1. **File Processor Utility** (**fileProcessor.js**):
   * Video processing with FFmpeg
   * Image processing with Sharp
   * Document processing capabilities
   * Thumbnail generation
   * Metadata extraction
   * Cleanup utilities
2. **Storage Manager** (**storageManager.js**):
   * Multi-provider support (S3, GCS, Azure, Local)
   * File upload handling
   * File deletion
   * URL generation
   * Metadata management
   * Error handling
3. **Content Processing Middleware** (**contentProcessor.js**):
   * File upload handling with Multer
   * Content type validation
   * Automatic processing pipeline
   * File cleanup
   * Storage integration
   * Error handling
4. **Caching Middleware** (**cache.js**):
   * Redis-based caching
   * Flexible cache key generation
   * TTL management
   * Cache invalidation
   * Organization/tenant isolation
   * Error handling
5. **Rate Limiting Middleware** (**rateLimiter.js**):
   * Redis-based rate limiting
   * Different limits for different operations
   * Organization-specific limits
   * IP and user-based tracking
   * Custom error handling

These utilities and middleware provide:

* Robust file handling and processing
* Efficient caching
* Rate limiting protection
* Multi-tenant support
* Error handling
* Scalability features