Test Design techniques

Part I: Equivalence classes

1. State

Equivalence class	Test input example	Expected result
0-1 character, latin letter	a	Input is rejected: too short
2 characters, small latin letters	al	Input is rejected: 2 capital letters required
2 characters, 2 capital latin letters	AL	Input is accepted
2 characters, 1 capital letter + 1 special character	A!	Input is rejected: 2 capital letters required
2 characters, 1 capital letter + 1 number	A1	Input is rejected: 2 capital letters required
3+ characters, latin letters	alb	Input is rejected: to long

2. Last name

Equivalence class	Test input example	Expected result
0 character	(null)	Input is rejected: too short
1-15 characters, small latin letters	williams	Input is accepted
1-15 characters, small latin letters + special character (period)	williams.doe	Input is accepted
1-15 characters, small latin letters + special character (dash)	williams-doe	Input is accepted
1-15 characters, small latin letters + special character (apostrophe)	williams'doe	Input is accepted

1-15 characters, small latin letters + special character (space)	williams doe	Input is accepted
1-15 characters, small latin letters + number	williams doe 1	Input is accepted
16+ characters	williams johnson 1	Input is rejected: to long

3. User ID

Equivalence class	Test input example	Expected result
0 characters	(null)	Input is rejected: too short
1-7 characters	base6!	Input is rejected: too short
8 characters, latin letters	baseurll	Input is rejected: at least 2 different characters required
8 characters, latin letters + 1 number	baseurl6	Input is rejected: at least 2 different characters required
8 characters, latin letters + 1 special character	baseurl!	Input is rejected: at least 2 different characters required
8 characters, latin letters + 2-8 special characters	baseu!@#	Input is accepted
8 characters, latin letters + 2-8 numbers	baseu123	Input is accepted
8 characters, latin letters + 1-8 special characters + 1-8 numbers	ba123!@#	Input is accepted
9+ characters	baseurl123!@#	Input is rejected: to long

4. Student ID

Equivalence class	Test input example	Expected result
0 characters	(null)	Input is rejected: too short
1-7 characters	base66	Input is rejected: too short

Correct 2 Characters code + 6 digits	AN262626	Input is accepted
Inorrect 2 Characters code + 6 digits	AB262626	Input is rejected: Incorrect Campus Code
3+ characters	ABC	Input is rejected: Max 2 characters
9+ characters	baseurl123!@#	Input is rejected: to long

Part II: Boundary values

1. Zip code

Boundary value	Test input example	Expected result
4 digits	1000	Input is rejected: too short
5 digits, out of scope	00999	Input is rejected: out of scope
5 digits, min value	01000	Input is accepted
5 digits, min value + 1	01001	Input is accepted
5 digits, max value - 1	99998	Input is accepted
5 digits, max value	99999	Input is accepted
6 digits	100000	Input is rejected: too long

2. Last name

Boundary value	Test input example	Expected result
0 characters	(null)	Input is rejected: too short
1 character	w	Input is accepted
2 characters	wi	Input is accepted
14 characters	Williams.doe ‘	Input is accepted
15 characters	Williams.doe ‘1	Input is accepted

16 characters	williamsjohnson1	Input is rejected: too long

3. User ID

Boundary value	Test input example	Expected result
7 characters	baseurl	Input is rejected: too short
8 characters (includes 7 lettes + 1 (digit, special or insignificant character))	baseurll1	Input is rejected: invalid code
8 characters (includes 6 letters + 2 (digits, special or insignificant characters))	baseur1!	Input is accepted
8 characters (includes 5 letters + 3 (digits, special or insignificant characters))	baseu'1!	Input is accepted
8 characters (includes 1 letters + 7 (digits, special or insignificant characters))	12 45#$A	Input is accepted
8 characters (includes 8 digits, special or insignificant characters)	12 45#$8	Input is accepted
9 characters	12 45#$89	Input is rejected: too long

4. Course ID

Boundary value	Test input example	Expected result
8 characters	baseur!1	Input is rejected: too short
9 characters (includes 2 letters + 7 digits)	AB7894561	Input is rejected: 3 latin letters required
9 characters (includes 3 letters valid code + 6 digits)	PHY123456	Input is accepted
9 characters (includes 3 letters invalid code + 6	ABC123456	Input is rejected: invalid code

digits)		
9 characters (includes 4 letters invalid code + 5 digits)	ABCD23456	Input is rejected: 3 latin letters required
10 characters	ABCD234567	Input is rejected: too long

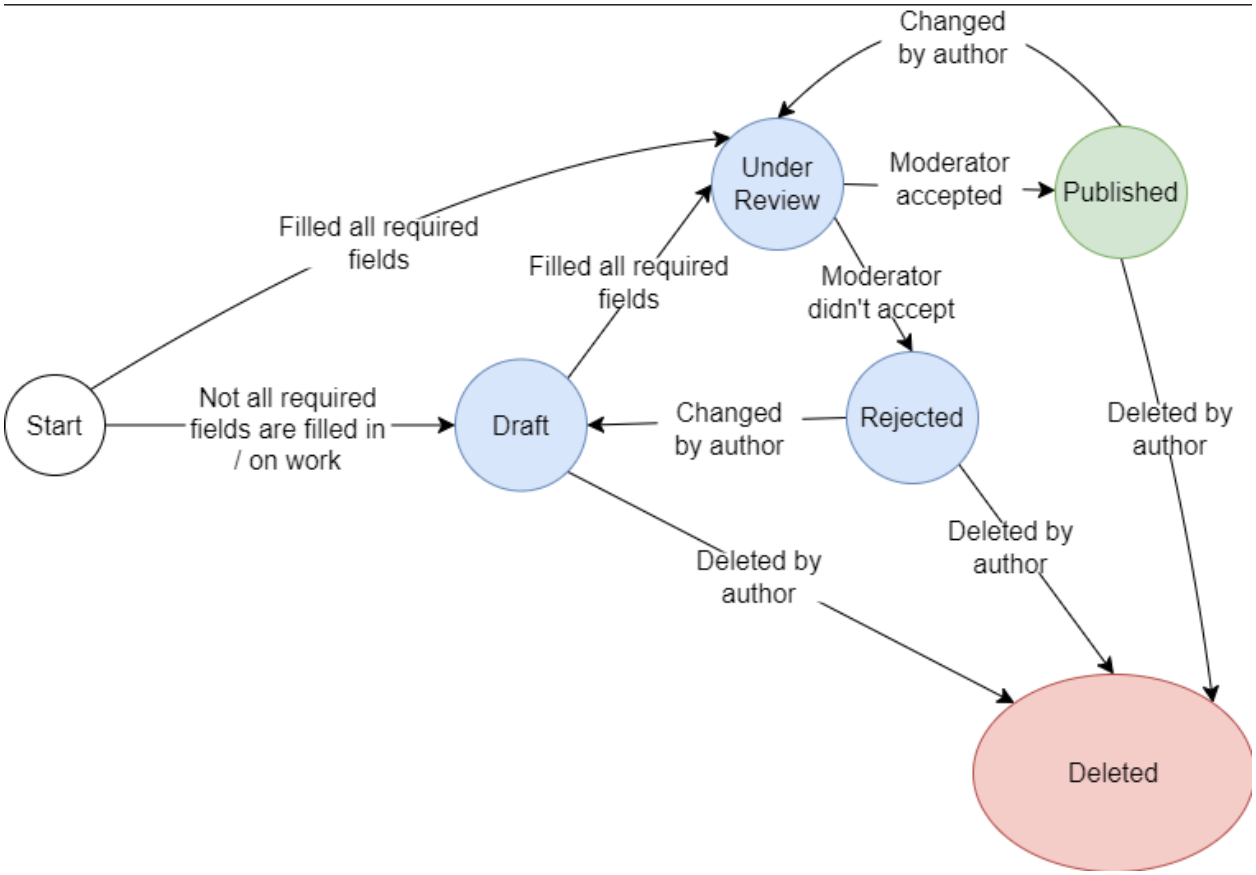
Part III: Decision table testing

	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6	Rule 7	Rule 8	Rule 9	Rule 10	Rule 11	Rule 12	Rule 13	Rule 14	Rule 15	Rule 16
Article title	n	n	n	n	n	n	n	n	y	y	y	y	y	y	y	y
What's this article about	n	n	n	n	y	y	y	y	n	n	n	n	y	y	y	y
Write your article	n	n	y	y	n	n	y	y	n	n	y	y	n	n	y	y
tags	n	y	n	y	n	y	n	y	n	y	n	y	n	y	n	y
Actions: PA(Publish article) NP(Not publish)	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	PA	PA

	Rule 1	Rule 2	Rule 3	Rule 4
Article title	y	y	y	n
What's this article about	y	n	y	y

Write your article	y	y	n	y
Actions: PA(Publish article) NP(Not publish)	PA	NP	NP	NP

Part IV: State transition diagram



Part V: Pairwise technique

	Pairs				
№	**resolution**	**browser**	**OS**	**language**	**connection speed**
1	1920x1080	Egde	Windows 10	english	4G

2	1920x1080	Opera	Mac OS	spanish	5G
3	1366x768	Chrome	Windows 10	spanish	2G
4	1366x768	Opera	Windows 10	english	3G
5	1366x768	Firefox	Mac OS	english	5G
6	1920x1080	Egde	Windows 10	spanish	5G
7	1920x1080	Opera	Windows 10	english	2G
8	1920x1080	Safari	Mac OS	spanish	2G
9	1920x1080	Firefox	Windows 10	english	3G
10	1920x1080	Chrome	Mac OS	english	4G
11	1366x768	Opera	Mac OS	english	4G
12	1366x768	Firefox	Mac OS	spanish	2G
13	1920x1080	Safari	Mac OS	english	3G
14	1920x1080	Firefox	Windows 10	spanish	4G
15	1920x1080	Chrome	Windows 10	english	5G
16	1920x1080	Opera	Windows 10	spanish	2G