APBMT Conference Management System - PRD

1. PROJECT OVERVIEW

1.1 Project Name

APBMT 2025 Conference Management System *Annual Meeting on Pediatric Blood and Marrow Transplantation*

1.2 Project Description

Complete web-based conference management platform for abstract submission, review, and management for medical conferences. Supports delegate registration, abstract submission workflow, admin review process, and automated notifications.

1.3 Target Users

- **Primary**: Medical professionals (delegates) submitting abstracts
- **Secondary**: Conference administrators/organizers
- **Tertiary**: Reviewers and scientific committee members

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2. BUSINESS REQUIREMENTS

2.1 Goals

- Streamline abstract submission process for 500+ expected attendees
- Reduce manual administrative work by 80%
- Provide real-time status tracking for delegates
- Enable efficient review workflow for administrators
- Generate automated reports and certificates

2.2 Success Metrics

- 100% online abstract submissions (no manual/email submissions)
- <2 minutes average submission time
- 95% user satisfaction score

- Zero data loss incidents
- Real-time status updates

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3. FUNCTIONAL REQUIREMENTS

3.1 User Authentication & Registration

3.1.1 Delegate Registration

- **Input**: Name, Email, Phone, Institution, Professional Details
- **Output**: Unique Registration ID, Login Credentials
- **Validation**: Email verification, Phone OTP, Institution validation

3.1.2 Login System

- Email/Phone + Password authentication
- "Remember Me" functionality
- Password recovery system
- Two-factor authentication (optional)

3.2 Abstract Submission Workflow

3.2.1 Submission Guidelines Display
MANDATORY DISPLAY BEFORE SUBMISSION:
- Prior registration required for presentation
- Submission deadline: July 10th, 2025 (extended)
- Online submission only
- Word limits: Free Paper (250 words) | Poster (200 words)
- Structure: Background, Methodology, Results, Conclusion
- Time allocation: Oral (6+2 min) | E-Poster (5+2 min)
- Previously published abstracts not permitted

3.2.2 Abstract Submission Form

Required Fields:

1. Abstract Title
2. Submitted by (Presenter Name)
3. Registration Payment ID
4. Registration Number (auto-filled)
5. Presentation Type: `Oral | Poster | E-Poster | Award Paper | Free Paper`

6. Final Abstract Title (if updated)
7. Co-Authors Name
8. Institution Name
9. Abstract Content (structured text)
10. Upload Abstract File (Word/PDF, max 5MB)

Validation Rules:

- Word count enforcement (250/200 words based on type)
- File format validation (.doc, .docx, .pdf)
- Required field validation
- Registration ID verification

3.2.3 Abstract Status Management

Status Flow:

Submitted → Pending → Under Review → Approved/Rejected

Status Actions:

- **Pending**: Edit Abstract, View Status
- **Approved**: Upload Final Abstract, Download Template, Get Certificate
- **Rejected**: View Feedback, Resubmit (if allowed)

3.3 Delegate Dashboard

3.3.1 Navigation Menu

1. **Dashboard** - Overview and quick stats
2. **Abstract** - Submission and management
3. **Scientific Schedule** - Conference program
4. **Hotel List** - Accommodation options
5. **Faculty** - Speaker information
6. **Invoice** - Payment and billing
7. **Registration** - Profile and registration details

3.3.2 Abstract Management Features

Action Buttons:

- **Submit Abstract** - New submission form
- **Edit Abstract** - Modify pending submissions
- **View Status** - Track review progress
- **Preset Template** - Download final presentation template (post-approval)

- **Upload Final Abstract** - Submit presentation-ready version (post-approval)
- **Abstract Certificate** - Download participation certificate

3.4 Admin Dashboard

3.4.1 Admin Access

Login Credentials: Separate admin authentication **Home Page Buttons:**

- Dashboard
- Manage Abstracts
- Logout

3.4.2 Abstract Management Dashboard

Real-time Statistics Table:

Category	Received	Pending	Approved	Rejected
Free Paper Presentation	13	13	0	0
Award Paper Presentation	12	12	0	0
Poster Presentation	11	11	0	0
E-Poster Presentation	23	23	0	0
Total	**59**	**59**	**0**	**0**

3.4.3 Abstract Review Interface

Display Columns:

- Abstract No
- Submission Date
- Presenter Name
- Email ID
- Mobile No
- Abstract Title
- Co-Author Name
- Institution Name
- Conference Registration ID
- Status
- Action Buttons

Action Buttons per Abstract:

- **View** - Full abstract preview
- **Download** - Download submitted file
- **Update Status** - Approve/Reject with comments
- **Send Email** - Communication with delegate

Bulk Actions:

- Export to Excel
- Bulk status updates
- Send bulk emails
- Category-wise filtering

3.4.4 Abstract Review Modal

Components:

- Full abstract text display
- Uploaded file viewer
- Status dropdown: Pending | Approved | Rejected
- Presentation type switcher
- Email notification toggle
- Comments/feedback text area

3.5 Email Notification System

3.5.1 Automated Emails

1. **Registration Confirmation**
2. **Abstract Submission Confirmation**
3. **Abstract Status Update** (Approved/Rejected)
4. **Final Submission Reminder**
5. **Conference Schedule Notification**

3.5.2 Approval Email Template
Subject: Abstract Acceptance - APBMT 2025

Dear DR [PRESENTER_NAME],

Your submission titled - "[ABSTRACT_TITLE]"
Abstract Number: [ABSTRACT_ID]

Has been accepted for presentation in the [CATEGORY] category.

1. Date and time: [DATE], [TIME] onwards
2. Duration: [DURATION] minutes + discussion
3. Strictly adhere to time allotted
4. Limit slides to 10-12

Important Information:
1. Conference registration is mandatory
2. IAP Membership Compulsory
3. Report by [TIME] at [HALL]

Thanks & Regards,
Organizing Committee
APBMT 2025

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4. TECHNICAL REQUIREMENTS

4.1 Technology Stack

- **Frontend**: Next.js 14, React 18, Tailwind CSS
- **Backend**: Next.js API Routes
- **Database**: PostgreSQL or MongoDB
- **File Storage**: AWS S3 or Cloudinary
- **Email**: SendGrid or AWS SES
- **Authentication**: NextAuth.js
- **Deployment**: Vercel or AWS

4.2 Performance Requirements

- Page load time: <3 seconds
- File upload: Support up to 5MB
- Concurrent users: 100+ simultaneous
- Mobile responsive design
- 99.9% uptime

4.3 Security Requirements

- HTTPS encryption
- Input validation and sanitization
- File upload security scanning
- Session management
- SQL injection prevention

- XSS protection

4.4 Data Storage Requirements

- Secure storage of personal information
- File backup and versioning
- Data export capabilities
- GDPR compliance (if applicable)

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5. USER INTERFACE REQUIREMENTS

5.1 Design Guidelines

- Clean, professional medical conference theme
- Consistent color scheme: Blue (#3B82F6), Orange (#F97316), Green (#10B981)
- Mobile-first responsive design
- Accessibility compliance (WCAG 2.1)
- Intuitive navigation with breadcrumbs

5.2 Key UI Components

1. **Abstract Guidelines Panel** - Always visible with key requirements
2. **Progress Indicators** - Multi-step form progress
3. **Status Badges** - Color-coded status indicators
4. **File Upload Dropzone** - Drag-and-drop file interface
5. **Real-time Validation** - Instant feedback on form fields
6. **Data Tables** - Sortable, filterable abstract lists

5.3 Mobile Experience

- Touch-friendly buttons (min 44px)
- Simplified navigation menu
- Optimized form layouts
- File upload from mobile camera/gallery

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6. BUSINESS LOGIC & VALIDATION RULES

6.1 Abstract Submission Rules

// Word Count Validation

```
const wordLimits = {
  'Free Paper': 250,
  'Poster': 200,
  'E-Poster': 200,
  'Award Paper': 250
};

// File Upload Rules
const fileRules = {
  allowedTypes: ['.doc', '.docx', '.pdf'],
  maxSize: '5MB',
  requiredForFinalSubmission: true
};

// Submission Timeline
const deadlines = {
  abstractSubmission: '2025-07-10',
  finalSubmission: '2025-03-01', // 2 weeks before conference
  lateSubmission: false // No late submissions allowed
};
```

6.2 Status Change Logic

```
// Automatic Status Transitions
const statusFlow = {
  'Submitted': 'Pending', // Immediate
  'Pending': 'Under Review', // Admin action
  'Under Review': 'Approved' | 'Rejected', // Admin decision
  'Approved': 'Final Submitted', // Delegate uploads final
  'Rejected': 'Resubmitted' // If resubmission allowed
};
```

6.3 Email Trigger Points

- Abstract submission → Confirmation email
- Status change → Notification email
- 7 days before deadline → Reminder email
- Final submission required → Action required email

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7. API SPECIFICATIONS

7.1 Core API Endpoints

Authentication
POST /api/auth/login
POST /api/auth/register
POST /api/auth/logout
POST /api/auth/forgot-password

Abstract Management
GET /api/abstracts - List user's abstracts
POST /api/abstracts - Submit new abstract
PUT /api/abstracts/:id - Update abstract
DELETE /api/abstracts/:id - Delete abstract (if pending)
GET /api/abstracts/:id/status - Get status
PUT /api/abstracts/:id/status - Update status (admin only)

File Management
POST /api/upload - Upload abstract file
GET /api/files/:id - Download file
DELETE /api/files/:id - Delete file

Admin APIs
GET /api/admin/abstracts - List all abstracts with filters
GET /api/admin/statistics - Dashboard statistics
PUT /api/admin/abstracts/:id/review - Review abstract
POST /api/admin/emails/bulk - Send bulk emails
GET /api/admin/export - Export data to Excel

7.2 Database Schema

Users Table
```
users {
  id: UUID PRIMARY KEY
  email: VARCHAR UNIQUE
  password: VARCHAR (hashed)
  name: VARCHAR
  phone: VARCHAR
  institution: VARCHAR
  registration_id: VARCHAR UNIQUE
  role: ENUM('delegate', 'admin')
```

```
  created_at: TIMESTAMP
  updated_at: TIMESTAMP
}
```

Abstracts Table
```
abstracts {
 id: UUID PRIMARY KEY
 abstract_number: VARCHAR UNIQUE
 user_id: UUID FOREIGN KEY
 title: TEXT
 presenter_name: VARCHAR
 co_authors: TEXT
 institution: VARCHAR
 abstract_content: TEXT
 presentation_type: ENUM
 status: ENUM('pending', 'approved', 'rejected')
 submission_date: TIMESTAMP
 review_date: TIMESTAMP
 reviewer_comments: TEXT
 file_url: VARCHAR
 final_file_url: VARCHAR
 created_at: TIMESTAMP
 updated_at: TIMESTAMP
}
```

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8. TESTING REQUIREMENTS

8.1 Unit Testing

- Form validation functions
- API endpoint testing
- File upload/download functions
- Email sending functions

8.2 Integration Testing

- Complete submission workflow
- Admin review process
- Email notification flow
- File storage operations

8.3 User Acceptance Testing

- Delegate submission journey
- Admin management workflow
- Mobile device compatibility
- Cross-browser testing

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9. DEPLOYMENT & MAINTENANCE

9.1 Deployment Strategy

- **Environment**: Production, Staging, Development
- **Database**: Automated backups every 6 hours
- **CDN**: Global file delivery for uploads
- **Monitoring**: Uptime monitoring, error tracking
- **SSL**: HTTPS enforcement

9.2 Maintenance Windows

- **Database Maintenance**: Weekly, Sunday 2-4 AM IST
- **Application Updates**: Bi-weekly releases
- **Security Patches**: As needed, with 24-hour notice

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10. PROJECT TIMELINE

Phase 1 (Week 1-2): Core Development

- User authentication system
- Basic abstract submission form
- Database setup and API development

Phase 2 (Week 3-4): Advanced Features

- Admin dashboard
- Abstract review workflow
- Email notification system
- File upload/download

Phase 3 (Week 5-6): Testing & Polish

- Comprehensive testing
- UI/UX refinements
- Performance optimization
- Security audit

Phase 4 (Week 7-8): Deployment & Training

- Production deployment
- Admin user training
- Documentation
- Go-live support

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11. RISK MITIGATION

11.1 Technical Risks

- **File Upload Failures**: Implement chunked uploads, multiple retry attempts
- **Database Overload**: Connection pooling, query optimization
- **Email Delivery Issues**: Multiple email providers, delivery tracking

11.2 Business Risks

- **High Traffic**: Auto-scaling infrastructure, load testing
- **Data Loss**: Regular backups, version control for files
- **Security Breach**: Penetration testing, secure coding practices

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12. ACCEPTANCE CRITERIA

12.1 Delegate Experience

✅ Register for conference in <2 minutes ✅ Submit abstract with real-time validation ✅ Track submission status in real-time ✅ Receive email confirmations for all actions ✅ Upload final presentation after approval ✅ Download certificate post-conference

12.2 Admin Experience

✅ View real-time submission statistics ✅ Review abstracts with full context ✅ Bulk approve/reject with comments ✅ Export data to Excel for analysis ✅ Send automated email notifications ✅ Generate conference reports

12.3 System Requirements

✅ Handle 100+ concurrent users ✅ 99.9% uptime during submission period ✅ <3 second page load times ✅ Mobile-responsive on all devices ✅ Zero data loss incidents ✅ HTTPS security throughout

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13. FUTURE ENHANCEMENTS

Phase 2 Features (Post-Launch)

- **Multi-language Support**: Hindi, English toggle
- **Payment Integration**: Online conference fee payment
- **Mobile App**: Native iOS/Android application
- **AI-powered Review**: Automated abstract categorization
- **Video Submissions**: Support for video abstracts
- **Live Streaming**: Conference session streaming
- **Networking Features**: Delegate interaction platform

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This PRD serves as the single source of truth for the APBMT Conference Management System development. All stakeholders should refer to this document for project requirements and scope.