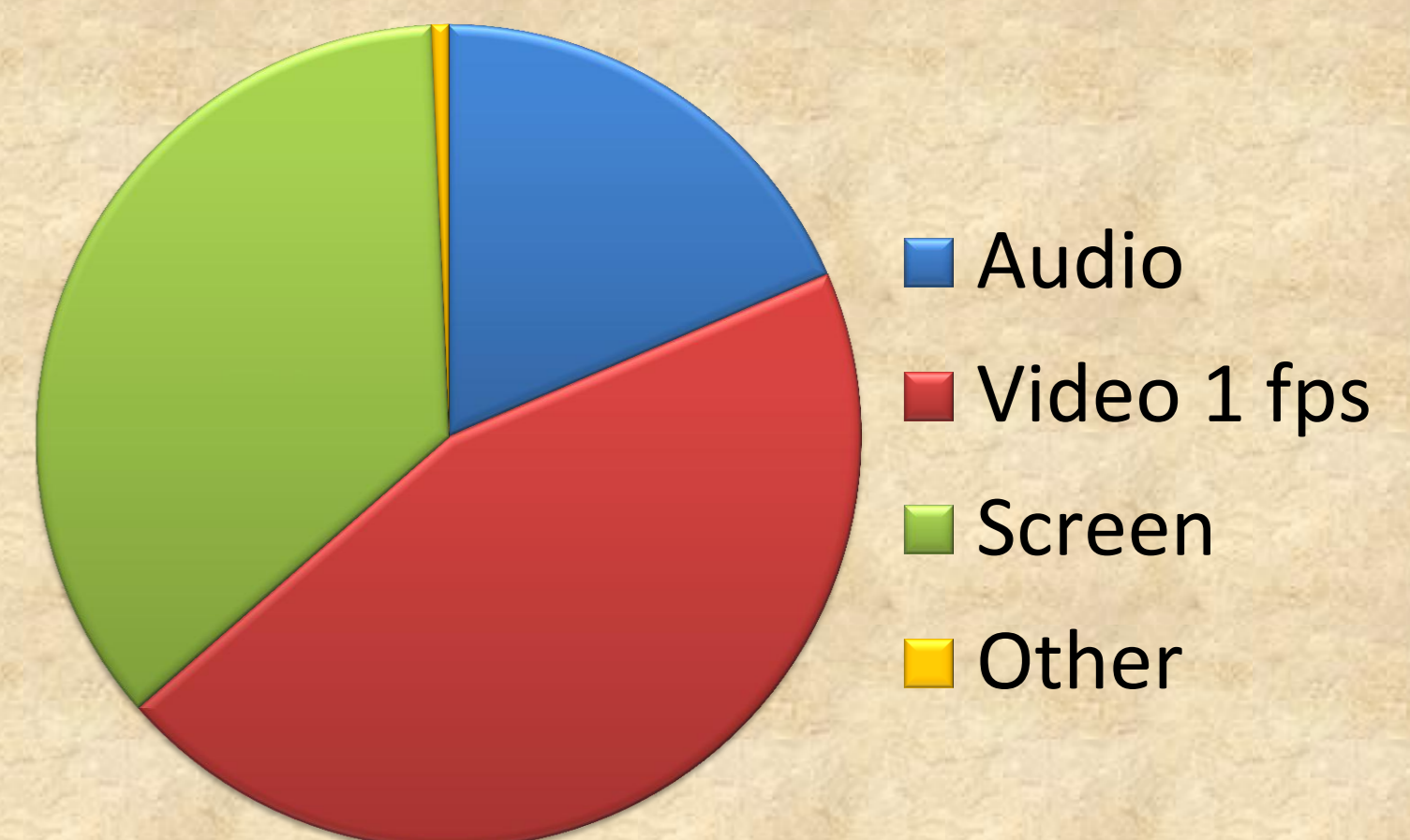
System Design



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Results

- 🎤 **Audio:** 28 Kbps (radio quality)
- 📹 **Video:** 15 Kbps (low frame rate: 0.2 FPS)
68 Kbps (medium frame rate: 1 FPS)
181 Kbps (high frame rate: 3 FPS)
- 🖥️ **Screen:** 54 Kbps
- 💬 **Chat + Polling + Flow control:** 1 Kbps



Overall bandwidth usage : **151 Kbps**



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