Intelleges Website - Complete QA Testing Guide

Version: 1.0

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Purpose: Comprehensive testing specification for QA team covering all clickable elements, business rules, and expected behaviors

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System Overview

Technology Stack

- **Frontend:** React 19 + Wouter (client-side routing)
- **Backend:** tRPC API
- **Database:** MySQL (Drizzle ORM)
- **Email:** SendGrid
- **Storage:** S3 (Manus CDN)

Key Business Rules

1. **3-Document Lifetime Limit:** Each email address can download maximum 3 documents (lifetime, not per day)
2. **2-Hour Email Delay:** Follow-up emails sent 2 hours after document download

3. **Email Capture Required:** All service one-pagers and featured documents require email capture
4. **Case Studies Require Meeting:** Case study downloads require Calendly meeting booking

Global Navigation & Header

Header Elements (All Pages)

Element	Location	Click Behavior	Expected Result
Intelleges Logo	Top left	Click	Navigate to homepage (/)
Product	Top nav	Click	Navigate to /product
Protocols	Top nav	Click	Navigate to /protocols
About	Top nav	Click	Navigate to /about
Pricing	Top nav	Click	Navigate to /pricing
Contact	Top nav	Click	Navigate to /contact
Client Login	Top right button	Click	Navigate to OAuth login portal
Book a Demo	Top right button	Click	Navigate to /contact page

Footer Elements (All Pages)

Section	Links	Click Behavior
Product	Overview, Protocols, Supplier Onboarding, Pricing	Navigate to respective pages
Company	About, Contact, +1-917-818-0225	Navigate or initiate phone call
Resources	Case Studies, Whitepapers, One-Pagers	Navigate to /case-studies, /resources, /one-pagers

Legal	Security, Privacy, Terms	Navigate to respective pages
Access	Client Login	Navigate to OAuth login portal

Page-by-Page Testing Guide

1. Homepage (/)

Hero Section

Element	Type	Click Behavior	Expected Result
Book a Demo button	Primary CTA	Click	Navigate to /contact
Watch 2-Minute Overview button	Secondary CTA	Click	Open video modal (placeholder)

Protocols Section

Element	Type	Click Behavior	Expected Result
Protocol cards (16 total)	Interactive cards	Hover	Show subtle scale effect
Protocol cards	Interactive cards	Click	No action (informational only)

How Intelleges Works Section

- **6 numbered steps:** Informational only, no click actions

Download Whitepaper CTA

Element	Type	Click Behavior	Expected Result

Download Whitepaper button	CTA	Click	Navigate to /resources

2. One-Pagers Page (/one-pagers)

Service Document Cards (11 Total)

List of Documents:

1. Reps & Certs Compliance Service
2. Export Control (ITAR/EAR) Service
3. Cybersecurity (CMMC/NIST) Service
4. Small Business Programs Service
5. Conflict Minerals Service
6. Buy American Compliance Service
7. Supplier Risk Management Service
8. Quality Systems (ISO/AS9100) Service
9. Environmental & COI Tracking Service
10. **Compliance Maturity Model** (NEW)
11. **Current Compliance Landscape** (NEW)

Click Behavior for Each Card

Action	Expected Result
Hover	Card scales up slightly, shadow increases, title font weight increases
Click	Opens EmailCaptureModal with document title pre-filled

EmailCaptureModal Workflow

Step 1: Modal Opens

- Title: "Download [Document Name]"

- 3 required fields: Full Name, Email Address, Company Name
- All fields have validation

Step 2: Form Validation

Field	Validation Rule	Error Message
Full Name	Required, non-empty	"Name is required"
Email Address	Required, valid email format	"Email is required" / "Please enter a valid email address"
Company Name	Required, non-empty	"Company name is required"

Step 3: Submit Process

1. Check download limit via `documentDownloads.checkLimit` API
2. If limit reached (≥3 downloads):
   - Close EmailCaptureModal
   - Open DownloadLimitReachedModal
   - **STOP** (no download occurs)
3. If limit NOT reached:
   - Record download via `documentDownloads.recordDownload` API
   - Trigger browser download of PDF from S3 CDN URL
   - Schedule follow-up email for 2 hours later
   - Show success state (green checkmark)
   - Display toast: "Download started! Check your email in 2 hours for a follow-up message."
   - Auto-close modal after 2 seconds

Step 4: Success State

- Green checkmark icon
- Message: "Download Started!"
- Subtext: "Your document is downloading now. Check your email in 2 hours for a personalized follow-up."

3. Resources Page (/resources)

Featured Compliance Frameworks Section

2 Featured Documents:

1. Compliance Maturity Model
2. Current Compliance Landscape

Element	Type	Click Behavior	Expected Result
Featured document card	Interactive card	Hover	Scale up, shadow increase, gradient effect
Featured document card	Interactive card	Click	Open EmailCaptureModal (same workflow as One-Pagers)
Download button	Button inside card	Click	Open EmailCaptureModal

Visual Design:

- Gradient backgrounds (indigo/violet)
- Custom icons (TrendingUp, Map)
- Border ring effects
- Badge: "One-Pager"
- "PDF · Free Download" footer text

Additional Resources Section

4 Placeholder Resource Cards:

1. CMMC 2.0 Readiness Guide
2. The Future of Supply Chain Risk
3. Intelleges Platform Datasheet
4. Audit Preparation Handbook

Element	Type	Click Behavior	Expected Result
Resource cards	Interactive cards	Hover	Border darkens, shadow appears

			No action (placeholder, not wired up)
Download button	Button	Click	

Testing Note: These 4 cards are placeholders and should NOT trigger downloads. QA should verify no modal opens when clicking Download.

4. Case Studies Page (/case-studies)

Case Study Cards (17 Total)

Gating Rule: All case studies require Calendly meeting booking (NOT email capture)

Element	Type	Click Behavior	Expected Result
Case study card	Interactive card	Hover	Scale effect, shadow increase
Download Case Study button	CTA button	Click	**Redirect to Calendly booking page** (external link)

Expected Calendly URL Format:

```
Plain Text


https://calendly.com/intelleges/demo?prefill_email=[user_email]&prefill_name=
[user_name]
```

Testing Note: Case studies do NOT use EmailCaptureModal. They bypass email capture and go straight to Calendly.

5. Contact Page (/contact)

Contact Form Fields

Field	Type	Validation	Required
Full Name	Text input	Non-empty string	Yes

Email Address	Email input	Valid email format	Yes
Company Name	Text input	Non-empty string	Yes
Message	Textarea	Non-empty string	Yes

Form Submission

Action	Expected Result
Click **Send Message**	Submit form via tRPC `leads.submit` mutation
Success	Show success toast, clear form
Error	Show error toast with message

6. Pricing Page (/pricing)

Pricing Tiers

3 Tiers:

1. **Starter** - Contact for pricing
2. **Professional** - Contact for pricing
3. **Enterprise** - Contact for pricing

Element	Type	Click Behavior	Expected Result
Contact Sales button	CTA	Click	Navigate to /contact
Book a Demo button	CTA	Click	Navigate to /contact

7. About Page (/about)

Team Section

- Informational content only

- No interactive elements beyond global navigation

CTA Section

Element	Type	Click Behavior	Expected Result
Learn More button	CTA	Click	Navigate to /product
Contact Us button	CTA	Click	Navigate to /contact

Download System Rules

3-Document Lifetime Limit

Rule: Each unique email address can download a maximum of 3 documents across their lifetime.

Counting Logic

- **What counts:** Any document downloaded via EmailCaptureModal
- **What doesn't count:** Case studies (require Calendly, not tracked in documentDownloads table)
- **Scope:** Lifetime (not per day, not per session)
- **Tracking:** `documentDownloads` table in database

Database Schema

```sql
SQL

documentDownloads (
  id INT PRIMARY KEY,
  email VARCHAR(320) NOT NULL,
  name VARCHAR(255) NOT NULL,
  company VARCHAR(255),
  documentTitle VARCHAR(500) NOT NULL,
  documentUrl TEXT NOT NULL,
  documentType ENUM('capability', 'protocol', 'whitepaper'),
  downloadedAt TIMESTAMP DEFAULT NOW(),
  followUpEmailSent TINYINT DEFAULT 0,
```

```
    followUpEmailSentAt TIMESTAMP NULL
)
```

API Endpoints

1. Check Limit

```typescript
documentDownloads.checkLimit({ email: string })
// Returns: { email, downloadCount, limitReached, remainingDownloads }
```

2. Record Download

```typescript
documentDownloads.recordDownload({
  email: string,
  name: string,
  company?: string,
  documentTitle: string,
  documentUrl: string,
  documentType: 'capability' | 'protocol' | 'whitepaper'
})
// Returns: { success, downloadCount, remainingDownloads }
```

Testing Scenarios

Scenario 1: First Download (0/3 used)

1. User enters email: test@example.com
2. Submit form
3. **Expected:** Download succeeds, count = 1, remaining = 2

Scenario 2: Second Download (1/3 used)

1. Same email: test@example.com
2. Submit form
3. **Expected:** Download succeeds, count = 2, remaining = 1

Scenario 3: Third Download (2/3 used)

1. Same email: test@example.com

2. Submit form

3. **Expected:** Download succeeds, count = 3, remaining = 0

Scenario 4: Fourth Download (3/3 used - LIMIT REACHED)

1. Same email: `test@example.com`

2. Submit form

3. **Expected:**

   - EmailCaptureModal closes immediately

   - DownloadLimitReachedModal opens

   - NO download occurs

   - NO database record created

DownloadLimitReachedModal

Content:

- Icon: Checkmark in blue circle

- Title: "You've Reached Your Download Limit"

- Message: "You've downloaded 3 free resources. To access more compliance documents and get personalized guidance, schedule a brief call with our team."

- CTA Button: "Schedule a Meeting" → Opens Calendly in new tab

- Secondary action: Close modal (X button or click outside)

Calendly URL:

```
Plain Text


https://calendly.com/intelleges/demo
```

Email Automation Workflows

2-Hour Delayed Follow-Up Email

Trigger: User successfully downloads a document via EmailCaptureModal

Process:

1. User submits EmailCaptureModal form

2. Backend records download in `documentDownloads` table
3. Backend creates scheduled email in `scheduledEmails` table
   - `scheduledFor` = current time + 2 hours
   - `sent` = 0 (not sent yet)
4. Background processor (cron job) runs every hour
5. Processor finds emails where `scheduledFor <= NOW()` and `sent = 0`
6. Processor sends email via SendGrid
7. Processor marks `sent = 1` and sets `sentAt` timestamp

Email Content Template

Subject: `Thank you for downloading [Document Title]`

Body:

```
HTML

Hi [Name],

Thank you for downloading [Document Title] from Intelleges.

We hope you found it valuable. If you'd like to discuss how Intelleges can
help your organization streamline compliance and supplier management, we'd
love to connect.

[Schedule a 15-Minute Call]
→ [Calendly URL with pre-filled email and document info]

Best regards,
The Intelleges Team
```

Calendly URL Parameters:

```
Plain Text

https://calendly.com/intelleges/demo?email=[email]&name=[name]&a1=
[documentTitle]&a2=[documentType]
```

Email Delivery Testing

Test Case	Expected Behavior

Download document at 2:00 PM	Email sent at 4:00 PM (or next cron run after 4:00 PM)
Download 3 documents in 1 hour	Receive 3 separate emails, each 2 hours after respective download
Invalid email address	Email fails to send, marked as `failed = 1` in database
SendGrid API error	Email marked as `failed = 1` , `failureReason` logged

Database Tables

scheduledEmails Schema:

```sql
scheduledEmails (
  id INT PRIMARY KEY,
  recipientEmail VARCHAR(320) NOT NULL,
  recipientName VARCHAR(255),
  emailType VARCHAR(100) NOT NULL,  -- 'document_followup'
  subject VARCHAR(500) NOT NULL,
  htmlContent TEXT NOT NULL,
  scheduledFor TIMESTAMP NOT NULL,
  sent TINYINT DEFAULT 0,
  sentAt TIMESTAMP NULL,
  failed TINYINT DEFAULT 0,
  failureReason TEXT NULL,
  retryCount INT DEFAULT 0,
  metadata TEXT,  -- JSON string
  createdAt TIMESTAMP DEFAULT NOW()
)
```

Modal Behaviors

1. EmailCaptureModal

Trigger Locations:

- One-Pagers page: Click any service document card

- Resources page: Click featured document card

States:

State	Visual	Duration
Form Entry	3 input fields, Download button	Until submit or close
Submitting	Button text: "Processing...", button disabled	1-3 seconds
Success	Green checkmark, "Download Started!" message	2 seconds (auto-close)
Limit Reached	Modal closes, DownloadLimitReachedModal opens	Immediate

Close Behaviors:

- Click X button (top right)
- Click outside modal (backdrop)
- Press ESC key
- Auto-close after success (2 seconds)

Form Validation:

- Real-time validation on blur
- Error messages appear below each field
- Submit button enabled only when all fields valid

2. DownloadLimitReachedModal

Trigger: User attempts 4th download (limit already reached)

Content:

- Blue checkmark icon
- Title: "You've Reached Your Download Limit"
- Message: Explanation + CTA to schedule meeting
- Button: "Schedule a Meeting" (opens Calendly)

Close Behaviors:

- Click X button

- Click outside modal
- Press ESC key
- Click "Schedule a Meeting" (opens Calendly, modal stays open)

3. SimpleModal (Base Component)

Used by: EmailCaptureModal, DownloadLimitReachedModal

Features:

- Backdrop overlay (semi-transparent black)
- Center-aligned modal
- Click outside to close
- ESC key to close
- Smooth fade-in/out animations

Edge Cases & Error Handling

Download System Edge Cases

Scenario	Expected Behavior
User clears cookies between downloads	Limit still enforced (tracked by email, not cookies)
User uses different capitalization (Test@example.com vs test@example.com)	Treated as same email (normalized to lowercase)
User enters invalid email format	Form validation prevents submission
Database connection fails	Error toast: "An error occurred. Please try again."
S3 CDN URL is invalid	Browser shows download error, but download is still recorded
User clicks Download button multiple times rapidly	Button disabled after first click, prevents duplicate records

Email Automation Edge Cases

Scenario	Expected Behavior
Cron job doesn't run for 3 hours	All pending emails sent on next cron run
SendGrid API rate limit exceeded	Email marked as failed, retry on next cron run
User's email bounces	Marked as failed in database, no retry
User downloads 3 documents in 5 minutes	3 separate emails scheduled, sent 2 hours after each download

Modal Edge Cases

Scenario	Expected Behavior
User opens modal, navigates away, comes back	Modal state resets (no persisted form data)
User opens modal on mobile	Modal is responsive, full-width on small screens
User has JavaScript disabled	Modals don't work (graceful degradation not implemented)

Testing Checklists

Pre-Deployment Checklist

- ☐ All navigation links work correctly
- ☐ All footer links work correctly
- ☐ Logo click returns to homepage
- ☐ Mobile navigation works (hamburger menu if implemented)
- ☐ All buttons have hover states
- ☐ All forms validate correctly
- ☐ All modals open and close properly
- ☐ Download limit enforcement works
- ☐ Email capture records downloads correctly

- ☐ Scheduled emails created in database
- ☐ S3 CDN URLs are valid and accessible
- ☐ Calendly links open in new tab
- ☐ Toast notifications appear for success/error states

Download System Testing Checklist

Test with fresh email address:

- ☐ Download 1st document → Success, count = 1
- ☐ Download 2nd document → Success, count = 2
- ☐ Download 3rd document → Success, count = 3
- ☐ Download 4th document → Limit modal appears, no download
- ☐ Verify 3 records in `documentDownloads` table
- ☐ Verify 3 records in `scheduledEmails` table
- ☐ Verify `scheduledFor` timestamp is 2 hours after download

Email Automation Testing Checklist

- ☐ Download document, wait 2+ hours
- ☐ Check email inbox for follow-up email
- ☐ Verify email subject includes document title
- ☐ Verify email body includes recipient name
- ☐ Verify Calendly link works and pre-fills email
- ☐ Check `scheduledEmails` table: `sent = 1`, `sentAt` populated
- ☐ Check `documentDownloads` table: `followUpEmailSent = 1`

Modal Testing Checklist

EmailCaptureModal:

- ☐ Opens when clicking document card
- ☐ Form validation works for all fields
- ☐ Submit button disabled during submission
- ☐ Success state shows for 2 seconds

- ☐ Modal auto-closes after success
- ☐ ESC key closes modal
- ☐ Click outside closes modal
- ☐ X button closes modal

DownloadLimitReachedModal:
- ☐ Opens when limit reached
- ☐ "Schedule a Meeting" button opens Calendly
- ☐ Calendly opens in new tab
- ☐ Modal closes with ESC, X, or click outside

Cross-Browser Testing

Test on:
- ☐ Chrome (latest)
- ☐ Firefox (latest)
- ☐ Safari (latest)
- ☐ Edge (latest)
- ☐ Mobile Safari (iOS)
- ☐ Mobile Chrome (Android)

Responsive Design Testing

Test breakpoints:
- ☐ Mobile (320px - 767px)
- ☐ Tablet (768px - 1023px)
- ☐ Desktop (1024px+)
- ☐ Large desktop (1440px+)

Database Verification Queries

Check Download Count for Email

SQL

```sql
SELECT COUNT(*) as download_count
FROM documentDownloads
WHERE email = 'test@example.com';
```

Check Scheduled Emails

```sql
SQL

SELECT *
FROM scheduledEmails
WHERE recipientEmail = 'test@example.com'
ORDER BY createdAt DESC;
```

Check Failed Emails

```sql
SQL

SELECT *
FROM scheduledEmails
WHERE failed = 1
ORDER BY createdAt DESC;
```

Check Pending Emails (Not Yet Sent)

```sql
SQL

SELECT *
FROM scheduledEmails
WHERE sent = 0 AND failed = 0 AND scheduledFor <= NOW();
```

Known Issues & Limitations

1. **TypeScript Errors:** Some type mismatches exist but don't affect runtime behavior
2. **Placeholder Resources:** 4 resource cards on Resources page are not wired up to downloads
3. **Case Study Downloads:** Not tracked in download limit system (requires Calendly)
4. **Email Processor:** Requires manual cron job setup (not automatic)
5. **SEO Component:** Missing from some pages (Pricing, Resources)

Support & Escalation

For QA Issues:

- Check this guide first
- Verify database state using SQL queries
- Check browser console for JavaScript errors
- Check network tab for API failures

For Bug Reports, Include:

1. Steps to reproduce
2. Expected behavior
3. Actual behavior
4. Browser/device information
5. Screenshots/video if applicable
6. Database state (if relevant)

End of QA Testing Guide