

Personal Safety App:

An evaluation of the Companion app and comparison to other safety apps

Main features

The Companion app (<http://www.companionapp.io>) is a free personal safety mobile app created by five students from the University of Michigan, MI, USA. It enables users to invite friends or family members to monitor their journey and check their safety via an online map, without the need for their friends or family members to install the Companion app. Companion is available on both iOS and Android.

Companion's key features include:

- Invite friends or family members as companions.
- Live Map – friends or family members virtually monitor the user's journey.
- Nervous Button – when the user feels at risk, but without an explicit need for police, user can press the nervous button to call the emergency contact directly.
- Smart 911 – user calls the police via “911” button and the Companion app instantly shares the GPS location.

Installation & setup

Companion is free to download from the Apple App store and Google Play. The installation consists of the following steps:

1. Follow a set on-screen instructions where the user gives permission to the app to send a push notification and to collect location information.
2. User inputs mobile phone number (including the country code).
3. A verification code is sent to the user, which the user needs to input to complete the setup.

How to Use Companion

There are two parties involved in the Companion app:

- **Inviter:** the user being monitored who sends the invitation to the chosen contacts.
- **Invitee:** the chosen contacts who accepted the invitation to monitor the inviter.

As an inviter:

1. Inviter enters the destination address, and the Companion app will show its location on the map.
2. Inviter starts the journey and invites his or her contacts to become companions, the Companion app will then send the invitation.
3. In case of emergency, the inviter can call an emergency contact or the police, and the Companion app will notify the invitee and instantly share the inviter's location.
4. When the inviter arrives at the destination, Companion will end the journey and send a confirmation message to the invitee.

As an invitee:

1. Invitee will receive an invitation message to act as a companion.
2. By accepting the invitation, the invitee can gain access to open a location map to monitor the inviter's location.
3. The invitee will be notified with the inviter's latest location information if the inviter is at risk.
4. The invitee will receive a notification message to confirm that the inviter arrived safely.

Evaluation

The Companion app was tested on the following devices:

- Samsung Note 3 (EE network)
- iPhone 6 plus (EE network)
- Phone 6 (Vodafone network)

Companion was successfully installed on Samsung Note3 (EE network) and iPhone 6 plus (EE network). However, it was not successfully configured on iPhone 6 (Vodafone network) due to the access code problem, see issue 2 below.

In the testing process, the following issues were identified:

#	Issue Description	When	Where	Severity	Comments
1	The mobile phone number format is not compatible with all countries. The current prompt format is 3 digits for country code and 7 digits for the mobile number	During configuration	All models	Critical: function & performance issue	The mobile phone format should work for different countries with different format. Accurate mobile phone number format will ensure the users receive the verification code and connect to the app service correctly.
2	No access code is received on iPhone 6 (Vodafone)	During configuration	iPhone 6 (Vodafone)	Blocker: app cannot be used	Without the verification code, user cannot use the app. The access code from Companion has been blocked by some of the carriers as a spam message.
3	Inviter's route is not calculated correctly	When showing the inviter's route	iOS models	Critical: function & performance issue	The app did not track the starting point, so the route is not displaying correctly.
4	No invitation message was received by inviter's contacts	After inviting the friends or family members	iOS models	Blocker: app cannot be used	Because no invitation message was received, the inviter will not be monitored by anyone on the journey.
5	Once the invitees accept the inviter's request, invitees can only see the map but not track the inviter's current location	When invitees accompany the inviter	Android models	Critical: function & performance issue	Invitees cannot track the inviter's current location.
6	Inviter's message does not tell who the inviter is	Inviter's message	All models	Critical: function & performance issue	The invitation message lacks essential details such as inviter's name, route information and the expected arrival time.
7	App randomly stops working, showing the message "unfortunately, Companion has stopped. Report / OK"	When inviter clicks on the map	All models	Critical: function & performance issue	It happens occasionally.

Overall performance

1. Companion has a **3.1 star rating** based on 2400 users' feedback on Google Play and a **2.5 star rating** based on 94 users' feedback on Apple Store, data collected on 4th Nov 2015.
2. The Android version of Companion appears to work more reliably than the iOS versions. However, both versions of the Companion app have some critical bugs that need to be fixed.
3. Companion access code messages are filtered out as spam by some carriers. For example, Vodafone is filtering the Companion Access code as spam, but the EE network does not filter it. Without the access code, users will not be able to configure the Companion app and this will affect the normal functioning of the app.
4. Companion offers users to contact them at support@companionapp.io to get an access code as a temporary measure. During testing, this problem was encountered with Vodafone. Although Companion support was contacted, after trying several measures they suggested, the access code was not received. Therefore, the Companion app could not be successfully configured on iPhone 6 in the Vodafone network.

Companion vs. alternative personal safety apps

There are a variety of personal safety apps on the market. These apps normally include some of the following functions:

- Send text message, emails, instant messages or even tweets to close friends (message containing approximate location, audio snippets and pictures).
- Emit an alarm signal.

We have evaluated two other alternatives to Companion based on review rating. These two apps are **bSafe** and **Watch Over Me**.

1. **bSafe** (<http://getbsafe.com/>) is a free personal safety app which is available on Android and iOS. As well as having the same functionality to virtually walk friends home as the Companion App, other functions of this app include:
 - Set up user's own social personal safety network of friends, family and colleagues.
 - Use Timer Mode to program an automatic alarm that will trigger if user has not checked in on time.
 - Use "Fake Call" to make the phone ring when the user wants it to.

One limitation of bSafe is that all the users (including user's invited friends and family members) are requested to install the app and create profiles or login with Facebook in order to use the full functionality of the app.

bSafe has a **4.1 star rating** based on 6735 users' feedback on Google Play and a **3.5 star rating** based on 104 users' feedback on Apple Store, data collected on 4th Nov 2015.

2. **Watch Over Me** (<http://watchovermeapp.com/>) is a personal safety app on Android and iOS. The installation of the app is free. However, it requires a subscription fee of \$4.99 a year for unlimited SMS alerts. To use it, the user needs to create an emergency contact list and set a period of time to be watched for. The app will track the user's journey and if the user is in trouble, the user's emergency contacts will receive a notification with the user's GPS location.

Watch Over Me has a **4.0 star rating** based on 676 users' feed on Google Play, while no star rating has shown yet on the Apple store, data collected on 4th Nov 2015.

A high level comparison of all the three apps is listed below:

<i>Feature</i>	<i>Companion</i>	<i>bSafe</i>	<i>Watch Over Me</i>
iOS and Android App	Yes	Yes	Yes
Free App	Yes	Yes	No, free installation, but \$4.99 subscription fee per year for unlimited SMS alert
User's rating	iOS: 2.5 star Android: 3.1 star	iOS: 4.1 star Android: 3.5 star	iOS: no star rating shown Android: 4 star
Both parties (the user and the invitees) need to install the app	No	Yes	No
Virtually track user's journey	Yes	Yes	Yes
Watch over user during a specified period, if the user doesn't check in after that period, an SMS message will send to user's safety contact with user's GPS location	No	Yes	Yes
Fake Call to make the phone ring when the user wants it to	No	Yes	No
Alarm video recording (recording a video clip after an alert has been triggered)	No	Yes	No
Emit an alarm signal	No	Yes	No
Nervous button to call local area or police	Yes	No	No

Based on the comparison above, although bSafe does require users to create a profile or login with Facebook to use the full functionality of the app (which is not required in the other two apps) bSafe still has better rating and a user base. It also has more functions, including virtually tracking a user's journey, watch over users during a specified period, make fake calls, and emit an alarm signal.

Recommendations

1. The concept of the Companion app is useful to contribute to personal safety. However, at its current stage, some critical bugs need to be fixed to improve its reliability. Based on the comparison of the three personal safety apps, bSafe appears to have more functions and better user feedback. bSafe can be considered as a better alternative to Companion.
2. Personal safety apps normally send notification messages to the invited contacts. These notifications could be mistaken as spam and could be deleted if they are not pre-warned. To combat this, the University should provide a good introduction of the recommended personal safety app to help users understand and accept it.