

THE UNIVERSITY OF HONG KONG PUBLIC OPINION PROGRAMME

“PopVote Project Plan” (Version 1.0)

- (1) “Project PopVote” covers small-scale e-polling projects for specific groups or organizations, mid-scale e-polling projects for specific communities or sectors, and large-scale civil referendums for the general public. This document discusses the model and procedures for all three types of e-polling.

Small-scale e-Polling Projects

- (2) “Small-scale PopVote Projects” are suitable for secret voting among tens to thousands of people, including staff voting, members voting, sector representatives voting, and so on. The standard procedures for such e-pollings are as follows:
- The group or organization intending to conduct e-polling shall compile an electoral roll, plus the motion to be polled, or the candidates participating in an election. Such information shall be open for public scrutiny.
 - HKUPOP as the mediator shall open a voting account for each elector, and also assign a password to each account.
 - The account code and password shall be sent to each elector via ordinary mail, and/or email, and/or SMS according to instructions prescribed by the group or organization. If needed, additional procedures can be added to confirm each elector’s receipt of this information.
 - At designated polling hours, an elector can click on a designated webpage, confirms one’s identity by one account code and password, and then proceed to vote. If needed, additional procedures can be added to double confirm one’s identity before voting. The system does not allow repeated voting.
 - After voting, the system will issue a receipt to the voter for future verification. Such receipts will take one of these two forms, as decided by the group or organization:
 - Type A receipts: Each with a randomly generated receipt code, without voter identity and without voting record, in order to prevent anyone from reading the voter’s choice.
 - Type B receipts: Each with a randomly generated receipt code, without voter identity but with voting record printed.
 - The purpose of these receipts is to facilitate the auditing of voting results if needed. In such case, auditors can simply collect all printed receipts, or even just collect all receipt numbers, and the voting result can be re-generated.
 - Whichever receipt system a group or organization would adopt, it must clearly stipulate at the beginning under what conditions would audit be invoked, and the exact procedures to be adopted. Using Type A receipts helps to prevent bribery.
 - All voting records will be converted into a chain of irreversible Hash Codes for storage in confidence. After the close of poll, the system will calculate and display the polling results, including the number of valid votes, disqualified votes, and so on. When no auditing is deemed necessary, all information will be permanently destroyed.

Mid-scale e-Polling Projects

- (3) “Mid-scale PopVote Projects” are suitable for secret voting among thousands to tens of thousands of people, including community votings, sector votings, functional constituency votings, and so on. The standard procedures for such e-pollings are as follows:
- The group or organization intending to conduct e-polling shall stipulate the criteria for voter registration, plus the motion to be polled, or the candidates participating in an election. HKUPOP as the mediator shall compile an electoral roll based on the criteria stipulated by the group or organization.
 - An intending elector shall register by submitting relevant documents to HKUPOP, including one’s HKID number in full, and other documents. For qualified electors, HKUPOP shall open a voting account for each of them, and also assign a password to each account. The account code and password shall be sent to each elector via ordinary mail, and/or email, and/or SMS according to the wish of the elector. If needed, additional procedures can be added to confirm each elector’s receipt of this information.
 - All such information will be converted into a chain of irreversible Hash Codes for storage, in order to protect one’s privacy, and to prevent repeated voting.
 - At designated polling hours, an elector can click on a designated webpage, confirms one’s identity by one account code and password, and then proceed to vote. If needed, additional procedures can be added to double confirm one’s identity before voting. The system does not allow repeated voting.
 - After voting, the system will issue a receipt to the voter for future verification. Such receipts will take one of these two forms, as decided by the group or organization:
 - Type A receipts: Each with a randomly generated receipt code, without voter identity and without voting record, in order to prevent anyone from reading the voter’s choice.
 - Type B receipts: Each with a randomly generated receipt code, without voter identity but with voting record printed.
 - The purpose of these receipts is to facilitate the auditing of voting results if needed. In such case, auditors can simply collect all printed receipts, or even just collect all receipt numbers, and the voting result can be re-generated.
 - Whichever receipt system a group or organization would adopt, it must clearly stipulate at the beginning under what conditions would audit be invoked, and the exact procedures to be adopted. Using Type A receipts helps to prevent bribery.
 - All voting records will be converted into a chain of irreversible Hash Codes for storage in confidence. After the close of poll, the system will calculate and display the polling results, including the number of valid votes, disqualified votes, and so on. When no auditing is deemed necessary, all information will be permanently destroyed.
- (4) Mid-scale e-pollings will normally adopt the offsite only mode. However, when needed, polling stations can also be set up to allow onsite e-polling, in which case all registration procedures can also take place at the polling station.

Large-scale Civil Referendums

- (5) This part explains the normal procedures for large-scale civil referendums by making reference to the prospective civil referendum scheduled to take place on 23 March 2012. The civil referendums of 2012.3.23 shall adopt an onsite-offsite parallel mode voting system described as follows:
- Offsite e-polling at self-selected computer terminals or mobile devices will take place on 2012.3.23 from 0800 to 2000.
 - Onsite e-polling at polling station(s) will take place on 2012.3.23 from 0900 to 2100 at specific polling station(s).
- (6) For offsite e-polling using self-selected computer terminals or mobile devices, the following procedures shall apply:
- An intending voter clicks on a designated webpage, declares oneself to be a Hong Kong permanent resident over 18 years of age, then keys in one's HKID number in full, and a cell phone number which can be used to send SMS.
 - The HKID number will then be converted by the system into a chain of irreversible Hash Codes for storage, in order to protect one's privacy, and to prevent repeated voting. The system will then show a telephone number for verification. The intending voter must then send a blank SMS within one minute using one's registered cell phone to the telephone number prompted by the system.
 - Upon receiving the blank SMS, the system will open a voting interface for the person to vote. In case the person's HKID number or cell phone number has already been used, the system will not open the voting interface.
- (7) For onsite e-polling at polling station(s), the following procedures shall apply:
- An intending voter shows one's HKID card to a polling station worker. The worker will check that the person is a Hong Kong permanent resident over 18 years of age.
 - The worker will key in the person's HKID number in full. The system will then convert the number into a chain of irreversible Hash Codes for storage, in order to protect one's privacy, and to prevent repeated voting.
 - In case the person's HKID number has already been used in onsite e-polling, the person would not be allowed to vote.
 - In case the person's HKID number has already been used in offsite e-polling, the person would be allowed to vote, but would also be informed that the previous offsite e-polling record would be disqualified.
- (8) After the close of poll, the system will locate and delete disqualified votes due to duplicated HKID numbers. It will then calculate and display the polling results, as well as the number of such disqualified votes. All personal information would then be permanently erased. No people or group, including civil referendum project sponsors will obtain any information other than those already published.

20 December 2011

香港大學民意研究計劃

「電子投票計劃」(第 1.0 版)

- (1) 「普及投票計劃」範圍涵蓋專為團體或機構而設的小型電子投票計劃、為社區或界別而設的中型電子投票計劃、以及為普羅市民而設的大型民間全民投票計劃。本文分別討論三類電子投票計劃的模式和程序。

小型電子投票計劃

- (2) 「小型電子投票計劃」適用於數十至數千人的保密投票活動，包括機構員工投票、學會會員投票、界別代表投票等等。有關電子投票的標準流程如下：
- 擬舉行電子投票的團體或機構建立選民名冊，並設定投票議題或候選人名單，全屬公開資料。
 - 香港大學民意研究計劃作為中介機構，會按照選民名冊開設選民投票帳戶及配給密碼。
 - 該等帳戶及配給密碼會按照有關團體或機構的指示，以郵件及或電郵及或短訊 (SMS) 傳給選民。如有須要，可以另加程序，以確認選民收到有關資料。
 - 在指定投票期間，選民可以登入指定網站，以登記帳戶及配給密碼確認身份，進行投票。如有須要，可以另加程序，以雙重認證方式確認身份後方可進行投票。投票系統不會接受重複投票。
 - 投票結束後，系統會發出投票收據，以便日後覆核。該等收據有兩種形式，由舉行電子投票的團體或機構決定：
 - 甲類收據：收據只含亂碼編號，沒有投票人士姓名，沒有投票選項，以確保無人可以讀取有關人士的投票選項。
 - 乙類收據：收據含有亂碼編號，沒有投票人士姓名，但會列明有關人士的投票選項。
 - 該等收據，用途在於需要覆檢投票結果時，覆檢人員可以透過收集所有收據，甚或只是所有收據的亂碼編號，便能還原選舉結果。
 - 有關團體或機構在決定採用何種收據制度時，須要事先說明在何等情況下才可覆檢選票，以及詳細說明覆檢的程序。使用甲類收據，比較容易防止賄選。
 - 所有投票記錄會以不能還原的散列函數 (Hash Code) 儲存，以茲保密。投票結束後，系統會運算及公佈投票結果，包括投票數字、廢票數字等。在確定無須覆檢選票後，系統會把所有資料銷毀。

中型電子投票計劃

(3) 「中型電子投票計劃」適用於數千至數萬人的保密投票活動，包括社區居民投票、界別成員投票、功能組別選民投票等等。有關電子投票的標準流程如下：

- 擬舉行電子投票的團體或機構訂立選民資格，並設定投票議題或候選人名單。香港大學民意研究計劃作為中介機構，會按照團體或機構訂立的選民資格，展開選民登記。
- 擬登記選民須向民研計劃提供文件，包括身份證完整號碼及其他文件。證明符合選民資格的話，民研計劃會為有關選民開設投票帳戶及配給密碼，並會按照選民意願，以郵件及或電郵及或短訊（SMS）傳給選民。如有須要，可以另加程序，以確認選民收到有關資料。
- 上述所有資料會以不能還原的散列函數（Hash Code）儲存，以保護登記人士的私隱，及防止重複投票。
- 在指定投票期間，選民可以登入指定網站，以登記帳戶及配給密碼確認身份，進行投票。如有須要，可以另加程序，以雙重認證方式確認身份後方可進行投票。投票系統不會接受重複投票。
- 投票結束後，系統會發出投票收據，以便日後覆核。該等收據有兩種形式，由舉行電子投票的團體或機構決定：
 - 甲類收據：收據只含亂碼編號，沒有投票人士姓名，沒有投票選項，以確保無人可以讀取有關人士的投票選項。
 - 乙類收據：收據含有亂碼編號，沒有投票人士姓名，但會列明有關人士的投票選項。
 - 該等收據，用途在於需要覆檢投票結果時，覆檢人員可以透過收集所有收據，甚或只是所有收據的亂碼編號，便能還原選舉結果。
 - 有關團體或機構在決定採用何種收據制度時，須要事先說明在何等情況下才可覆檢選票，以及詳細說明覆檢的程序。使用甲類收據，比較容易防止賄選。
- 所有投票記錄會以不能還原的散列函數（Hash Code）儲存，以茲保密。投票結束後，系統會運算及公佈投票結果，包括投票數字、廢票數字等。在確定無須覆檢選票後，系統會把所有資料銷毀。

(4) 一般中型電子投票只會採用離站電子投票模式進行。不過，如有必要，亦可開設票站接受到站投票，而上述之選民登記程序，將可在票站即時進行。

大型民間全民投票計劃

(5) 本部份以預計在 2012 年 3 月 23 日舉行的民間全民投票，說明大型民間全民投票計劃的一般流程。2012.3.23 民間全民投票將會採用到站及離站電子投票平行模式進行，情況如下：

- 離站電子投票的投票時間為 2012 年 3 月 23 日早上八時至晚上八時，市民可以透過自選電腦或流動裝置投票。
- 到站電子投票的投票時間為 2012 年 3 月 23 日早上九時至晚上九時，市民可以親身到特定票站投票。

(6) 以自選電腦或流動裝置進行的離站電子投票，程序如下：

- 擬投票人士登入指定網站，確認自己年滿 18 歲，及屬於香港永久居民，然後輸入身份證完整號碼，及可發送短訊（SMS）之手機號碼。
- 登記系統會把身份證號碼化成一組不能還原的散列函數（Hash Code）儲存，以保護登記人士的私隱，及防止重複投票。系統隨即顯示一個用作核對身分的電話號碼。擬投票人士須於一分鐘內以先前輸入的手機，按照指示發送一個空白短訊至系統顯示的電話號碼。
- 系統在接收有關短訊後，會開啟投票界面予該名人士投票。倘若系統發現有關人士的身份證或手機號碼已經重複使用，系統將不會容許有關人士進入投票界面。

(7) 到站電子投票的程序如下：

- 擬投票人士向票站工作人員出示身份證。工作人員確認身份證屬於持有人，年滿 18 歲，及屬於香港永久居民。
- 工作人員輸入持證人身份證完整號碼，登記系統會把身份證號碼化成一組不能還原的散列函數（Hash Code）儲存，以保護登記人士的私隱，及防止重複投票。
- 倘若系統顯示有關人士的身份證號碼已在票站電子投票系統中重複使用，則工作人員不會容許有關人士投票。
- 倘若系統顯示有關人士的身份證號碼已在離站投票系統中重複使用，則工作人員將會容許有關人士投票，但會告知有關人士，之前離站投票記錄作廢。

(8) 所有投票結束後，系統會檢視身份證號碼重複使用的個案，剔除因重複使用而作廢的選票，然後運算及公佈投票結果，以及有關廢票的數字，然後把所有個人資料銷毀。任何人士或團體，不論有否贊助民間全民投票，皆不會獲取任何公佈以外的資料。

2011.12.20 稿件